CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

CIVIL CONSTRUCTION PLANS

MARCH 2023

NOTES

1. TYPE 3 DEVELOPMENT.
2. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS AND NEW BRAUNFELS UTILITIES MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
3. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.

INFRASTRUCTURE PROPOSED WITH THIS PROJECT IS NOT WITHIN THE 1% ANNUAL CHANCE (100-YEAR) FLOODPLAIN PER FEMA FIRM PANEL 48187C0110F & 48187C0120F, DATED NOVEMBER 2, 2007.

4. THIS PROJECT IS NOT WITHIN THE EDWARDS AQUIFER CONTRIBUTING OR RECHARGE ZONES.
5. THE ENGINEER AND CONTRACTOR MUST COMPLY WITH NBU WATER/WASTEWATER CAD DELIVERABLE SUBMISSION STANDARDS DATED NOVEMBER 15, 2004. CONTRACTOR SHALL PROVIDE THE FOLLOWING TO THE ENGINEER:
   - 5.1. GPS POINTS AS NOTED IN TABLE ON THIS SHEET. NOTE THAT SOME GPS POINTS MUST BE TAKEN PRIOR TO BACKFILL DURING CONSTRUCTION.
   - 5.2. ALL GPS POINTS WILL BE DELIVERED WITH HORIZONTAL COORDINATES WITH ELEVATIONS (I.E. IN THREE DIMENSIONS, X, Y AND Z COORDINATES)
   - 5.3. ALL GPS POINTS SHALL BE IN THE NAD 83 STATE PLANE SOUTH CENTRAL TEXAS 4204 (SURVEY FEET) COORDINATE SYSTEM AND KNOWN VERTICAL DATUM
   - 5.4. ALL GPS POINTS SHALL HAVE A GPS HORIZONTAL POSITION ACCURACY (< 10 CM / 4 INCH) ACCURACY
   - 5.5. ALL GPS POINTS SHALL HAVE A GPS VERTICAL POSITION ACCURACY (< 20 CM / 8 INCH) ACCURACY
   - 5.6. ALL GPS POINTS SHALL HAVE A GPS COORDINATES WILL HAVE NO LESS THAN FOUR DECIMAL PLACES (I.E. Z VALUE = 675.1234).
6. GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE CITY FOR ANY WORK WITHIN PUBLIC RIGHT-OF-WAY.
7. WATER IS A PRECIOUS COMMODITY IN THE STATE OF TEXAS AND NEW BRAUNFELS UTILITIES (NBU) IS PASSIONATE ABOUT PROTECTING THE LOCAL RESOURCE. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING A FIRE HYDRANT METER SO THAT ALL WATER USED FOR CONSTRUCTION OR TESTING PURPOSES IS PROPERLY ACCOUNTED FOR. NBU WILL NOT TOLERATE ANY WATER THEFT, REGARDLESS OF THE AMOUNT. IF WATER THEFT IS DISCOVERED, THE CONTRACTOR SHALL BE SUBJECT TO MONETARY PENALTIES, CRIMINAL CHARGES, AND STOPPAGE OF ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROJECT. COSTS ASSOCIATED WITH ANY WORK STOPPAGE RESULTING FROM WATER THEFT SHALL BE AT THE FULL EXPENSE OF THE CONTRACTOR.
8. THE FOLLOWING PERMITS ARE REQUIRED PRIOR TO START OF CONSTRUCTION
   - -CITY OF NEW BRAUNFELS PUBLIC INFRASTRUCTURE PERMIT (PI2023-0083)
   - -NEW BRAUNFELS UTILITIES APPROVAL (W-236810, WW-236811)

NBU NOTES

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, NEW BRAUNFELS UTILITIES MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
2. THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER OR WASTEWATER IMPROVEMENTS MUST COMPLY WITH CRITERIA FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, THE CITY OF NEW BRAUNFELS, NBU W&WW DESIGN CRITERIA, ANY OTHER GOVERNING ENTITY ORDINANCES OR CODES, AND SOUND ENGINEERING JUDGEMENT.
3. THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR THE NBU WATER SYSTEM IS THE MAIN SIDE OF THE SERVICE/LATERAL/LEAD FROM THE CUSTOMER'S METER, BACKFLOW PREVENTER, OR EASEMENT EDGE. THE CUSTOMER IS RESPONSIBLE FOR THE DESIGN, PERMITTING, CONSTRUCTION, OPERATION AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER ITS INSTALLATION.
4. THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR A NBU WASTEWATER SYSTEM IS THE MAIN SIDE OF THE SERVICE LATERAL FROM THE CUSTOMER'S CLEAN OUT OR PROPERTY LINE, WHICHEVER IS NEARER. THE CUSTOMER IS RESPONSIBLE FOR THE DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER ITS INSTALLATION.
5. WATER ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR A NBU WASTEWATER SYSTEM IS THE MAIN SIDE OF THE SERVICE LATERAL FROM THE CUSTOMER'S CLEAN OUT OR PROPERTY LINE, WHICHEVER IS NEARER. THE CUSTOMER IS RESPONSIBLE FOR THE DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER ITS INSTALLATION.

   PLEASE NOTE: NBU REQUIRES GPS POINTS FOR CERTAIN ELECTRIC, WATER, AND WASTEWATER ATTRIBUTES, SOME OF WHICH MUST BE MEASURED PRIOR TO BACKFILL DURING CONSTRUCTION.

   GPS POINTS ARE REQUIRED FROM THE DEVELOPER'S CONTRACTOR OR ENGINEER. A MINIMUM OF THREE (3) COORDINATE POINTS FOR GEOREFERENCING ARE REQUIRED. THE WATER AND WASTEWATER GPS POINTS SHALL BE TO SURVEY GRADE AND ELECTRIC GPS POINTS SHALL BE MEASURED TO MAP GRADE. PLEASE REFERENCE NBU'S WATER CONNECTION POLICY FOR ADDITIONAL CAD DELIVERABLE REQUIREMENTS.

   REQUIRED MEASUREMENTS FOR THE WATER SYSTEM INCLUDE:
   1. VERTICAL BENDS AND EDGE OF STEEL CASING (IF APPLICABLE) PRIOR TO BACKFILL
   2. HORIZONTAL BENDS PRIOR TO BACKFILL
   3. TEES PRIOR TO BACKFILL
   4. FITTINGS (REDUCERS AND COUPLINGS) PRIOR TO BACKFILL
   5. FIRE HYDRANTS (TOP OF FLANGE)
   6. VALVES
   7. METERS (TOP CENTER OF BOX)
   8. BLOW OFF ASSEMBLY
   9. CORNER SLAB OF WATER TANK & THE ISOLATION GATE VALVE ON THE WATER TANK

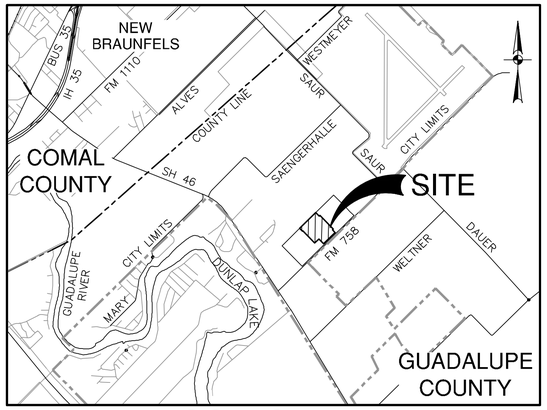
   REQUIRED MEASUREMENTS FOR THE WASTEWATER SYSTEM INCLUDE:
   1. MANHOLES
   2. CLEANOUTS
   3. CORNER SLAB OF ALL LIFT STATION

   REQUIRED MEASUREMENTS FOR THE ELECTRIC SYSTEM:
   1. POLES
   2. TRANSFORMERS, BOTH ABOVE AND UNDERGROUND (FRONT LOCK)
   3. PULL BOXES
   4. STREET LIGHTS

   COORDINATE GPS REQUIREMENTS WITH NBU INSPECTOR.

LEGAL DESCRIPTION

BEING A 38.84 ACRE TRACT OUT OF THE 105.316 ACRE TRACT OF LAND DESCRIBED IN DEED TO PULTE HOMES OF TEXAS, LP. RECORDED AS DOC. NO. 202199040676 IN THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS, SITUATED IN THE ANTONIO M. ESNAURIZAR 11 LEAGUE GRANT, ABSTRACT 20, GUADALUPE COUNTY, TEXAS.



LOCATION MAP

MAPSCO MAP GRID: 123X1
NOT-TO-SCALE

PREPARED FOR:

PULTE HOMES OF TEXAS, L.P.
1718 DRY CREEK WAY, SUITE 120
SAN ANTONIO, TEXAS 78259

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

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PD JOB NO. 12435-03 CLEAR SPRING MEADOWS UNIT 2

SHEET C1.00

Date: Apr 15, 2024, 1:18pm User ID: ekosprowicz
File: P:\124\35\03\Design\Civil\CS-124350 3.dwg

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CONSTRUCTION PLAN NOTES

REVISED 03/2020

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

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

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

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

FOR PUBLIC INFRASTRUCTURE PERMIT OR GRADING PERMIT PROJECTS:

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

FOR COMMERCIAL PERMIT (CP) PROJECTS:

- ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR,
- FAXED IN AT 830-608-2117 OR,
- E-MAILED AT INSPECTIONS@NBTEXAS.ORG.

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

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

GROUNDWATER

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

RECORD DRAWINGS

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

CONSTRUCTION NOTE

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

DRAINAGE NOTE

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

FINISHED FLOOR ELEVATIONS

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

SOILS TESTING

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

ROADWAY

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

ITEM 340

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

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

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

UTILITY TRENCH COMPACTION

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

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

(INDICATE THE 2 OPTIONS ON THE CONSTRUCTION PLANS).

1. SAWCUT EXISTING STREET AND MATCH TO NEW CONSTRUCTION.
2. SAWCUT EXISTING CURB TO TIE INTO EXISTING CONSTRUCTION.

CONSTRUCTION STABILIZED ENTRANCE

SAWCUT CURB FOR CONSTRUCTION ENTRANCE.

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

ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A. SPECIFICATIONS.

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

SIGNING AND PAVEMENT MARKING PLAN NOTES

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

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

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

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

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

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

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

IF EXTENDED DROUGHT CONDITIONS EXIST THAT HINDER OR PROHIBIT THE GROWTH AND ESTABLISHMENT OF VEGETATION, THE CONTRACT/ 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.

PROPOSED CONSTRUCTION SEQUENCE

1. INSTALL TEMPORARY STORM WATER EROSION CONTROL MEASURES IN AFFECTED CONSTRUCTION AREAS AND STABILIZED CONSTRUCTION ENTRANCES/EXITS.
2. INSTALL TREE PRESERVATION MEASURES, IF REQUIRED.
3. CLEARING & GRUBBING: REMOVAL OF TREES, STUMPS, BRUSH, AND OTHER DEBRIS WITHIN THE PROPOSED PROJECT LIMITS.
4. ROUGH GRADING; CUTTING & GRADING OF PROPOSED ROADWAY & LOT AREA.
5. CONSTRUCT DRAINAGE IMPROVEMENTS.
6. CONSTRUCT WASTEWATER SYSTEM.
7. CONSTRUCT WATER SYSTEM.
8. CONSTRUCT UNDERGROUND ELECTRIC SYSTEM.
9. CONSTRUCT SUBGRADE AND BASE FOR STREETS.
10. CONSTRUCT CURB FOR STREETS.
11. CONSTRUCT ASPHALT PAVEMENT FOR STREETS.
12. ESTABLISH SITE STABILIZATION.
13. REMOVE ALL TEMPORARY STORM WATER EROSION CONTROL MEASURES.

NOTES

1. LOCAL BUSINESSES AND RESIDENCES WILL REMAIN ACCESSIBLE AT ALL TIMES.
2. SOME ITEMS LISTED ABOVE WILL OCCUR SIMULTANEOUSLY OR MAY OCCUR OUT OF SEQUENCE INDICATED.
3. ALL SEQUENCES SUBJECT TO CHANGE AND SOME ITEMS WILL OCCUR SIMULTANEOUSLY OR MAY OCCUR OUT OF THE SEQUENCE INDICATED.
4. A DETAILED PROJECT SEQUENCING SCHEDULE WILL BE PROVIDED WHEN AVAILABLE FROM THE CONTRACTOR.

DISTURBED AREA PHASING

1. CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE THE DISTURBED AREA FOR THIS PROJECT BY PHASING CONSTRUCTION. STABILIZATION OF EACH SUCCESSIVE PHASE SHALL OCCUR PRIOR TO ADVANCING.
2. PHASING OF DISTURBED AREA SHALL BE AS FOLLOWS.

2.1. PHASE 1: CONSTRUCTION OF ANY OFFSITE IMPROVEMENTS

2.2. PHASE 2: EXCAVATION OF ONSITE DRAINAGE IMPROVEMENTS

2.3. PHASE 3: PLACEMENT OF ONSITE FILL

2.4. PHASE 4: CONSTRUCTION OF REMAINING ONSITE IMPROVEMENTS

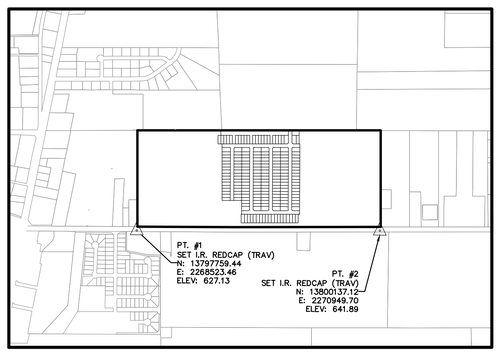
GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS/APPROVALS BEFORE BEGINNING CONSTRUCTION. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED TESTING, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
3. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK SHALL COMPLY WITH THE PROJECT GEOTECH REPORT, THE PROJECT SPECIFICATIONS, THE CURRENT APPLICABLE CITY, COUNTY AND/OR TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND WATER AND SEWER PURVEYOR STANDARD SPECIFICATIONS.
4. CONTRACTOR IS RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING UTILITIES, FENCES, PAVEMENT, CURBS, DRIVEWAYS, SIDEWALKS, SIGNS OR OTHER ITEMS INTENDED TO REMAIN.
5. CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT, CURBS AND SIDEWALKS AT NEW PAVEMENT, CURB AND SIDEWALK JUNCTURES. NO JAGGED OR IRREGULAR CUTS WILL BE ACCEPTED.
6. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE REVEGETATED AFTER CONSTRUCTION IS COMPLETE. CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING VEGETATION IN ALL DISTURBED AREAS BY PERIODIC WATERING OR OTHER APPROVED MEANS.
7. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT OR LIMITS OF ALL ITEMS COVERED WITHIN THE SCOPE OF WORK OF THESE PLANS.
8. THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC AND PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE, AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHALL BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT TEXAS 811 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT THE CONTRACTORS SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.
9. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, ACCESS MUST BE PROVIDED TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
10. CONTRACTOR SHALL PRESERVE ALL PROPERTY CORNER MONUMENTATION, CONTROL POINTS & BENCHMARKS. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS SUBS OR EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.

HORIZONTAL & VERTICAL CONTROL

NO.	ELEVATION	NORTHING	EASTING	DESCRIPTION
1	627.13	13797759.44	2268523.46	SET I.R. REDCAP (TXDOT)
2	641.89	13800137.12	2270949.70	SET I.R. REDCAP (TXDOT)

THE COORDINATE SYSTEM IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (EPOCH 2010.00) FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE DISPLAYED IN SURFACE VALUES USING A SURFACE ADJUSTMENT FACTOR OF 1.00014. THE ELEVATION DATUM IS BASED ON NAVD 88 (GEOID 12B). BOUNDARY AND TOPOGRAPHIC SURVEY COMPLETED AUGUST 11, 2021.



BENCHMARK MAP

NOT-TO-SCALE

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

CONSTRUCTION NOTES

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C2.00

Date: Mar 08, 2024, 1:02pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\GN-124503.dwg

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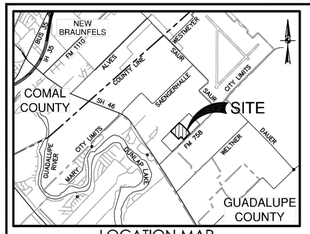
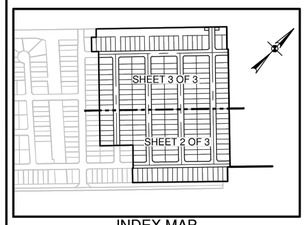


LOCATION MAP
MAPSCO MAP GRID: 123X1
NOT-TO-SCALE



INDEX MAP
SCALE: 1"= 600'

NBU NOTES:
1. MAINTENANCE OF DEDICATED UTILITY EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNER, ANY USE OF AN EASEMENT, OR ANY PORTION OF IT, INCLUDING LANDSCAPING OF DRAINAGE FEATURES, IS SUBJECT TO AND SHALL NOT CONFLICT WITH THE TERMS AND CONDITIONS IN THE EASEMENT, MUST NOT ENDANGER OR INTERFERE WITH THE RIGHTS GRANTED BY THE EASEMENT TO NEW BRAUNFELS UTILITIES, ITS SUCCESSORS AND ASSIGNS, AND SHALL BE SUBJECT TO APPLICABLE PERMIT REQUIREMENTS OF THE CITY OF NEW BRAUNFELS OR ANY OTHER GOVERNING BODY. THE PROPERTY OWNER MUST OBTAIN, IN ADVANCE, WRITTEN AGREEMENT WITH THE UTILITIES TO UTILIZE THE EASEMENT, OR ANY PART OF IT.
2. UTILITIES WILL POSSESS A 5' WIDE SERVICE EASEMENT TO THE BUILDING STRUCTURE ALONG THE SERVICE LINE TO THE SERVICE ENTRANCE. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF DWELLING AND SERVICE.
3. UTILITIES SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARD AND METER LOCATIONS SHALL NOT BE LOCATED WITHIN A FENCED AREA.
4. EACH TRACT IS SUBJECT TO FLOATING GUY WIRE EASEMENTS AND ITS DIMENSIONS SHALL BE DETERMINED BY THE NEED OF THE UTILITIES.
5. DO NOT COMBINE ANY NEW UTILITY EASEMENTS (UE) WITH DRAINAGE EASEMENTS (DE) OR MAKE CHANGES IN GRADE WITHIN THE UTILITY EASEMENTS (UE) WITHOUT WRITTEN APPROVAL FROM NEW BRAUNFELS UTILITIES.
6. EACH LOT MUST HAVE ITS OWN WATER/SEWER SERVICE AT OWNER'S/DEVELOPER'S EXPENSE.

SIDEWALK NOTE:
1. FOUR-FOOT WIDE SIDEWALKS ARE REQUIRED TO BE CONSTRUCTED ADJACENT TO THE CURB BY THE PROPERTY OWNER AT THE TIME OF BUILDING CONSTRUCTION ALONG GOLDEN WHEAT, PLANTERS MOON, ROUGH LEAF, ROSE PEARL, BURNING BUSH AND CORN TASSEL.
2. FOUR-FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED ADJACENT TO THE CURB BY THE DEVELOPER AT THE TIME OF STREET CONSTRUCTION PER CITY STANDARDS ALONG
   a. CORN TASSEL - LOT 902, BLOCK 5.
   b. BURNING BUSH - LOT 901, BLOCK 15 AND LOT 902, BLOCK 5.

DRAINAGE EASEMENT NOTES:
1. DRAINAGE EASEMENTS SHALL "REMAIN FREE OF ALL OBSTRUCTIONS."
2. NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING, FENCES, OR OTHER TYPE OF MODIFICATIONS WHICH ALTER THE CROSS SECTIONS OF THE DRAINAGE EASEMENTS OR DECREASES THE HYDRAULIC CAPACITY OF THE EASEMENT, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE CITY ENGINEER. THE CITY OF NEW BRAUNFELS (AND THE COUNTY) SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER GRANTOR'S ADJACENT PROPERTY TO REMOVE ANY OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENTS AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENTS.
3. MAINTENANCE OF DRAINAGE EASEMENTS DESIGNATED WITHIN A LOT SHALL BE THE RESPONSIBILITY OF THE CLEAR SPRING MEADOWS HOMEOWNERS ASSOCIATION.

PRELIMINARY PLAT
ESTABLISHING
CLEAR SPRING MEADOWS
UNIT 2

BEING A 30.35 ACRE TRACT OUT OF THE 105.316 ACRE TRACT OF LAND DESCRIBED IN DEED TO PULTE HOMES OF TEXAS, LP. RECORDED AS DOC. NO. 202199040676 IN THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS, SITUATED IN THE ANTONIO M. ESNAURIZAR 11 LEAGUE GRANT, ABSTRACT 20, GUADALUPE COUNTY, TEXAS.

UTILITY PROVIDER NOTE:
THE PROPERTY WILL BE SERVED BY THE FOLLOWING:
NEW BRAUNFELS UTILITIES (WATER, SEWER, ELECTRIC)
AT&T (PHONE)
SPECTRUM (CABLE TELEVISION)

GREENBELT NOTE:
MAINTENANCE OF LOTS 901-903, BLOCK 1, LOT 901 , BLOCK 4, LOT 901, BLOCK 5, LOT 901, BLOCK 7 AND LOTS 901 AND 902, BLOCK 9 SHALL BE THE SOLE RESPONSIBILITY OF THE CLEAR SPRING MEADOWS SUBDIVISION HOMEOWNER'S ASSOCIATION.

SCHOOL DISTRICT NOTE:
REFERENCED PROPERTY LIES WITHIN THE COMAL INDEPENDENT SCHOOL DISTRICT.

MISCELLANEOUS NOTE:
FUTURE DEVELOPMENT IS SUBJECT TO CHAPTER 114 (STREETS, SIDEWALKS AND OTHER PUBLIC PLACES) OF THE NEW BRAUNFELS CODE OF ORDINANCES.

FLOOD ZONE NOTE:
NO PORTION OF ANY LOT ON THIS PLAT IS WITHIN A SPECIAL FLOOD HAZARD ZONE AS DEFINED BY FEMA FLOOD INSURANCE RATE MAP, GUADALUPE COUNTY, TEXAS, COMMUNITY PANEL NUMBER 0120F, DATED NOVEMBER 2, 2007.

PARKS NOTE:
THIS SUBDIVISION IS SUBJECT TO THE CITY OF NEW BRAUNFELS 2018 PARK LAND DEDICATION AND DEVELOPMENT ORDINANCE. THIS PLAN IS APPROVED FOR ONE DWELLING UNIT PER BUILDABLE LOT WITH A MAXIMUM OF 195 BUILDABLE LOTS. AT SUCH TIME THAT ADDITIONAL DWELLING UNITS ARE CONSTRUCTED, THE OWNER OF THE LOT SHALL CONTACT THE CITY AND COMPLY WITH THE ORDINANCE FOR EACH NEW DWELLING UNIT.

FINISHED FLOOR NOTE:
FINISHED FLOOR ELEVATION MUST BE A MINIMUM OF TEN INCHES ABOVE FINAL ADJACENT GRADE AND THE LOT BE GRADED IN ACCORDANCE WITH THE APPROVED GRADING PLAN.

AIRPORT HAZARD ZONING DISTRICT NOTE:
THIS SUBDIVISION IS SUBJECT TO THE AIRPORT HAZARD ZONING DISTRICT STANDARDS AND REGULATIONS OF THE CITY OF NEW BRAUNFELS ZONING ORDINANCE (NBCO 114-50.2).

MINIMUM SQUARE FOOTAGE NOTE:
ALL NON RECTANGULAR LOTS MEET THE MINIMUM SQUARE FOOTAGE REQUIREMENT OF 4000 SQUARE FEET FOR THE ZONING OF THE SUBJECT PROPERTY AT THE TIME OF PLATTING.

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM 470 | TEXAS SURVEYING FIRM #10028800

DATE OF PREPARATION: February 28, 2024

STATE OF TEXAS
COUNTY OF GUADALUPE

I (WE), THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS THE CLEAR SPRING MEADOWS UNIT 2 SUBDIVISION TO THE CITY OF NEW BRAUNFELS, COUNTY OF COMAL, 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.

OWNER/DEVELOPER: SEAN MILLER
PULTE HOMES OF TEXAS, L.P.
A TEXAS LIMITED PARTNERSHIP
BY: PULTE NEVADA I LLC, ITS GENERAL PARTNER
1718 DRY CREEK WAY, SUITE 120
SAN ANTONIO, TEXAS 78259
(210) 496-1985

STATE OF TEXAS
COUNTY OF GUADALUPE

BEFORE ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED SEAN MILLER KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED. GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS _____ DAY OF _____, A.D. 20____.

_____
NOTARY PUBLIC, STATE OF TEXAS

MY COMMISSION EXPIRES: _____

LEGEND

AC	ACRE(S)	ROW	RIGHT-OF-WAY
BLK	BLOCK	VAR WID	VARIABLE WIDTH
DOC	DOCUMENT NUMBER	MIN	MINIMUM
ESMT	EASEMENT	-	REPETITIVE BEARING AND/OR DISTANCE
GETCTV	GAS, ELECTRIC, TELEPHONE AND CABLE TELEVISION	●	FOUND 1/2" IRON ROD (UNLESS NOTED OTHERWISE)
OPRCCT	OFFICIAL PUBLIC RECORDS (OFFICIAL PUBLIC RECORDS OF REAL PROPERTY) OF COMAL COUNTY, TEXAS	(SURVEYOR) ○	SET 1/2" IRON ROD (PD)
OR	OFFICIAL RECORDS OF COMAL COUNTY, TEXAS	○ (TYPE I, II OR III)	SET 1/2" IRON ROD (PD)- ROW
MPR	MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS	⊠	FOUND TxDOT MONUMENTATION
VOL	VOLUME	⊠	FOUND MONUMENTATION
PG	PAGE(S)	◎	EASEMENT POINT OF INTERSECTION

—— ℄ —— CENTERLINE
CITY OF NEW BRAUNFELS LIMITS

(E) 1' VEHICULAR NON-ACCESS EASEMENT (NOT-TO-SCALE)
(7) VARIABLE WIDTH DRAINAGE EASEMENT
(11) 15' UTILITY EASEMENT
(12) 20' BUILDING SETBACK
(14) 15' UTILITY EASEMENT AND BUILDING SETBACK
(15) 20' UTILITY EASEMENT AND BUILDING SETBACK
(16) 36'x22' TURNAROUND AND ACCESS EASEMENT
(1) 15' UTILITY EASEMENT (VOL ___, PG ___, DR)
(2) 20' BUILDING SETBACK (VOL ___, PG ___, DR)
(3) 15' UTILITY EASEMENT AND BUILDING SETBACK (VOL ___, PG ___, DR)
(4) VARIABLE WIDTH UTILITY AND ACCESS EASEMENT (VOL ___, PGS ____, OPR)
(5) 20' SEWER LINE RIGHT-OF-WAY AGREEMENT NEW BRAUNFELS UTILITIES (VOL. 1984, PG 506, OPR)
(6) VARIABLE WIDTH DRAINAGE EASEMENT (VOL ____, PG ___, OPR)
(7) 30' UTILITY EASEMENT (VOL ____, PGS ____, OPR)
(8) 20' UTILITY EASEMENT AND BUILDING SETBACK (VOL ____, PG ___, DR)
(9) 8' PEDESTRIAN ACCESS EASEMENT (VOL ____, PGS ____, OPR)
(10) 1' VEHICULAR NON-ACCESS EASEMENT (NOT TO SCALE) (VOL ____, PG ___, DR)
(13) 25' TXDOT RIGHT-OF-WAY DEDICATION (VOL ____, PGS ___, OPR)

LINE TABLE

LINE #	BEARING	LENGTH
L1	S45°35'28"W	7.04'
L2	S45°28'15"W	57.46'
L3	N44°31'45"W	120.00'
L4	N45°28'15"E	40.00'
L5	N44°31'45"W	69.24'
L6	S45°28'15"W	10.09'
L7	N45°36'24"E	22.04'
L8	S45°35'28"W	95.00'
L9	N45°28'15"E	100.99'
L10	S45°28'15"W	94.97'
L11	N45°28'15"E	95.03'
L12	S45°35'28"W	94.97'
L13	N06°51'41"W	18.94'
L14	S44°31'45"E	15.19'
L15	S45°28'15"W	12.19'
L16	N17°57'49"W	11.35'
L17	S44°31'45"E	10.15'
L18	S45°28'15"W	5.08'
L19	N26°53'58"W	9.04'
L20	S44°31'45"E	8.62'
L21	S45°28'15"W	2.74'

CURVE TABLE

CURVE #	RADIUS	DELTA	CHORD BEARING	CHORD	LENGTH
C1	15.00'	090°00'00"	N00°35'28"E	21.21'	23.56'
C2	15.00'	090°07'13"	N89°28'08"W	21.24'	23.59'
C3	15.00'	089°52'47"	S00°31'52"W	21.19'	23.53'
C4	15.00'	090°07'13"	N89°28'08"W	21.24'	23.59'
C5	15.00'	089°52'47"	N00°31'52"E	21.19'	23.53'
C6	15.00'	090°07'13"	S89°28'08"E	21.24'	23.59'
C7	15.00'	089°52'47"	S00°31'52"W	21.19'	23.53'
C8	15.00'	090°00'00"	S89°24'32"E	21.21'	23.56'
C9	15.00'	090°00'00"	S89°24'32"E	21.21'	23.56'
C10	15.00'	089°52'47"	S00°31'52"W	21.19'	23.53'
C11	15.00'	090°07'13"	N89°28'08"W	21.24'	23.59'
C12	15.00'	090°00'00"	N00°35'28"E	21.21'	23.56'
C13	15.00'	090°00'00"	S89°24'32"E	21.21'	23.56'
C14	15.00'	089°52'47"	S00°31'52"W	21.19'	23.53'
C15	15.00'	090°07'13"	N89°28'08"W	21.24'	23.59'
C16	15.00'	090°00'00"	N00°35'28"E	21.21'	23.56'

CERTIFICATE OF APPROVAL

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

_____
PLANNING COMMISSION CHAIRPERSON

APPROVED FOR ACCEPTANCE

_____ _____
DATE DIRECTOR OF PLANNING

_____ _____
DATE CITY ENGINEER

_____ _____
DATE NEW BRAUNFELS UTILITIES

STATE OF TEXAS
COUNTY OF GUADALUPE

I, _____, COUNTY CLERK OF GUADALUPE COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE, ON THE _____ DAY OF _____, A.D. 20_____ AT _____M. AND DULY RECORDED THE _____ DAY OF _____, A.D. 20 _____ AT ___M. IN THE MAP AND PLAT RECORDS OF GUADALUPE COUNTY, TEXAS, IN BOOK/ VOLUME _____ ON PAGE _____ IN TESTIMONY WHEREOF, WITNESS MY HAND AND OFFICIAL SEAL OF OFFICE, THIS

_____ DAY OF_____, A.D. 20_____.

COUNTY CLERK, GUADALUPE, COUNTY, TEXAS

BY: _____, DEPUTY

SURVEYOR'S NOTES:
1. MONUMENTS WERE FOUND OR SET AT EACH CORNER OF THE SURVEY BOUNDARY OF THE SUBDIVISION AS NOTED. MONUMENTS AND LOT MARKERS WILL BE SET WITH ½" IRON ROD WITH CAP MARKED "PAPE-DAWSON" OR MAG NAIL WITH DISK MARKED "PAPE-DAWSON" AFTER THE COMPLETION OF UTILITY INSTALLATION AND STREET CONSTRUCTION UNLESS NOTED OTHERWISE.
2. COORDINATES SHOWN ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 NAD83 (NA2011) EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE DISPLAYED IN GRID VALUES DERIVED FROM THE NGS COOPERATIVE CORS NETWORK.
3. DIMENSIONS SHOWN ARE SURFACE.
4. BEARINGS ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 NAD83 (NA2011) EPOCH 2010.00, FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE.

STATE OF TEXAS
COUNTY OF BEXAR

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

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT.

G.E. BUCHANAN
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4999
PAPE-DAWSON ENGINEERS, INC.
2000 NW LOOP 410
SAN ANTONIO, TEXAS 78216
(210) 375-9000

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT

SHEET 1 OF 3

- TEXAS DEPARTMENT OF TRANSPORTATION LOC PENDING
- NEW BRAUNFELS UTILITIES LOC PENDING
- CITY OF NEW BRAUNFELS LOC PENDING
- AT&T APPROVAL PENDING
- SPECTRUM APPROVAL PENDING

Civil Job No. 12435-03; Survey Job No. 12435-00

CLEAR SPRING MEADOWS UNIT 2

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Date: Apr 15, 2024, 1:18pm User ID: ekosprowicz
File: P:\124\35\03\Design\Civil\GSPL-1243503.dwg

NO. | REVISION | DATE

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

CLEAR SPRING MEADOWS UNIT 2
SUBDIVISION PLAT (SHEET 1 OF 3)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C5.00

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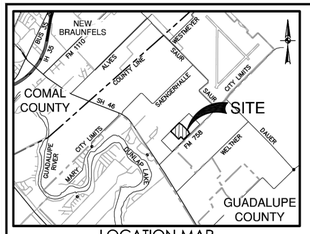
PRELIMINARY PLAT
ESTABLISHING
CLEAR SPRING MEADOWS
UNIT 2

BEING A 30.24 ACRE TRACT OUT OF THE 105.316 ACRE TRACT OF LAND DESCRIBED IN DEED TO PULTE HOMES OF TEXAS, L.P. RECORDED AS DOC. NO. 202199040676 IN THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS, SITUATED IN THE ANTONIO M. ESNAURIZAR 11 LEAGUE GRANT, ABSTRACT 20, GUADALUPE COUNTY, TEXAS.



LOCATION MAP
MAPSCO MAP GRID: 123X1
NOT-TO-SCALE

LEGEND

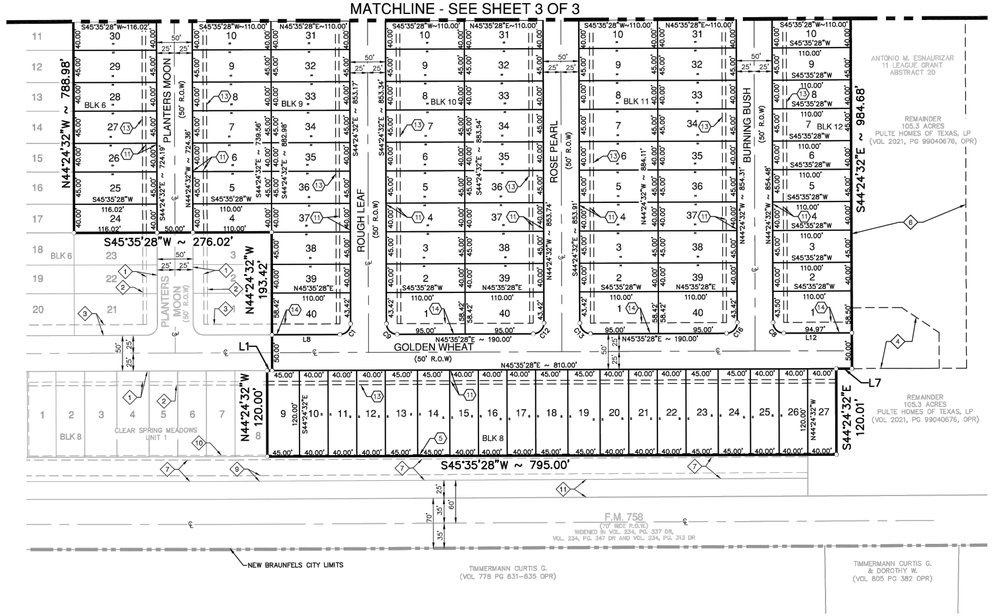
AC	ACRE(S)	ROW	RIGHT-OF-WAY
BLK	BLOCK	VAR WID	VARIABLE WIDTH
DOC	DOCUMENT NUMBER	MIN	MINIMUM
ESMT	EASEMENT	-	REPETITIVE BEARING AND/OR DISTANCE
GETCTV	GAS, ELECTRIC, TELEPHONE AND CABLE TELEVISION	●	FOUND 1/2" IRON ROD (UNLESS NOTED OTHERWISE)
OPRCCT	OFFICIAL PUBLIC RECORDS (OFFICIAL PUBLIC RECORDS OF REAL PROPERTY) OF COMAL COUNTY, TEXAS	(SURVEYOR) ○	SET 1/2" IRON ROD (PD)
OR	OFFICIAL RECORDS OF COMAL COUNTY, TEXAS	(TYPE I OR II) ⊠	FOUND TxDOT MONUMENTATION
MPR	MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS	⊠	FOUND MONUMENTATION
VOL	VOLUME	◎	EASEMENT POINT OF INTERSECTION
PG	PAGE(S)		

—— ℄ —— CENTERLINE
▬ ▬ ▬ CITY OF NEW BRAUNFELS LIMITS

(5) 1' VEHICULAR NON-ACCESS EASEMENT (NOT-TO-SCALE)
(7) VARIABLE WIDTH DRAINAGE EASEMENT
(11) 15' UTILITY EASEMENT
(13) 20' BUILDING SETBACK
(14) 15' UTILITY EASEMENT AND BUILDING SETBACK
(15) 20' UTILITY EASEMENT AND BUILDING SETBACK
(16) 35'x22' TURNAROUND AND ACCESS EASEMENT

1 15' UTILITY EASEMENT (VOL ____, PG ____, D/R)
2 20' BUILDING SETBACK (VOL ____, PG ____, D/R)
3 15' UTILITY EASEMENT AND BUILDING SETBACK (VOL ____, PG ____, D/R)
4 VARIABLE WIDTH UTILITY AND ACCESS EASEMENT (VOL ____, PGS ____, OPR)
5 20' SEWER LINE RIGHT-OF-WAY AGREEMENT NEW BRAUNFELS UTILITIES (VOL. 1984, PG 506, OPR)
6 VARIABLE WIDTH DRAINAGE EASEMENT (VOL ____, PG ____, OPR)
7 30' UTILITY EASEMENT (VOL ____, PGS ____, OPR)
8 20' UTILITY EASEMENT AND BUILDING SETBACK (VOL ____, PG ____, D/R)
9 8' PEDESTRIAN ACCESS EASEMENT (VOL ____, PGS ____, OPR)
10 1' VEHICULAR NON-ACCESS EASEMENT (NOT TO SCALE) (VOL ____, PG ____, D/R)
11 25' TXDOT RIGHT-OF-WAY DEDICATION (VOL ____, PGS ____, OPR)

MATCHLINE - SEE SHEET 3 OF 3



SCALE: 1"= 100'
0' 100' 200' 300'

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

DATE OF PREPARATION: March 7, 2024

STATE OF TEXAS
COUNTY OF BEXAR

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

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT.

G.E. BUCHANAN
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4999
PAPE-DAWSON ENGINEERS, INC.
2000 NW LOOP 410
SAN ANTONIO, TEXAS 78216
(210) 375-9000

STATE OF TEXAS
COUNTY OF GUADALUPE

I, _____, COUNTY CLERK OF GUADALUPE COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE, ON THE _____ DAY OF _____, A.D. 20____ AT _____M. AND DULY RECORDED THE _____ DAY OF _____, A.D. 20____ AT __M. IN THE MAP AND PLAT RECORDS OF GUADALUPE COUNTY, TEXAS, IN BOOK/ VOLUME _____ ON PAGE _____ IN TESTIMONY WHEREOF, WITNESS MY HAND AND OFFICIAL SEAL OF OFFICE, THIS

_____ DAY OF_____, A.D. 20____.

COUNTY CLERK, GUADALUPE, COUNTY, TEXAS

BY: _____, DEPUTY

CURVE AND LINE DATA TABLES LOCATED ON SHEET 1 OF 3

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT

SHEET 2 OF 3

- TEXAS DEPARTMENT OF TRANSPORTATION LOC PENDING
- NEW BRAUNFELS UTILITIES LOC PENDING
- CITY OF NEW BRAUNFELS LOC PENDING
- AT&T APPROVAL PENDING
- SPECTRUM APPROVAL PENDING

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

CLEAR SPRING MEADOWS UNIT 2
SUBDIVISION PLAT (SHEET 2 OF 3)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MC DRAWN MGG
SHEET C5.01

CLEAR SPRING MEADOWS UNIT 2
Civil Job No. 12435-03; Survey Job No. 12435-00

Date: Apr 15, 2024, 1:18pm User ID: ekosprowicz
File: P:\124\35\03\Design\Civil\GSPL-1243503.dwg

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PRELIMINARY PLAT
ESTABLISHING
CLEAR SPRING MEADOWS
UNIT 2

BEING A 30.24 ACRE TRACT OUT OF THE 105.316 ACRE TRACT OF LAND DESCRIBED IN DEED TO PULTE HOMES OF TEXAS, L.P. RECORDED AS DOC. NO. 202199040676 IN THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS, SITUATED IN THE ANTONIO M. ESNAURIZAR 11 LEAGUE GRANT, ABSTRACT 20, GUADALUPE COUNTY, TEXAS.

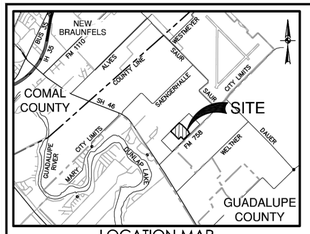
SCALE: 1"= 100'

0' 100' 200' 300'

PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

DATE OF PREPARATION: March 7, 2024



LOCATION MAP

MAPSCO MAP GRID: 123X1
NOT-TO-SCALE

LEGEND

AC	ACRE(S)	ROW	RIGHT-OF-WAY
BLK	BLOCK	VAR WID	VARIABLE WIDTH
DOC	DOCUMENT NUMBER	MIN	MINIMUM
ESMT	EASEMENT	-	REPETITIVE BEARING AND/OR DISTANCE
GETCTV	GAS, ELECTRIC, TELEPHONE AND CABLE TELEVISION	●	FOUND 1/2" IRON ROD (UNLESS NOTED OTHERWISE)
OPRCCT	OFFICIAL PUBLIC RECORDS (OFFICIAL PUBLIC RECORDS OF REAL PROPERTY) OF COMAL COUNTY, TEXAS	(SURVEYOR) ○	SET 1/2" IRON ROD (PD)
		⊃	SET 1/2" IRON ROD (PD)-ROW
OR	OFFICIAL RECORDS OF COMAL COUNTY, TEXAS	(TYPE I, II OR III) ☒	FOUND TxDOT MONUMENTATION
		☒	FOUND MONUMENTATION
MPR	MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS	◍	EASEMENT POINT OF INTERSECTION
VOL	VOLUME		
PG	PAGE(S)		

—— ℄ —— CENTERLINE
— — — CITY OF NEW BRAUNFELS LIMITS

1. 1' VEHICULAR NON-ACCESS EASEMENT (NOT-TO-SCALE)
2. VARIABLE WIDTH DRAINAGE EASEMENT
3. 15' UTILITY EASEMENT
4. 20' BUILDING SETBACK
5. 15' UTILITY EASEMENT AND BUILDING SETBACK
6. 20' UTILITY EASEMENT AND BUILDING SETBACK
7. 30'x22' TURNAROUND AND ACCESS EASEMENT
1. 15' UTILITY EASEMENT (VOL ____, PG ____, D/R)
2. 20' BUILDING SETBACK (VOL ____, PG ____, D/R)
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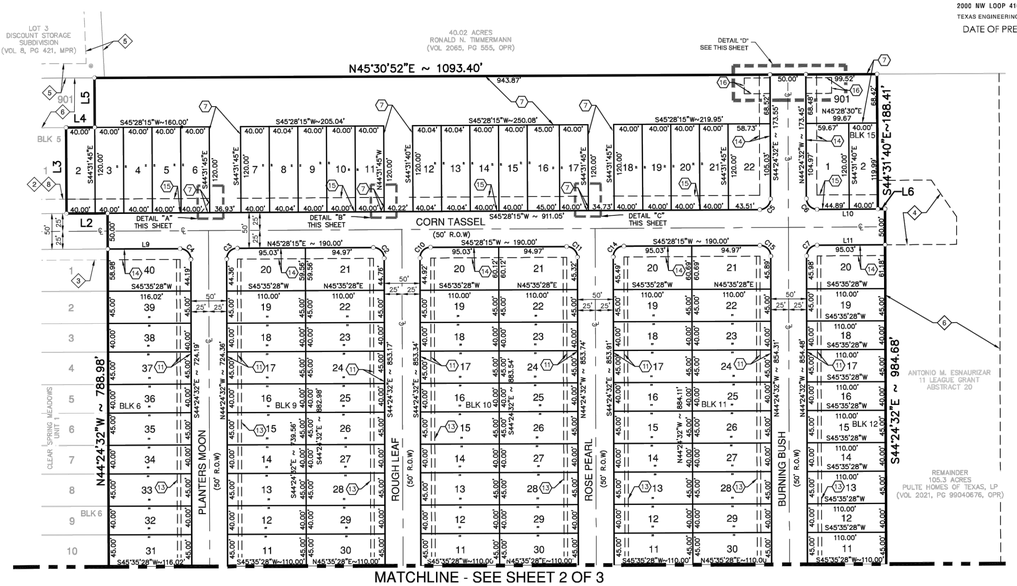
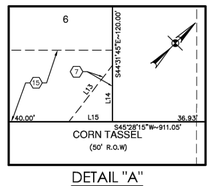
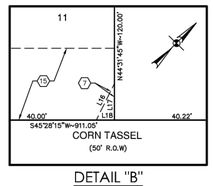
10. 1' VEHICULAR NON-ACCESS EASEMENT (NOT TO SCALE) (VOL ____, PG ____, D/R)
11. 25' TXDOT RIGHT-OF-WAY DEDICATION (VOL ____, PGS ____, OPR)

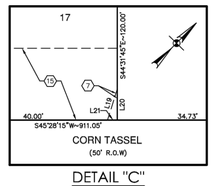




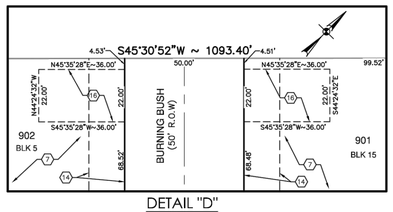
DETAIL "A"
1" = 20'



DETAIL "B"
1" = 20'



DETAIL "C"
1" = 20'



DETAIL "D"
1" = 30'

STATE OF TEXAS
COUNTY OF BEXAR

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

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT.

G.E. BUCHANAN
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4999
PAPE-DAWSON ENGINEERS, INC.
2000 NW LOOP 410
SAN ANTONIO, TEXAS 78216
(210) 375-9000

STATE OF TEXAS
COUNTY OF GUADALUPE

I, _____, COUNTY CLERK OF GUADALUPE COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE, ON THE _____ DAY OF _____, A.D. 20____ AT _____M. AND DULY RECORDED THE _____ DAY OF _____, A.D. 20____ AT ___M. IN THE MAP AND PLAT RECORDS OF GUADALUPE COUNTY, TEXAS, IN BOOK/ VOLUME _____ ON PAGE _____ IN TESTIMONY WHEREOF, WITNESS MY HAND AND OFFICIAL SEAL OF OFFICE, THIS _____ DAY OF _____, A.D. 20____.

COUNTY CLERK, GUADALUPE, COUNTY, TEXAS

BY: _____, DEPUTY

CURVE AND LINE DATA TABLES LOCATED ON SHEET 1 OF 3

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT

SHEET 3 OF 3

- TEXAS DEPARTMENT OF TRANSPORTATION LOC PENDING
- NEW BRAUNFELS UTILITIES LOC PENDING
- CITY OF NEW BRAUNFELS LOC PENDING
- AT&T APPROVAL PENDING
- SPECTRUM APPROVAL PENDING

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

CLEAR SPRING MEADOWS UNIT 2
SUBDIVISION PLAT (SHEET 3 OF 3)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C5.02

Civil Job No. 12435-03; Survey Job No. 12435-00

CLEAR SPRING MEADOWS UNIT 2

Date: Apr 15, 2024, 1:18pm User ID: ekasprowicz
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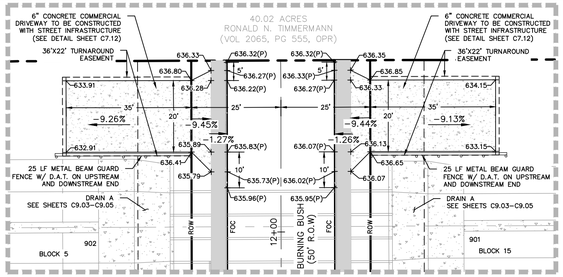
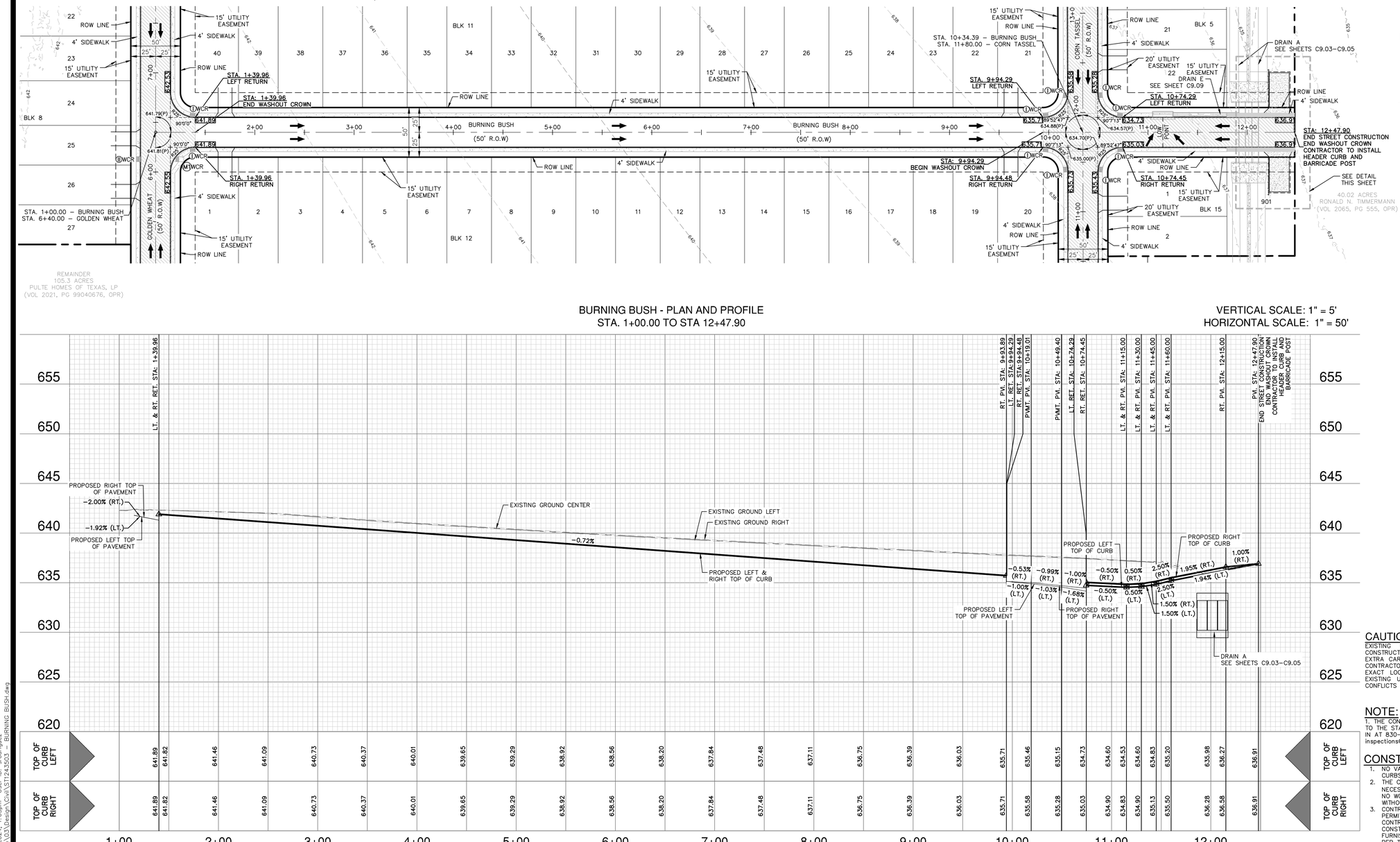


TURNAROUND DETAIL

SCALE: 1" = 20'



BURNING BUSH - PLAN AND PROFILE
STA. 1+00.00 TO STA 12+47.90

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

CAUTION!!

EXISTING UTILITIES ARE LOCATED WITHIN THE LIMITS OF THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL EXERCISE EXTRA CARE IN DIGGING ANY TRENCH FOR PROPOSED UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, VERIFYING THE EXACT LOCATION AND IDENTIFYING ANY AREAS OF CONFLICTS WITH EXISTING UTILITIES AND WILL NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS ARE FOUND.

NOTE:

1. THE CONSTRUCTION INSPECTOR SHALL BE NOTIFIED 48-HOURS PRIOR TO THE START OF CONSTRUCTION. ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR FAXED IN AT 830-608-2117 OR EMAILED AT inspections@nbtexas.org.

CONSTRUCTION GENERAL NOTES

1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS/APPROVALS BEFORE BEGINNING CONSTRUCTION. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.
3. CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING WITH PERMITTING AUTHORITY FOR THE REQUIREMENTS OF ANY TRAFFIC CONTROL SYSTEMS AND DEVICES THAT ARE REQUIRED DURING THE CONSTRUCTION PLANS OF THIS PROJECT. CONTRACTOR WILL FURNISH AND MAINTAIN ALL REQUIRED TRAFFIC CONTROL DEVICES, PER TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD), TO PROPERLY WARN, GUIDE, AND CONTROL TRAFFIC AT ALL TIMES DURING CONSTRUCTION. FOLLOW TXDOT BC STANDARDS AND TCP STANDARDS.

0' 50' 100' 150'

SCALE: 1"= 50'

LEGEND:

- UNIT BOUNDARY
- STREET CENTER LINE
- PROPOSED CURB
- PROPOSED CONCRETE SIDEWALK (BY SITE CONTRACTORS)
- PROPOSED CONCRETE SIDEWALK (BY OTHERS AT TIME OF HOME CONSTRUCTION)
- WASHOUT CROWN
- WCR — PROPOSED WHEELCHAIR RAMP
- 654.00 — PROPOSED TOP OF CURB ELEVATION
- 654.00 + — PROPOSED TOP OF PAVEMENT ELEVATION
- PROPOSED DRIVEWAY
- DRAINAGE FLOW ARROW
- HIGH POINT

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

BURNING BUSH - PLAN AND PROFILE
STA. 1+00.00 TO STA 12+47.90

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C7.00

Date: Mar 08, 2024, 1:05pm User ID: srodriguez
File: P:\124\351\03\Design\Civil\ST1243503 - BURNING BUSH.dwg

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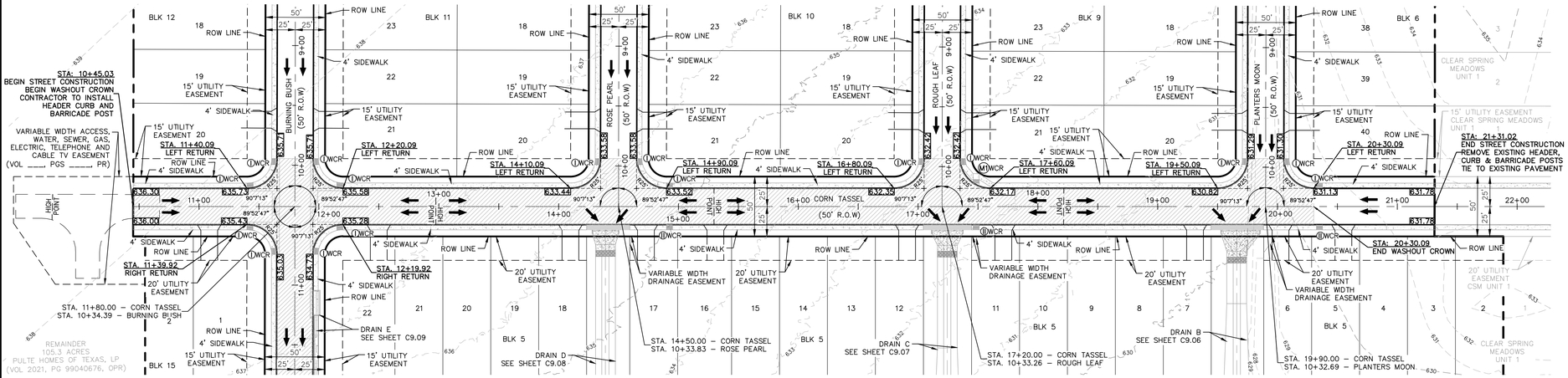
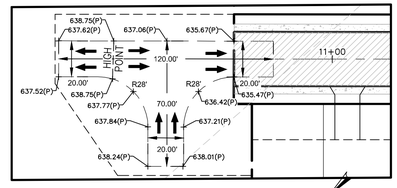
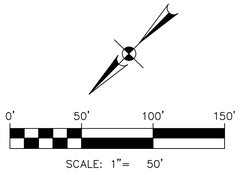




TEMPORARY TURNAROUND

SCALE: 1" = 40'



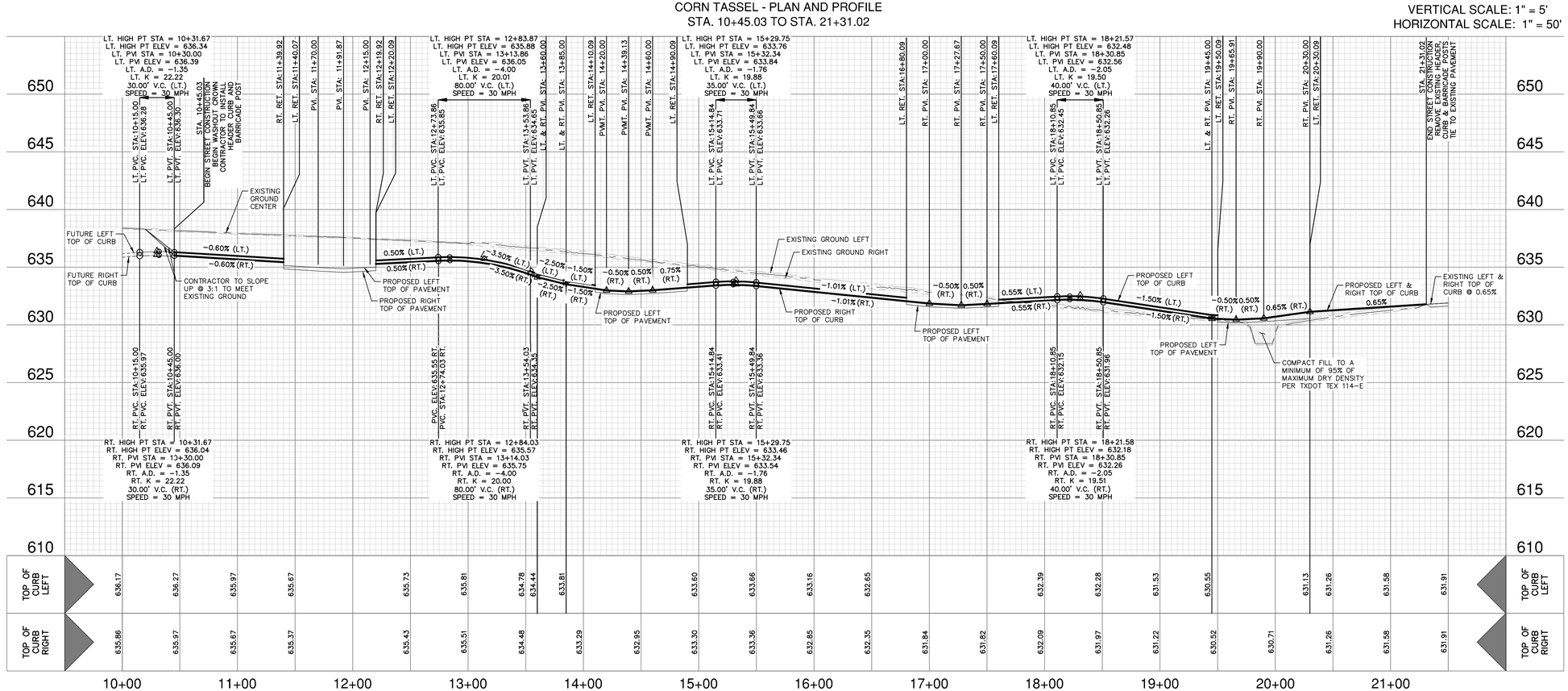
SCALE: 1"= 50'

LEGEND:

- UNIT BOUNDARY
- STREET CENTER LINE
- PROPOSED CURB
- PROPOSED CONCRETE SIDEWALK (BY SITE CONTRACTORS)
- PROPOSED CONCRETE SIDEWALK (BY OTHERS AT TIME OF HOME CONSTRUCTION)
- WASHOUT CROWN
- WCR — PROPOSED WHEELCHAIR RAMP
- 654.00 — PROPOSED TOP OF CURB ELEVATION
- 654.00 + — PROPOSED TOP OF PAVEMENT ELEVATION
- PROPOSED DRIVEWAY
- DRAINAGE FLOW ARROW
- HIGH POINT

CORN TASSEL - PLAN AND PROFILE
STA. 10+45.03 TO STA. 21+31.02

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



CAUTION!!

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NOTE:

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CONSTRUCTION GENERAL NOTES

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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

CORN TASSEL - PLAN AND PROFILE
STA. 10+45.03 TO STA. 21+31.02

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C7.01

Date: Mar 08, 2024, 1:07pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\ST124350 3 - CORN TASSEL.dwg

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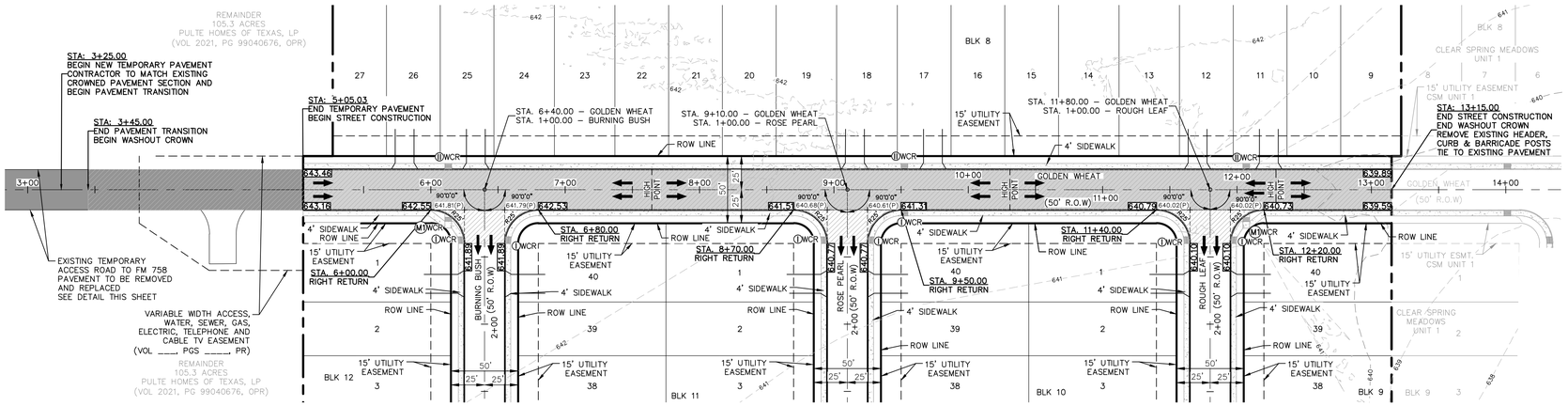

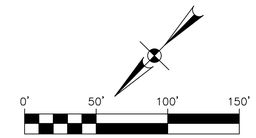

LEGEND:

- UNIT BOUNDARY
- STREET CENTER LINE
- PROPOSED CURB
- PROPOSED CONCRETE SIDEWALK (BY SITE CONTRACTORS)
- PROPOSED CONCRETE SIDEWALK (BY OTHERS AT TIME OF HOME CONSTRUCTION)
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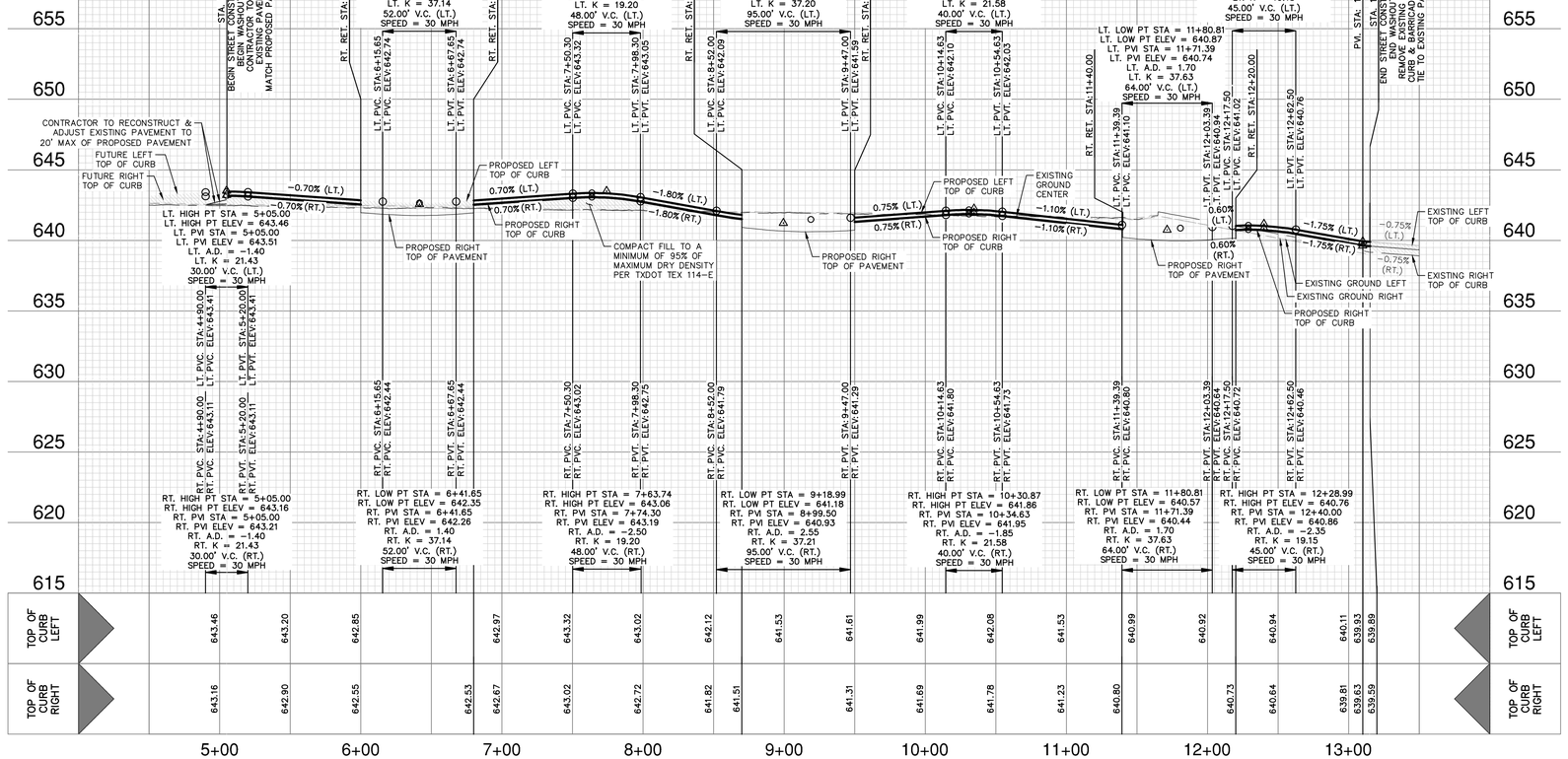
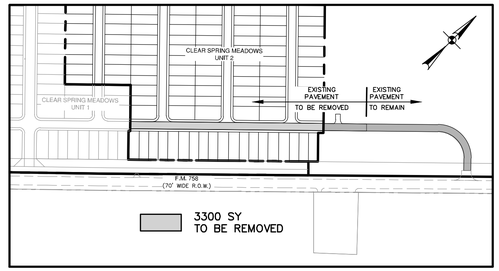
- 654.00 — PROPOSED TOP OF CURB ELEVATION
- 654.00 + — PROPOSED TOP OF PAVEMENT ELEVATION
- PROPOSED DRIVEWAY
- DRAINAGE FLOW ARROW
- HIGH POINT

GOLDEN WHEAT - PLAN AND PROFILE
STA. 5+05.03 TO STA. 13+15.00

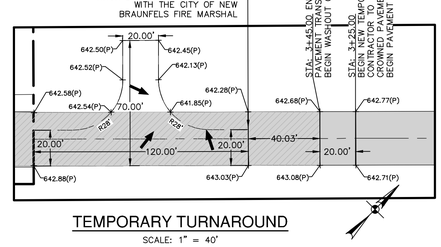
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'





EXISTING TEMPORARY ACCESS ROAD

SCALE: 1" = 300'



TEMPORARY TURNAROUND

SCALE: 1" = 40'

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NO. | REVISION | DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS
GOLDEN WHEAT - PLAN AND PROFILE
STA. 5+05.03 TO STA. 13+15.00

PLAT NO.	PLAT #
JOB NO.	12435-03
DATE	OCTOBER 2022
DESIGNER	EDK
CHECKED	MG
DRAWN	MGG
SHEET	C7.02

Date: Mar 08, 2024, 1:09pm User ID: arodriguez
File: P:\124\35\03\Design\Civil\ST124350 3 - GOLDEN WHEAT.dwg

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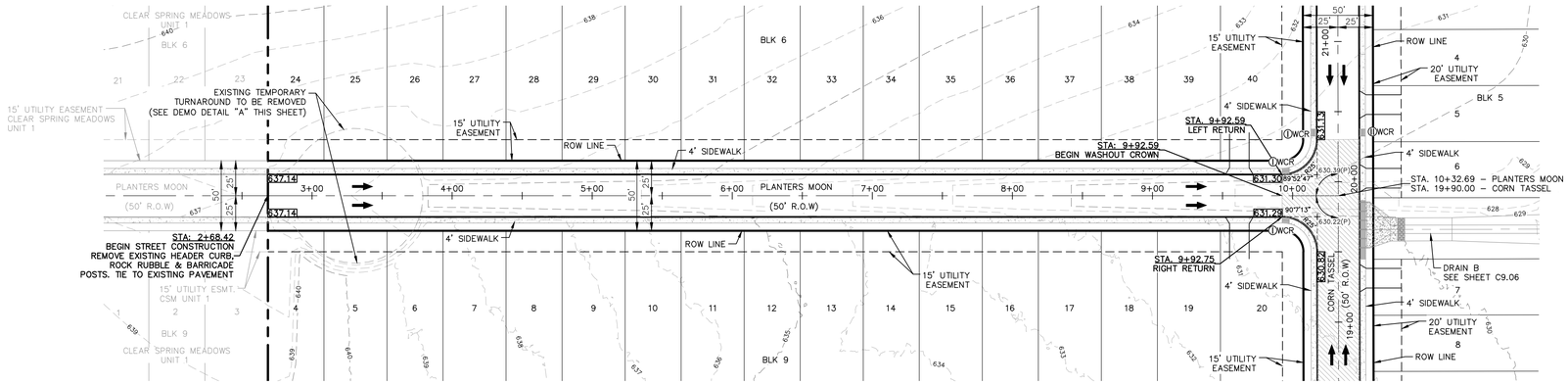
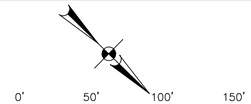


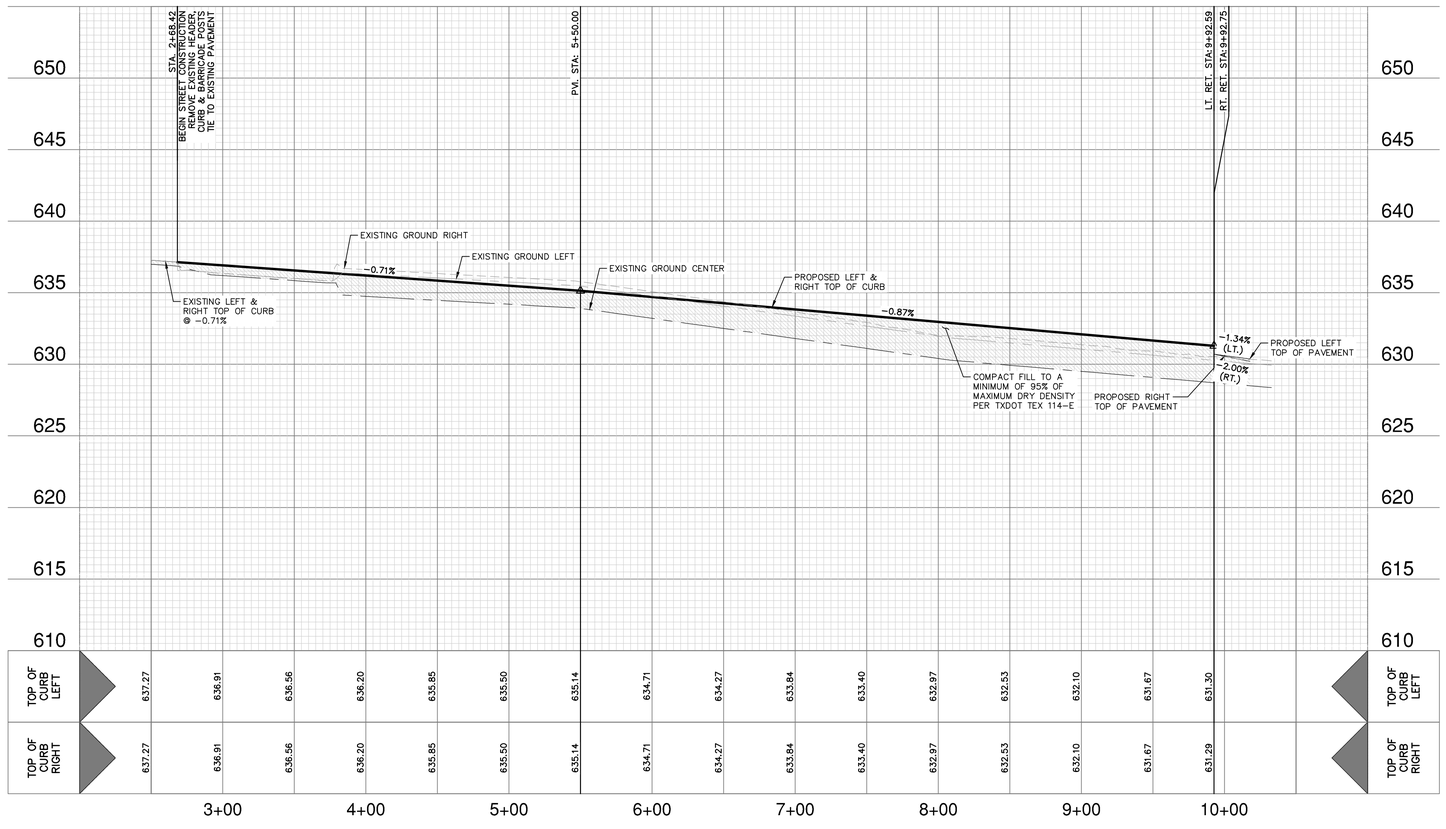


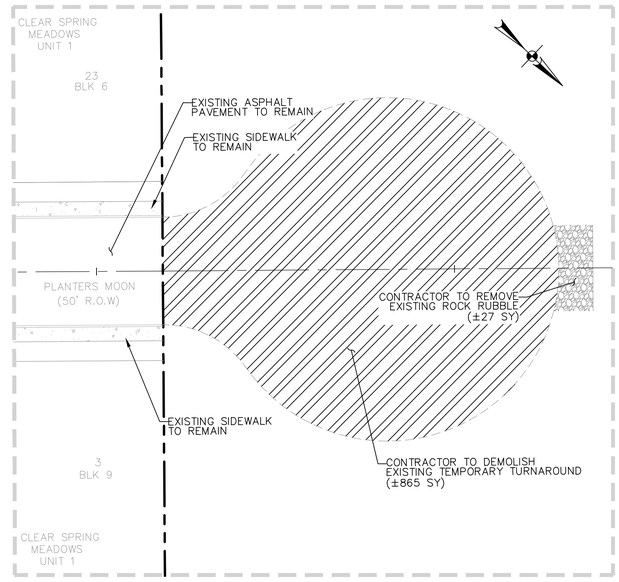
LEGEND:

- UNIT BOUNDARY
- STREET CENTER LINE
- PROPOSED CURB
- PROPOSED CONCRETE SIDEWALK (BY SITE CONTRACTORS)
- PROPOSED CONCRETE SIDEWALK (BY OTHERS AT TIME OF HOME CONSTRUCTION)
- WASHOUT CROWN
- PROPOSED WHEELCHAIR RAMP
- 654.00 — PROPOSED TOP OF CURB ELEVATION
- 654.00 + — PROPOSED TOP OF PAVEMENT ELEVATION
- PROPOSED DRIVEWAY
- DRAINAGE FLOW ARROW
- HIGH POINT

PLANTERS MOON - PLAN AND PROFILE
STA. 2+68.42 TO STA. 10+32.69

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





DEMO DETAIL "A"
SCALE: 1" = 20'

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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

PLANTERS MOON - PLAN AND PROFILE
STA. 2+68.42 TO STA. 10+32.69

PLAT NO.	PLAT #
JOB NO.	12435-03
DATE	OCTOBER 2022
DESIGNER	EDK
CHECKED	MG
DRAWN	MGG
SHEET	C7.03

Date: Mar 08, 2024, 1:11pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\ST1243503 - PLANTERS MOON.dwg

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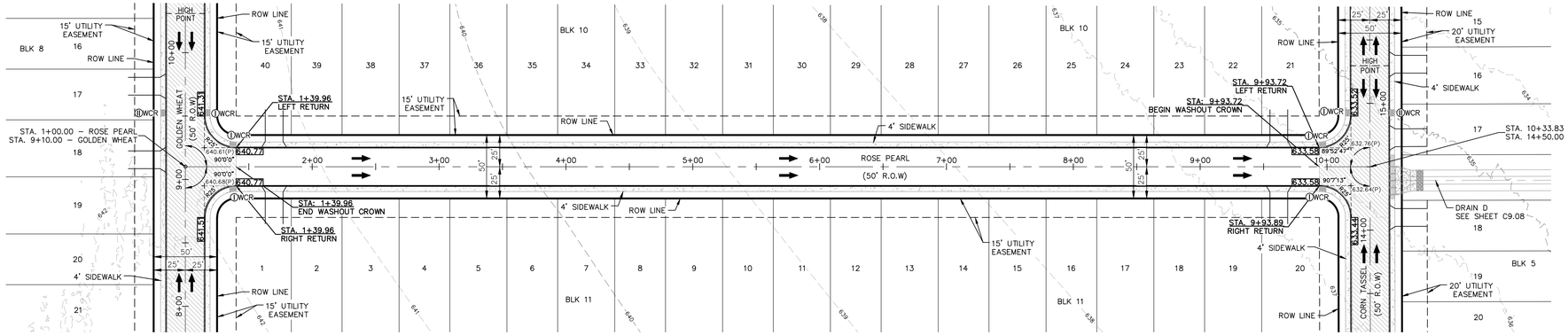


0' 50' 100' 150'

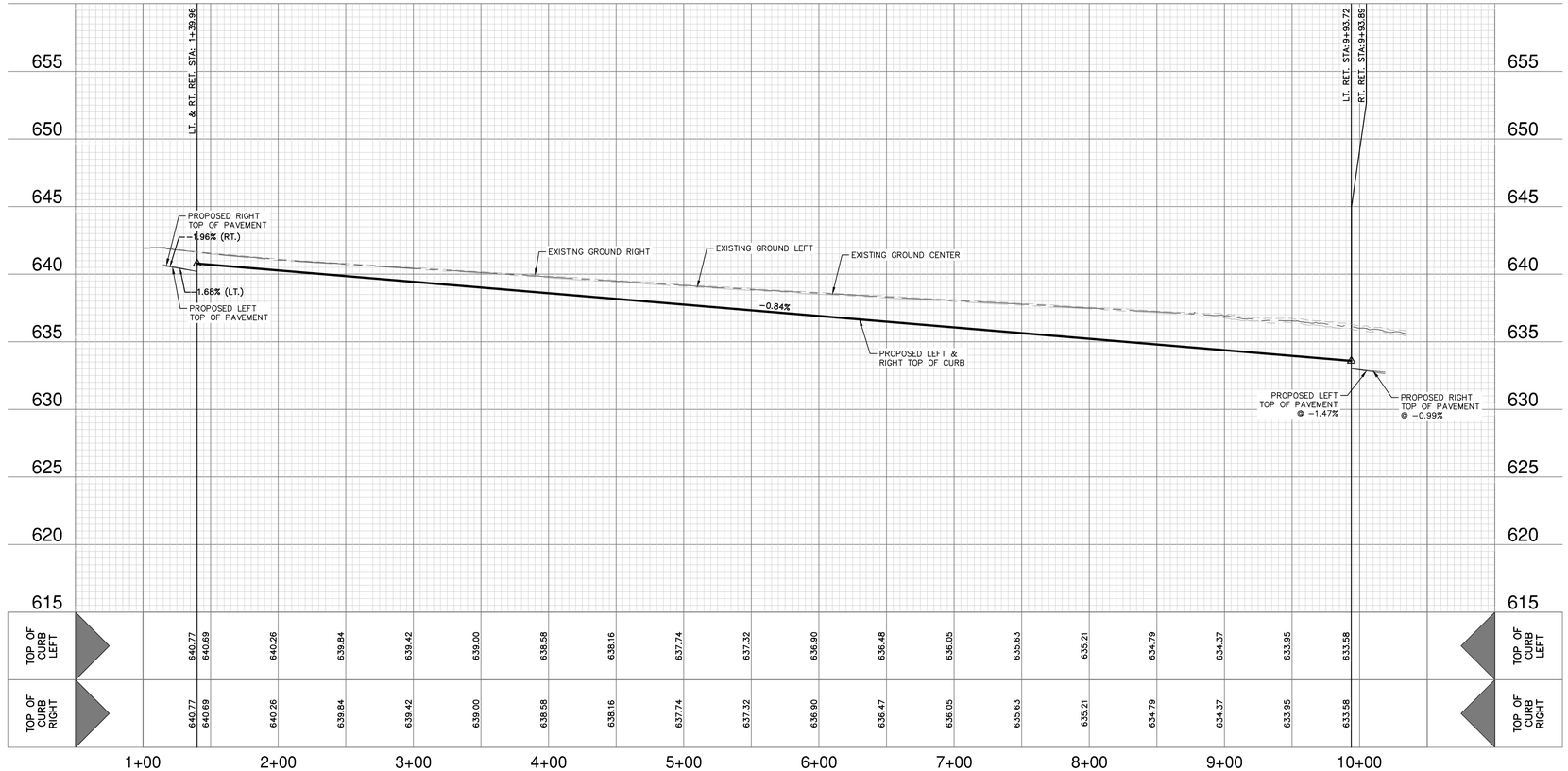
SCALE: 1"= 50'

LEGEND:

- UNIT BOUNDARY
- STREET CENTER LINE
- PROPOSED CURB
- PROPOSED CONCRETE SIDEWALK (BY SITE CONTRACTORS)
- PROPOSED CONCRETE SIDEWALK (BY OTHERS AT TIME OF HOME CONSTRUCTION)
- WASHOUT CROWN
- PROPOSED WHEELCHAIR RAMP
- 654.00 — PROPOSED TOP OF CURB ELEVATION
- 654.00 + — PROPOSED TOP OF PAVEMENT ELEVATION
- PROPOSED DRIVEWAY
- DRAINAGE FLOW ARROW
- HIGH POINT

ROSE PEARL - PLAN AND PROFILE
STA. 1+00.00 TO STA. 10+33.83

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



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STATE OF TEXAS
MATTHEW GEISTWEIDT
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LICENSED
PROFESSIONAL ENGINEER
3-7-2024

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SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

ROSE PEARL - PLAN AND PROFILE
STA. 1+00.00 TO STA. 10+33.83

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C7.04

Date: Mar 08, 2024, 1:12pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\ST1243503 - ROSE PEARL.dwg

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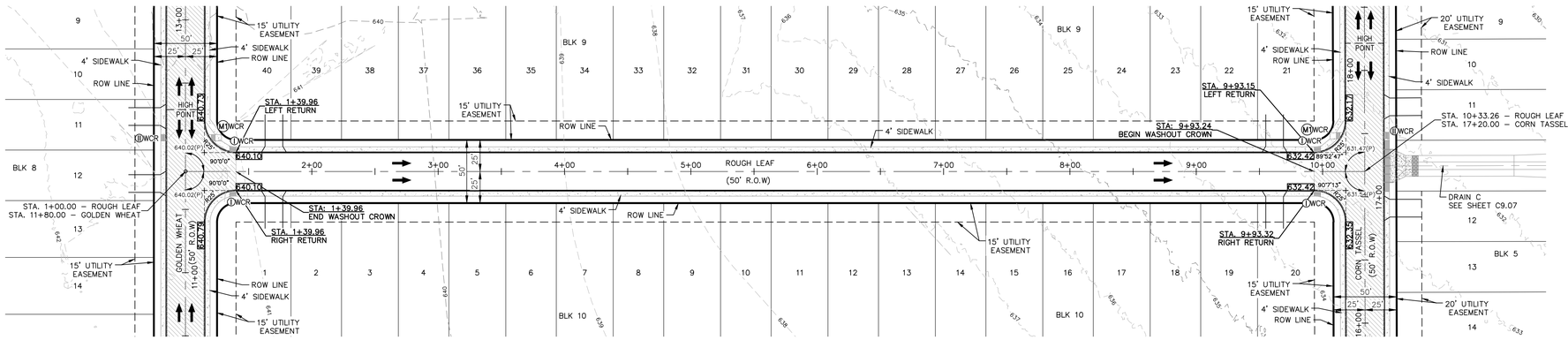

0' 50' 100' 150'

SCALE: 1"= 50'

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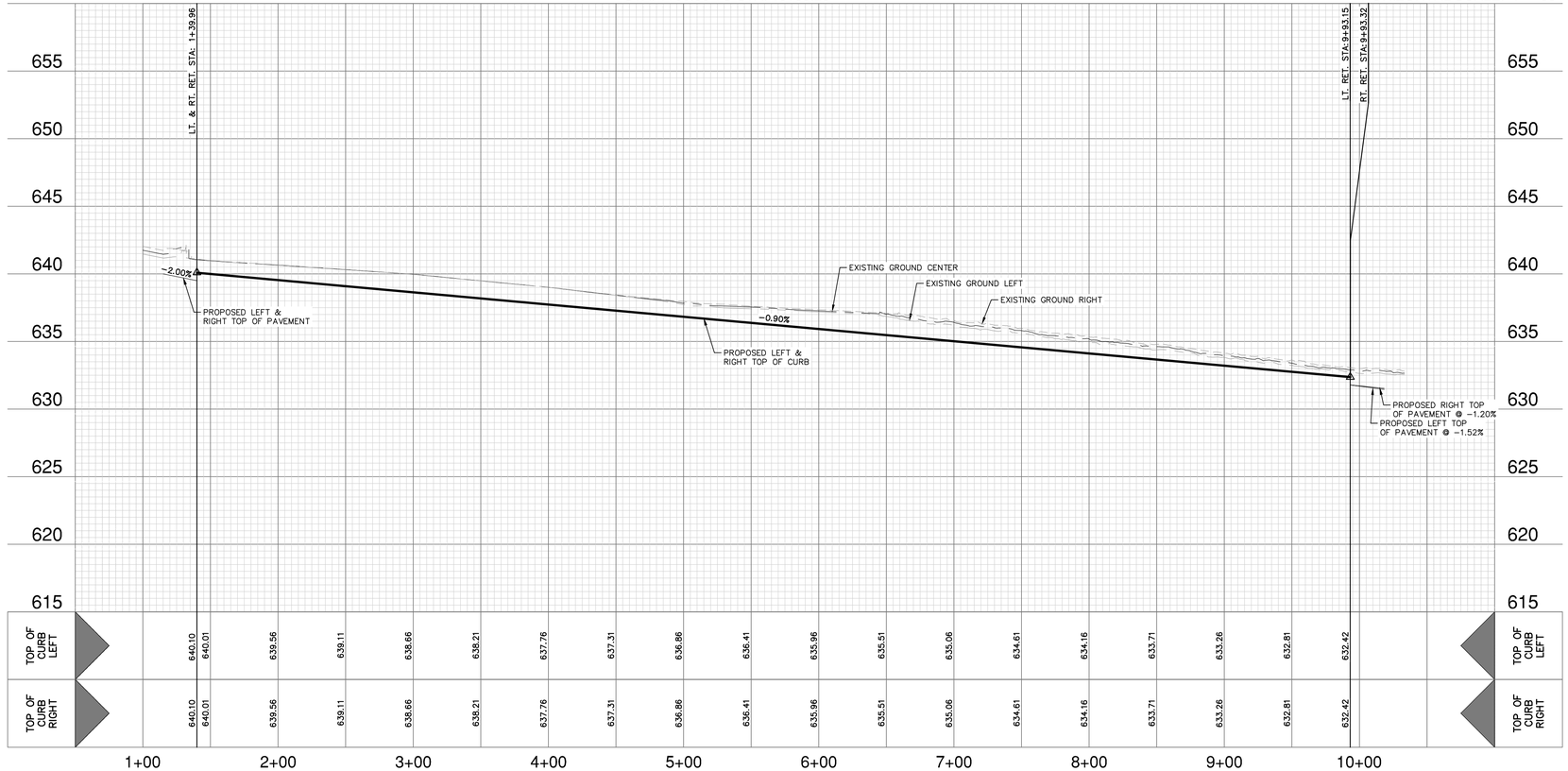
- PROPOSED DRIVEWAY
- DRAINAGE FLOW ARROW
- HIGH POINT

ROUGH LEAF - PLAN AND PROFILE
STA. 1+00.00 TO STA. 10+33.26

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



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PROFESSIONAL ENGINEER
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TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

ROUGH LEAF - PLAN AND PROFILE
STA. 1+00.00 TO STA. 10+33.26

PLAT NO.	PLAT #
JOB NO.	12435-03
DATE	OCTOBER 2022
DESIGNER	EDK
CHECKED	MG DRAWN MGG
SHEET	C7.05

Date: Mar 08, 2024, 1:14pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\S11243503 - ROUGH LEAF.dwg

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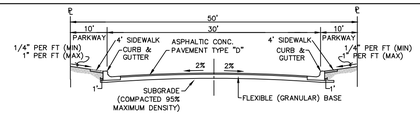


ONE & TWO FAMILY RESIDENTIAL LOCAL STREET SECTION

NOT-TO-SCALE

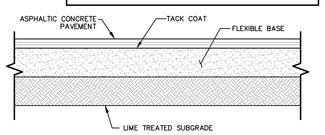
MAIN PAVEMENT SECTION LOCAL STREET	
HMAC (TYPE D)	3.0"
HMAC (TYPE B)	NONE
FLEXIBLE BASE	12.0"
LIME TREATED SUBGRADE	6.0"
GEOGRID*	NO
ACTUAL STRUCTURAL NUMBER	3.48

* GEOGRID, TENSAR TRIAX TX7, SHOULD BE INSTALLED AS PER MANUFACTURER'S GUIDELINES ON TOP OF STABILIZED SUBGRADE.

PROJECT PAVEMENT NOTES:

1. SUFFICIENT LIME SHOULD BE MIXED WITH SUBGRADE TO RESULT IN A SOIL-LIME MIXTURE WITH PH OF AT LEAST 12.4 WHEN TESTED IN ACCORDANCE WITH ASTM C 977 OR TXDOT TEST TEX-121-E. 4 PERCENT LIME IS REQUIRED AT 17.5 LBS/SY FOR THE 6 INCH TREATMENT DEPTH SPECIFIED.
2. SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF THE LIME FOR STABILIZATION.
3. AS ALLOWED BY THE PROJECT GEOTECHNICAL ENGINEERING REPORT, LIME STABILIZED SUBGRADE SHALL NOT BE INSTALLED WHERE NATIVE MARL/ROCK SUBGRADE IS EXPOSED.
4. IN FILL SECTIONS, FILL MATERIAL SHALL CONSIST OF A MAXIMUM PARTICLE SIZE OF 3-INCHES, A MINIMUM CBR VALUE OF 3.0, AND PREFERABLY A PI BELOW 19. PROJECT GEOTECHNICAL ENGINEER SHALL DETERMINE SUITABILITY OF FILL MATERIAL PRIOR TO PLACEMENT BY CONTRACTOR. FILL MATERIAL SHALL BE COMPACTED PER PROJECT, CITY, COUNTY OR TXDOT SPECIFICATIONS AS APPLICABLE.
5. ROADWAY MEASUREMENT SHOWN FROM FRONT OF CURB.
6. FLEXIBLE BASE MATERIAL SHALL BE TYPE "A" GRADE 2 PER TXDOT STD.
7. ASPHALT CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX PER TXDOT ITEM 340 (2004).
8. BASE MUST EXTEND 1' BEYOND BACK OF CURB, 6" MINIMUM THICKNESS.

NO SEPARATE PAY FOR EXCAVATION REQUIRED TO CONSTRUCT CURB AND BASE MATERIAL BEHIND CURB.

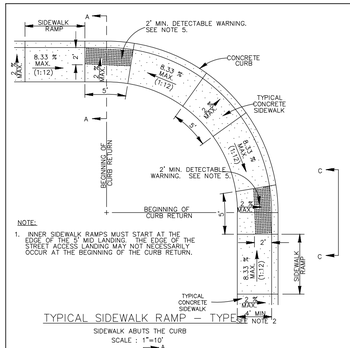


FLEXIBLE PAVEMENT SECTIONS

REFERENCE GEOTECHNICAL ENGINEERING REPORT PREPARED BY FROST GEOSCIENCES, FILE No. FGS-G21116, REVISED APRIL 19, 2022 FOR PAVEMENT MATERIALS AND CONSTRUCTION REQUIREMENTS. CONTRACTOR SHALL MEET OR EXCEED ALL PAVING RECOMMENDATIONS.

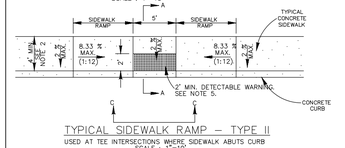
GENERAL PAVEMENT NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY OR TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. PAVEMENT DESIGN AS SHOWN IS BASED ON PROJECT GEOTECHNICAL REPORT. SEE TABLE FOR STRUCTURAL NUMBER CALCULATION. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.
3. A GEOTECHNICAL ENGINEERING REPRESENTATIVE SHALL BE RETAINED TO: (1) OBSERVE THE SITE PREPARATION AND SUBGRADE OPERATIONS; (2) EVALUATE THE ACTUAL SUBGRADE MATERIAL CLASSIFICATION; AND (3) VERIFY THAT RECOMMENDATIONS ARE FOLLOWED. THE ACTUAL SUBGRADE CONDITION AT A PARTICULAR LOCATION WILL NEED TO BE EVALUATED DURING CONSTRUCTION ONCE THE SUBGRADE IS CUT/FILLED TO THE PROPER GRADE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.
5. IF ALTERNATE PAVEMENT SECTION CHOSEN, CITY OF NEW BRAUNFELS SHALL BE PROVIDED WITH REVISED CONSTRUCTION PLANS INDICATING SELECTED PAVEMENT DESIGN PRIOR TO CONSTRUCTION.
6. PAVEMENT SECTIONS ARE SUBJECT TO CHANGE DUE TO RETESTING OF SOIL AFTER STREET EXCAVATION HAS BEEN DONE TO TOP OF CURB.
7. CONTRACTOR SHALL CONTACT ENGINEER 24 HRS IN ADVANCE FOR FIELD OBSERVATION DURING STREET CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO CONTACT ENGINEER FOR INSPECTION OF THE SUBGRADE, BASE, ASPHALT, AND CURB.
8. CONTRACTOR MAY LEAVE VERTICAL CUT BANKS AT R.O.W. LINE AND MEDIANS PROVIDED PROJECT GEOTECHNICAL ENGINEER DETERMINES ROCK IS COMPETENT TO STAND ON ITS OWN. WHERE THE VERTICALLY CUT ROCK IS ALLOWED TO REMAIN BUT IS OVERLAIN BY SOIL, THE SOIL LAYER SHALL BE SLOPED BACK AT 3:1 TO MATCH EXISTING GRADE.
9. THE CONTRACTOR SHALL SAW CUT EXISTING PAVING, CURB, AND SIDEWALKS TO PROVIDE A SMOOTH TRANSITION. NO JAGGED OR IRREGULAR EDGES WILL BE ALLOWED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
11. THE CONTRACTOR SHALL VERIFY ELEVATIONS AND LOCATIONS OF EXISTING FACILITIES AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.



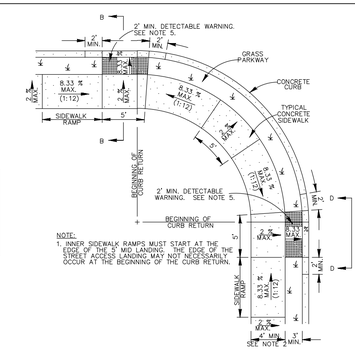
TYPICAL SIDEWALK RAMP – TYPE I NOTE 2

SIDEWALK ABUTS THE CURB
SCALE : 1"=10'



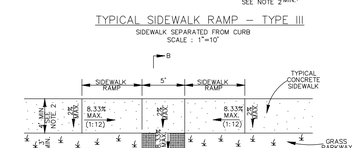
TYPICAL SIDEWALK RAMP – TYPE II

USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB
SCALE : 1"=10'



TYPICAL SIDEWALK RAMP – TYPE III

SIDEWALK SEPARATED FROM CURB
SCALE : 1"=10'

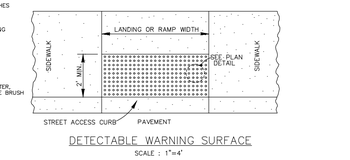


TYPICAL SIDEWALK RAMP – TYPE IV

USED AT TEE INTERSECTIONS WHERE SIDEWALK IS SEPARATED FROM CURB
SCALE : 1"=10'

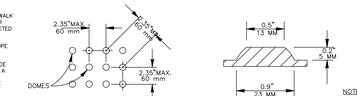
GENERAL NOTES

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 BE SEPARATED FROM THE CURB. THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' 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 3' FROM THE BACK OF CURB OR AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
4. SIDEWALK RAMP LENGTHS PRESENTED IN TABLE 1 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 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. THE DETECTABLE WARNING SHALL CONSIST OF A SURFACE OF TRUNCATED DOMES IN A 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 SURFACE SHALL BE PAVERS CONFORMING TO TXDOT STANDARD PED-105, 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 CONCRETE CURB AND GUTTER" AND / OR "502 – CONCRETE SIDEWALKS". RAMP SURFACE SHALL BE BRUSH FINISHED.
9. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. CITY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
10. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM SPACING OF 200 FEET.
11. WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
12. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6" x 6" – W2.9 x W2.9 WIRE MESH.
13. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY, ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS AND RESTING PLATFORMS TO BE CONSTRUCTED IN ACCORDANCE WITH 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%-(-2.67%)=11). IN 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



DETECTABLE WARNING SURFACE

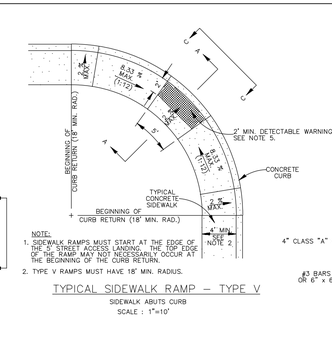
SCALE : 1"=4'



PLAN DETAIL

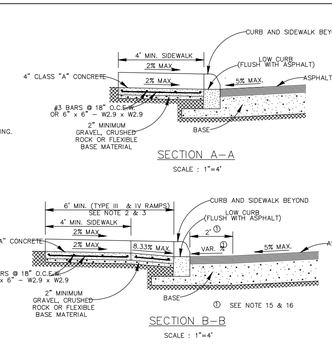
DOME SECTION

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



TYPICAL SIDEWALK RAMP – TYPE V

SIDEWALK ABUTS CURB
SCALE : 1"=10'



SECTION A–A

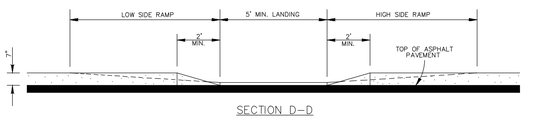
SCALE : 1"=4'

SECTION B–B

SCALE : 1"=4'

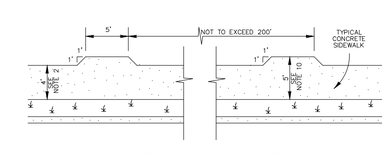
SECTION C–C

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



SECTION D–D

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



SIDEWALK PASSING SPACE

SCALE : 1"=10'

TABLE 1 (SEE NOT 4)		
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-6"	7'-2"
2%	5'-0"	8'-4"
3%	4'-6"	10'-0"
4%	4'-2"	12'-6"
5%	3'-10"	16'-8"

MAY 2009

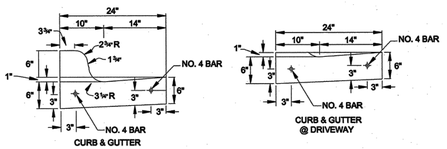
CITY OF SAN ANTONIO

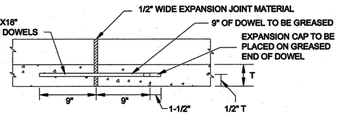
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

PROJECT NO.____		DATE:____
DSGN. BY:____	CHKD. BY:__R.S. HOSSFELD, P.E.__	SHEET NO.:__OF__

CURB AND GUTTER





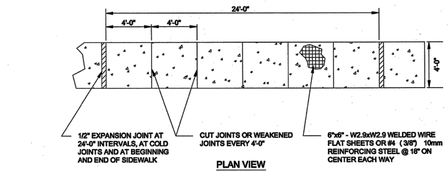
LONGITUDINAL SECTION THRU CURB AND GUTTER
SHOWING TYPICAL EXPANSION JOINT DETAILS.
REINFORCING STEEL SHALL NOT CROSS EXPANSION JOINTS.
STEEL SHALL BE TERMINATED 3" (+ OR -) 1" FROM FACE OF THE JOINT.

NOTES:

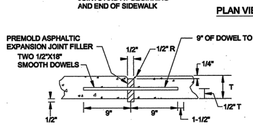
1. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 18".
2. CURB AND GUTTER SHALL HAVE FORMED TOOLED OR SAWED CONTRACTION JOINTS AT ± 10'. THE DEPTH OF THESE JOINTS SHALL BE SUFFICIENT TO ENSURE CRACKING AT THE JOINTS.
3. CURB OR CURB AND GUTTER SHALL HAVE EXPANSION JOINTS AT POINTS OF CURVATURE, AT INTERVALS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

DATE APPROVED: 7/08	DWG. NO: ST-013	SCALE: N.T.S.	ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 1		
FILENAME: Curb & Gutter			
P:\CURRENT NEW BRAUNFELS DETAILS\2008\			

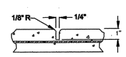
SIDEWALK (RESIDENTIAL)



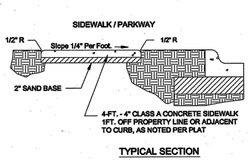
PLAN VIEW



EXPANSION JOINT



WEAKENED PLANE JOINT



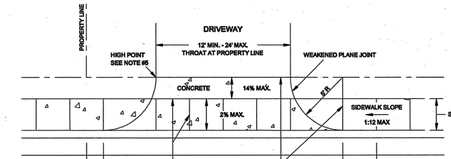
TYPICAL SECTION

NOTES:

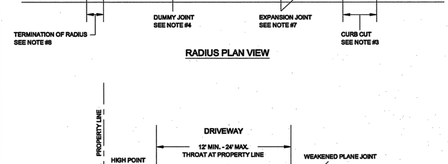
1. EXPANSION JOINTS ARE TO BE USED BETWEEN CONCRETE DRIVEWAY AND SIDEWALK.
2. SCORED JOINTS DENOTE SIDEWALK ACROSS THE DRIVEWAY AND ARE TO BE PLACED AT LEAST 1/3 rd. THROUGH THE SLAB THICKNESS.
3. ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.

DATE APPROVED: 7/08	DWG. NO: ST-016	SCALE: N.T.S.	ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 1		
FILENAME: SIDEWALK (Residential)			
P:\CURRENT NEW BRAUNFELS DETAILS\2008\			

DRIVEWAY APRON (RESIDENTIAL - RADIAL/FLARED)



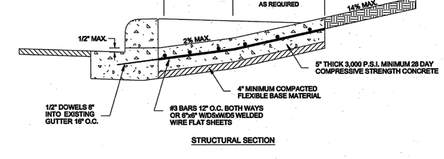
RADIUS PLAN VIEW



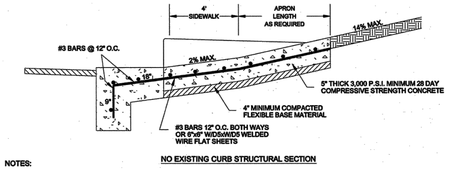
FLARE PLAN VIEW

DATE APPROVED: 7/08	DWG. NO: ST-014.1	SCALE: N.T.S.	ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 2		
FILENAME: DRIVEWAY (Residential - Radial/Flared)			
P:\CURRENT NEW BRAUNFELS DETAILS\2008\			

DRIVEWAY APRON (ONE OR TWO FAMILY RESIDENTIAL)



STRUCTURAL SECTION



NO EXISTING CURB STRUCTURAL SECTION

NOTES:

1. WHERE GUTTER DOES NOT EXIST DRIVEWAY APRON SHALL EXTEND TO EDGE OF ASPHALT AND SHALL HAVE A MINIMUM 6" WIDE 1' DEEP GRADE BEAM MONOLITHIC AND REINFORCED SIMILAR TO APRON.
2. PLACEMENT OF SIDEWALK SHOWN IS TYPICAL; HOWEVER, ALTERNATIVE SIDEWALK PLACEMENT COMMON TO DRIVEWAY APRON WILL BE CONSIDERED PROVIDED CROSS SLOPE OF SIDEWALK IS NO GREATER THAN 2%.
3. CURB CUT LENGTH NO GREATER THAN AS REQUIRED TO MATCH SLOPE OF ADJACENT SIDEWALK.
4. DUMMY JOINTS TO BE PROVIDED AT MINIMUM 4-FT. INTERVALS PERPENDICULAR TO THE CURB LINE WITHIN THE SIDEWALK AREA AND PARALLEL TO THE SIDEWALK AREA.
5. PROVIDE A MINIMUM 7" HIGH POINT. HIGH POINT HEIGHT SHALL BE MEASURED FROM THE GUTTER FLOW LINE TO THE DRIVEWAY APRON. NOTE HIGH POINT MAY OCCUR OUTSIDE OF ROW.
6. DRIVEWAY THROAT TRANSITION MAY OCCUR OUTSIDE OF ROW.
7. PROVIDE EXPANSION JOINTS AT ALL SIDEWALK AND DRIVEWAY THROAT JOINTS. EXPANSION JOINTS SHALL BE PLACED USING 1/2" ASPHALTIC MATERIAL WITH 1/2" DOWELS 18" O.C.
8. THE TANGENT POINT OF THE DRIVEWAY CURB RETURN AT THE PUBLIC ROADWAY LINE OR FLARE SHALL BE A MINIMUM DISTANCE OF 1' OFF THE PROPERTY PROJECTED PERPENDICULAR TO THE STREET CENTERLINE, EXCEPT SINGLE FAMILY OR ZERO LOT LINE LOTS. ON SINGLE FAMILY ZERO LOT LINE LOTS WHERE THE DRIVE IS ON THE ZERO LOT LINE, THE TANGENT POINT OR FLARE SHALL BE NO GREATER THAN 3' BEYOND THE ADJOINING PROPERTY LINE PROJECTED PERPENDICULAR TO THE STREET CENTERLINE.
9. ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.

DATE APPROVED: 7/08	DWG. NO: ST-014.2	SCALE: N.T.S.	ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 2 OF 2		
FILENAME: DRIVEWAY (Residential - Radial/Flared)			
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NO. | REVISION | DATE

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

STREET DETAILS
(SHEET 1 OF 3)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C7.11

Date: Mar 08, 2024, 1:15pm User ID: arodriguez
File: P:\124\35\03\Design\Civil\STDT - 124303.dwg

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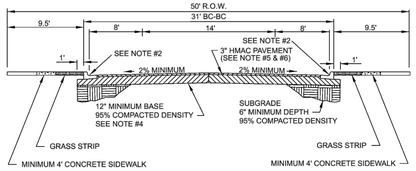
ONE & TWO FAMILY RESIDENTIAL
LOCAL
PARKING BOTH SIDES



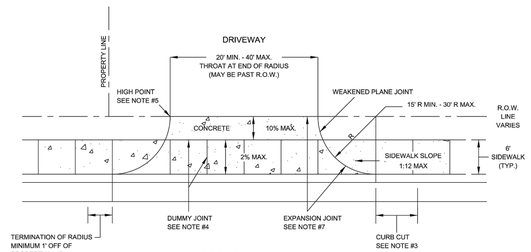
NOTES:

1. STRUCTURAL SECTION REQUIRES DETAILED ENGINEERING DESIGN, SUBJECT TO THE APPROVAL OF THE CITY ENGINEER. CITY WILL ACCEPT DESIGNS THAT INCORPORATE BIAXIAL GEOGRID.
2. CITY WILL ACCEPT CURB AND GUTTER OR STAND-ALONE CURB. SEE CURB DETAIL ST-013 (CURB & GUTTER) & ST-013a (STAND-ALONE CURB).
3. ROADWAY MEASUREMENT SHOWN FROM BACK OF CURB (BC).
4. FLEXIBLE BASE MATERIAL SHALL BE TYPE "A" GRADE 2 PER TXDOT STD.
5. ASPHALT CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX PER TXDOT ITEM 340 (2004).
6. IN NO CASE SHALL THE HMAC SECTION BE LESS THAN THAT SHOWN.
7. BASE MUST EXTEND 1' BEYOND BACK OF CURB, 9" MINIMUM THICKNESS

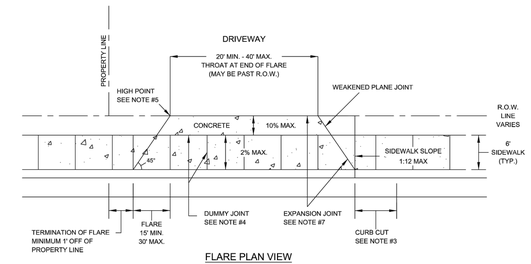
City of New Braunfels ENGINEERING DIVISION	STANDARD CONSTRUCTION DETAIL	SCALE: N.T.S. APPROVED DATE: STANDARD NO: ST-011

11/5/2003
ST-011.dgn
K:\TPW\ENGINEERING\STANDARD DETAILS\ST-DGNS\ST-011.dgn

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



RADIUS PLAN VIEW

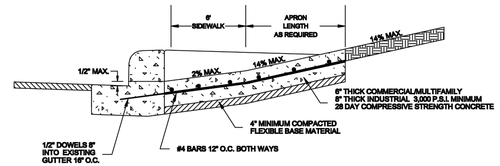


FLARE PLAN VIEW

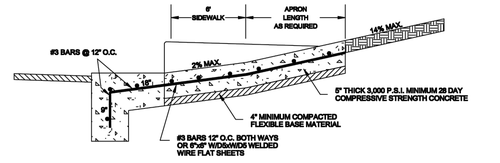
DATE APPROVED: 07/2008	DWG. NO: ST-015.1	SCALE: N.T.S.
DRAWN BY: RAS	SHEET: 1 OF 2	
FILENAME: DRIVEWAY (COMMERCIAL - MULTIFAMILY - INDUSTRIAL)		

City of New Braunfels ENGINEERING DEPARTMENT

DRIVEWAY APRON
(COMMERCIAL - MULTIFAMILY - INDUSTRIAL)



STRUCTURAL SECTION



NO EXISTING CURB STRUCTURAL SECTION

NOTES:

1. **WHERE GUTTER DOES NOT EXIST DRIVEWAY APRON SHALL EXTEND TO EDGE OF ASPHALT AND SHALL HAVE A MINIMUM 6" WIDE 1' DEEP GRADE BEAM MONOLITHIC AND REINFORCED SIMILAR TO APRON.**
2. **PLACEMENT OF SIDEWALK SHOWN IS TYPICAL; HOWEVER, ALTERNATIVE SIDEWALK PLACEMENT COMMON TO DRIVEWAY APRON WILL BE CONSIDERED PROVIDED CROSS SLOPE OF SIDEWALK IS NO GREATER THAN 2%.**
3. **CURB CUT LENGTH NO GREATER THAN AS REQUIRED TO MATCH SLOPE OF ADJACENT SIDEWALK.**
4. **DUMMY JOINTS TO BE PROVIDED AT MINIMUM 4-FT. INTERVALS PERPENDICULAR TO THE CURB LINE WITHIN THE SIDEWALK AREA AND PARALLEL TO THE SIDEWALK AREA.**
5. **PROVIDE A MINIMUM 7" HIGH POINT. HIGH POINT HEIGHT SHALL BE MEASURED FROM THE GUTTER FLOW LINE TO THE DRIVEWAY APRON. NOTE HIGH POINT MAY OCCUR OUTSIDE OF ROW.**
6. **DRIVEWAY THROAT TRANSITION MAY OCCUR OUTSIDE OF ROW.**
7. **PROVIDE EXPANSION JOINTS AT ALL SIDEWALK AND DRIVEWAY THROAT JOINTS. EXPANSION JOINTS SHALL BE PLACED USING 1/2" ASPHALTIC MATERIAL WITH 1/2" DOWELS 16" O.C.**
8. **ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.**

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

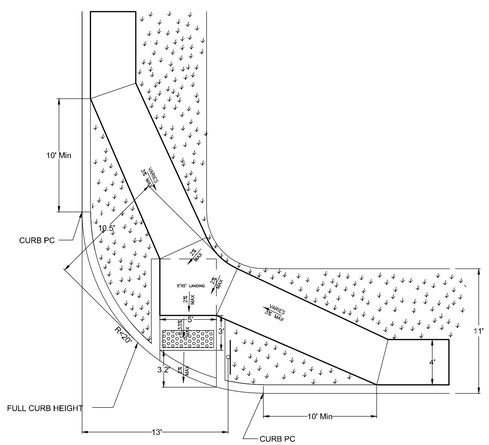
City of New Braunfels **ENGINEERING DEPARTMENT**

NO.	REVISION	DATE

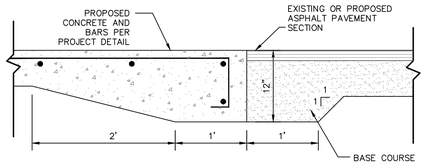
STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS
STREET DETAILS (SHEET 2 OF 3)

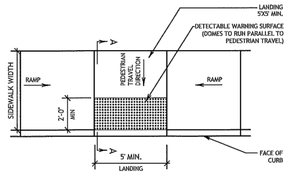


DIRECTIONAL RAMP TYPE M1 DETAIL
NOT-TO-SCALE

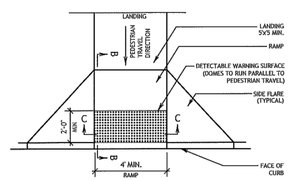


CONCRETE/ASPHALT JUNCTURE DETAIL
NOT-TO-SCALE

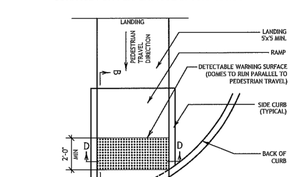
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by the City of New Braunfels for any purpose whatsoever.



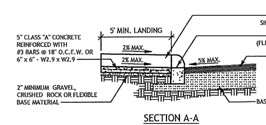
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING FOR PARALLEL CURB RAMP.



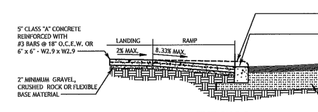
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE FOR PERPENDICULAR CURB RAMP.



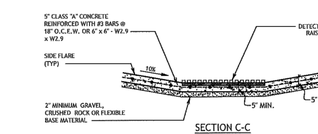
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN FOR DIRECTIONAL CURB RAMP.



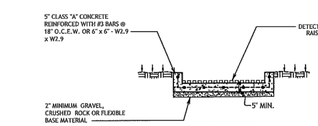
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

CURB RAMP NOTES

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

DETECTABLE WARNING NOTES

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

City of New Braunfels

ENGINEERING DIVISION
550 LANDA STREET
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4020
FAX: 830 626 3600

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

PLAT NO.	PLAT #
JOB NO.	12435-03
DATE	OCTOBER 2022
DESIGNER	EDK
CHECKED	MG DRAWN MGG
SHEET	C7.12

Date: Mar 08, 2024, 1:18pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\STDT - 1243503.dwg

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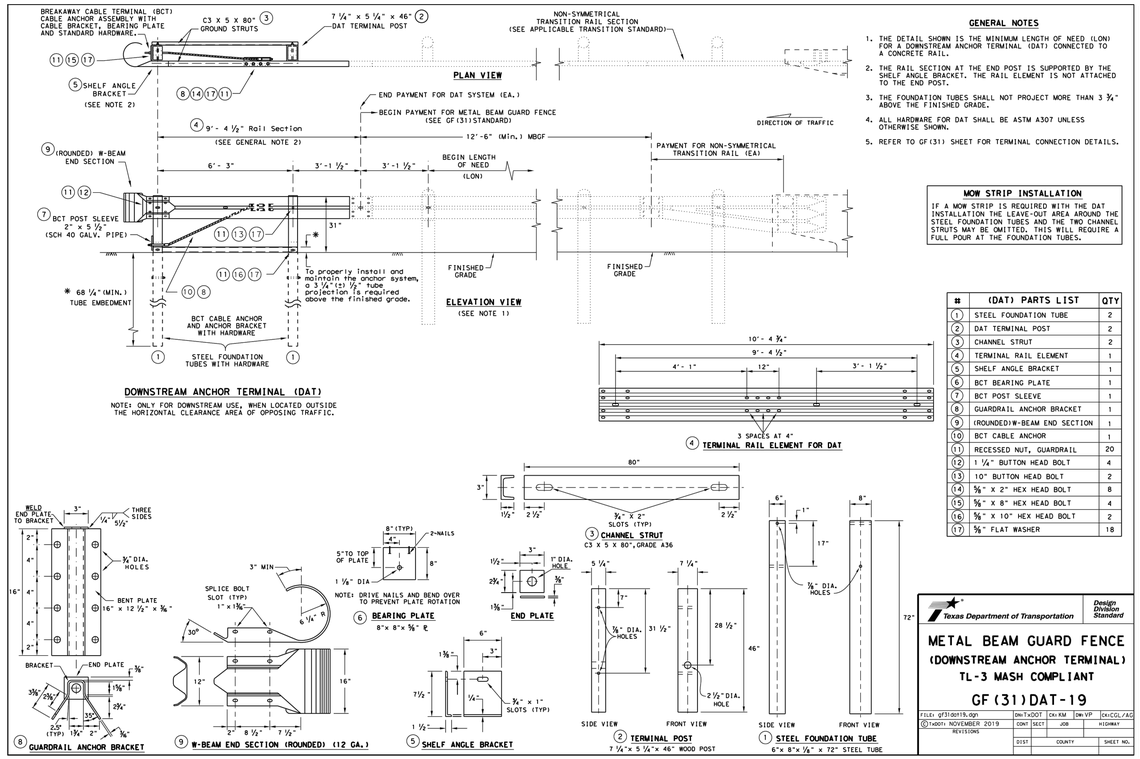


GENERAL NOTES

1. THE DETAIL SHOWN IS THE MINIMUM LENGTH OF NEED (LON) FOR A DOWNSTREAM ANCHOR TERMINAL (DAT) CONNECTED TO A CONCRETE RAIL.
2. THE RAIL SECTION AT THE END POST IS SUPPORTED BY THE SHELF ANGLE BRACKET. THE RAIL ELEMENT IS NOT ATTACHED TO THE END POST.
3. THE FOUNDATION TUBES SHALL NOT PROJECT MORE THAN 3 ¾" ABOVE THE FINISHED GRADE.
4. ALL HARDWARE FOR DAT SHALL BE ASTM A307 UNLESS OTHERWISE SHOWN.
5. REFER TO GF(31) SHEET FOR TERMINAL CONNECTION DETAILS.

MOW STRIP INSTALLATION

IF A MOW STRIP IS REQUIRED WITH THE DAT INSTALLATION THE LEAVE-OUT AREA AROUND THE STEEL FOUNDATION TUBES AND THE TWO CHANNEL STRUTS MAY BE OMITTED. THIS WILL REQUIRE A FULL POUR AT THE FOUNDATION TUBES.

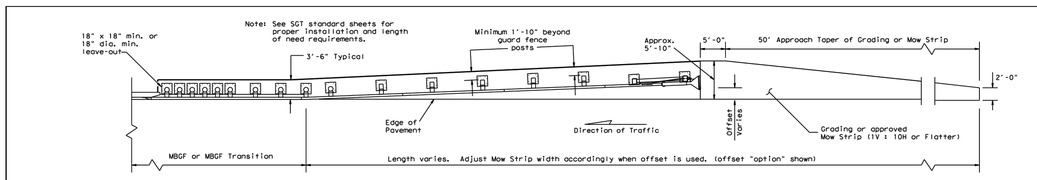
#	(DAT) PARTS LIST	QTY
(1)	STEEL FOUNDATION TUBE	2
(2)	DAT TERMINAL POST	2
(3)	CHANNEL STRUT	2
(4)	TERMINAL RAIL ELEMENT	1
(5)	SHELF ANGLE BRACKET	1
(6)	BCT BEARING PLATE	1
(7)	BCT POST SLEEVE	1
(8)	GUARDRAIL ANCHOR BRACKET	1
(9)	(ROUNDED)W-BEAM END SECTION	1
(10)	BCT CABLE ANCHOR	1
(11)	RECESSED NUT, GUARDRAIL	20
(12)	1 ¼" BUTTON HEAD BOLT	4
(13)	10" BUTTON HEAD BOLT	2
(14)	⅝" X 2" HEX HEAD BOLT	8
(15)	⅝" X 8" HEX HEAD BOLT	4
(16)	⅝" X 10" HEX HEAD BOLT	2
(17)	⅝" FLAT WASHER	18

Texas Department of Transportation — Design Division Standard

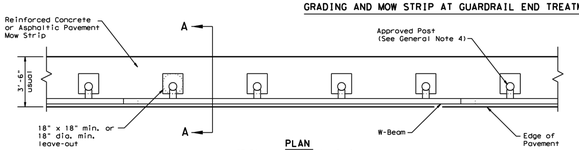
METAL BEAM GUARD FENCE (DOWNSTREAM ANCHOR TERMINAL) TL-3 MASH COMPLIANT

GF(31)DAT-19

FILE: gf31dat19.dgn	DN:TxDOT	CK:KM	DW:VP	CK:CGL/AG
©TxDOT: NOVEMBER 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

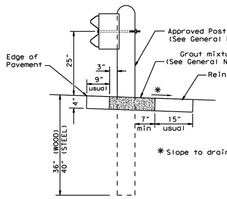


GRADING AND MOW STRIP AT GUARDRAIL END TREATMENTS



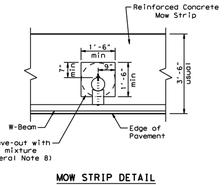
PLAN

GF(31) shown with Mow Strip (See GF(31) standard sheet for proper installation)



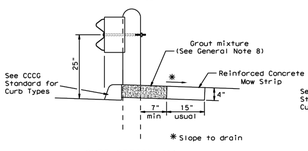
SECTION A-A

Typical



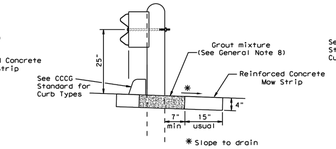
MOW STRIP DETAIL

Reinforced Concrete Mow Strip with 18" x 18" Square or 18" Dia. minimum leave-out.



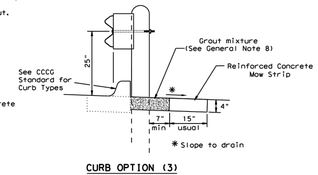
CURB OPTION (1)

This option will increase the post embedment throughout the system.



CURB OPTION (2)

Curb shown on top of mow strip



CURB OPTION (3)

Note: Site Condition(s)

Site conditions may exist where grading is required for the proper installation of metal guard fence and end treatments.

Approach grading or mow strip may be decreased or eliminated, as directed by the Engineer.

GENERAL NOTES

1. This mow strip design is for use with metal beam guard fence, guard fence transitions, and guard fence end treatments. See applicable GF(31) MBGF or GF(31) Transition Standard sheet for additional information.
2. Mow strips shall be reinforced concrete with (wire mesh or synthetic fiber), as shown on the plans and will be paid for under the pertinent bid item. Reinforced concrete shall be placed in accordance with Item 432, "Riprap." The use of the synthetic fiber in lieu of steel reinforcing is acceptable, provided the fiber producer is on the Department Material Producer List (MPL), maintained by TxDOT, Construction Division.
3. The leave-out behind the post shall be a minimum of 7".
4. Only steel (W6 x 8.5 or W6 x 9.0), or 7 ½" Dia. round wood posts are acceptable for use in the mow strip. See GF(31) Standard for additional details.
5. Other curb placement options may be used. Curbs are not considered part of the mow strip and will be paid for under other pertinent bid item.
6. Thickness of the mow strip will be 4".
7. The limits of payment for reinforced concrete will include leave-outs for the posts.
8. The leave-outs shall be filled with a Grout mixture consisting of: 2719 pounds sand, 188 pounds Type I or II cement, and 550 pounds of water per cubic yard, with a 28-day compressive strength of approximately 230 psi or less. Provide grout with a consistency that will flow into and completely fill all voids. Due to auger size, larger leave-out dimensions are acceptable from both an impact performance and maintenance repair standpoint (Suggested Maximum leave-out of 20"). Payment for furnishing and placing the grout mixture will be subsidiary to the pay item of riprap mow strip.

Texas Department of Transportation — Design Division Standard

METAL BEAM GUARD FENCE (MOW STRIP) TL-3 MASH COMPLIANT

GF(31)MS-19

FILE: gf31ms19.dgn	DN:TxDOT	CK:KM	DW:VP	CK:CGL/AG
©TxDOT: NOVEMBER 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

NO. REVISION — DATE

STATE OF TEXAS — MATTHEW GEISTWEIDT — 118861 — LICENSED — PROFESSIONAL ENGINEER

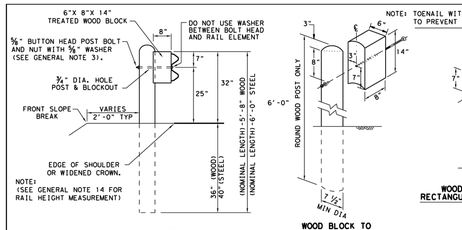
PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

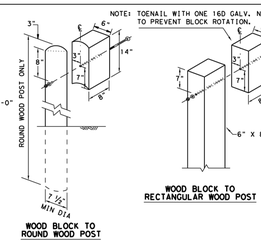
CLEAR SPRING MEADOWS UNIT 2

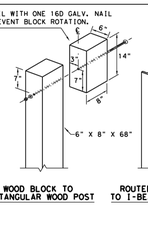
NEW BRAUNFELS, TEXAS

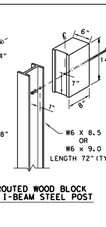
STREET DETAILS (SHEET 3 OF 3)



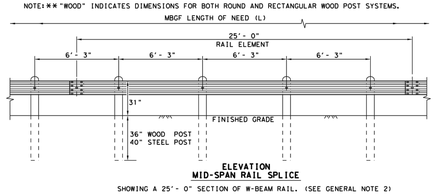
TYPICAL POST PLACEMENT

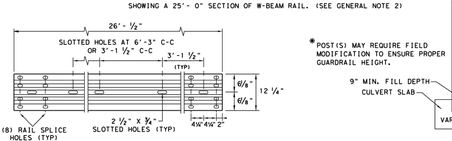




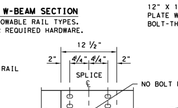


NOTE: ** "WOOD" INDICATES DIMENSIONS FOR BOTH ROUND AND RECTANGULAR WOOD POST SYSTEMS.





NOTES: SEE GENERAL NOTE 2 FOR ALLOWABLE RAIL TYPES. SEE RAIL SPLICE DETAIL FOR REQUIRED HARDWARE.



NOTE: FOUR TYPES OF BUTTON-HEAD GUARD RAIL BOLTS COME WITH A RECESSED NUT.

SPLICE BOLT LENGTH — VARIES

FBBO1 = 1 ¼"
FBBO2 = 2"

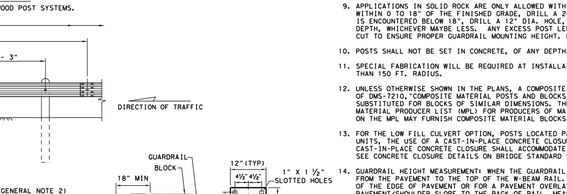
POST & BLOCK LENGTH
FBBO3 = 10"
FBBO4 = 18"

BUTTON HEAD BOLT

NOTE: SEE GENERAL NOTE 3 FOR SPLICE & POST BOLT DETAILS.

NOTE: GF(31), MID-SPAN RAIL SPLICES ARE REQUIRED WITH 6'-3" POST SPACINGS.

NOTE: (8) ⅝" X 1 ¼" BUTTON HEAD SPLICE BOLTS WITH RECESSED NUTS.



NOTE: TRANSITIONS TO BRIDGE RAILS OR TRAFFIC BARRIERS. SEE GF(31)TL3 TR STANDARD FOR HIGH-SPEED TL-3 TRANSITIONS. SEE GF(31)TL2 TR STANDARD FOR LOW-SPEED TL-2 TRANSITIONS.

NOTE: TWO INSTALLATION OPTIONS.

1. BOLT-THROUGH OPTION: REQUIRES A 6" MIN. SLAB THICKNESS. ⅝" DIA (ASTM A449) HEAVY HEX BOLTS WITH TWO HARDENED WASHER EACH AND HEAVY HEX NUTS. NOTE: BOLT LENGTH = SLAB PLUS 2 ¼" MIN.
2. EPOXY ANCHOR OPTION: THIS OPTION MAY ONLY BE USED IF THE CULVERT SLAB IS 9" MIN. THICK. THREADED ANCHOR RODS MUST BE ¾" DIA. ASTM A449 OR A193 GRADE B7 WITH HEAVY HEX NUT, AND ONE HARDENED WASHER EACH. EMBED ANCHOR RODS 6" WITH HILTI HIT RE 500 EPOXY ADHESIVE. OTHER TYPE I,II CLASS C EPOXY ADHESIVES MEETING THE REQUIREMENTS OF DMS-6100, "EPOXIES AND ADHESIVES", MAY BE USED IF IT CAN BE DEMONSTRATED THAT THEY MEET OR EXCEED THE STRENGTH OF HILTI HIT RE 500 WITH THE SAME EMBEDMENT DEPTH AND THREADED ROD DIA. FOLLOW THE MANUFACTURER'S REQUIREMENTS FOR INSTALLING EPOXIED THREADED RODS. EXTEND RODS ½" MIN. BEYOND NUT.

NOTE: CULVERTS OF 25 FT. OR LESS, SEE GF(31)LS STANDARD FOR "LONG SPAN" OPTION.

GENERAL NOTES

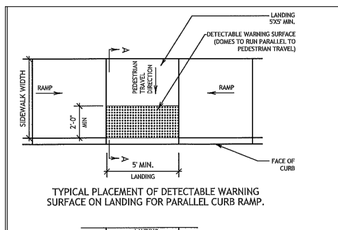
1. THE TYPE OF POST (ROUND WOOD POST, RECTANGULAR WOOD POST, OR STEEL POST) WILL BE AS SHOWN IN THE PLANS. THE EXACT POSITION OF MBGF SHALL BE SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER. STEEL POSTS TO BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING."
2. RAIL ELEMENTS SHALL MEET THE REQUIREMENTS OF ITEM 540, "METAL BEAM GUARD FENCE" EXCEPT AS MODIFIED IN THE PLANS. THE CONTRACTOR MAY FURNISH RAIL ELEMENTS OF 25'- 0", OR 12'- 6" (NOM.) LENGTHS. RAIL ELEMENTS MAY HAVE SLOTTED HOLES AT 3'-1 ½" C-C OR 6'-3" C-C. A SPECIAL LENGTH OF RAIL MAY BE MANUFACTURED TO ACCOMMODATE THE DOWNSTREAM ANCHOR TERMINAL (DAT) AND THE TRANSITION SECTIONS OF GUARDRAIL.
3. BUTTON HEAD "POST BOLTS & NUTS" SHALL MEET THE REQUIREMENTS OF (ASTM A307), AND SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND ⅝" WASHER (FWC16G) AND NOT MORE THAN 1" BEYOND IT. TRIM REMAINING BOLT LENGTH TO MEET REQUIRED LENGTH.
4. FITTINGS (BOLTS, NUTS, AND WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING." FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
5. CROWN SHALL BE WIDENED TO ACCOMMODATE THE METAL BEAM GUARD FENCE.
6. THE LATERAL APPROACH TO THE GUARD FENCE, SHALL HAVE A MAXIMUM SLOPE OF 1V:10H.
7. IF SHOWN ELSEWHERE IN THE PLANS OR AS DIRECTED BY THE ENGINEER, THE GUARD FENCE MAY BE FLARED AT A RATE OF 2.5:1 OR FLATTER.
8. UNLESS OTHERWISE SHOWN IN THE PLANS, GUARD FENCE PLACED IN THE VICINITY OF CURBS SHALL BE POSITIONED SO THAT THE FACE OF CURB IS LOCATED DIRECTLY BELOW OR BEHIND THE FACE OF THE RAIL. RAIL PLACED OVER CURBS SHALL BE INSTALLED SO THAT THE POST BOLT IS LOCATED APPROXIMATELY 25 INCHES ABOVE THE GUTTER PAN OR EDGE OF SHOULDER.
9. APPLICATIONS IN SOLID ROCK ARE ONLY ALLOWED WITH STEEL POSTS. IF SOLID ROCK IS ENCOUNTERED WITHIN 0 TO 18" OF THE FINISHED GRADE, DRILL A 24" DIA. HOLE, 24" INTO THE ROCK. IF SOLID ROCK IS ENCOUNTERED BELOW 18", DRILL A 12" DIA. HOLE, 12" INTO THE ROCK OR TO THE STANDARD EMBEDMENT DEPTH, WHICHEVER MAYBE LESS. ANY EXCESS POST LENGTH, AFTER MEETING THESE DEPTHS, MAY BE FIELD CUT TO ENSURE PROPER GUARDRAIL MOUNTING HEIGHT. BACKFILL WITH COARSE AGGREGATE MATERIAL.
10. POSTS SHALL NOT BE SET IN CONCRETE, OF ANY DEPTH.
11. SPECIAL FABRICATION WILL BE REQUIRED AT INSTALLATION LOCATIONS HAVING A CURVATURE OF LESS THAN 150 FT. RADIUS.
12. UNLESS OTHERWISE SHOWN IN THE PLANS, A COMPOSITE MATERIAL BLOCK THAT MEETS THE REQUIREMENTS OF DMS-7210, "COMPOSITE MATERIAL POSTS AND BLOCKS FOR METAL BEAM GUARD FENCE," MAY BE SUBSTITUTED FOR BLOCKS OF SIMILAR DIMENSIONS. THE CONSTRUCTION DIVISION, TXDOT MAINTAINS A MATERIAL PRODUCER LIST (MPL) FOR PRODUCERS OF MATERIALS CONFORMING TO DMS-7210 ONLY. PRODUCERS ON THE MPL MAY FURNISH COMPOSITE MATERIAL BLOCKS.
13. FOR THE LOW FILL CULVERT OPTION, POSTS LOCATED PARTIALLY OR WHOLLY BETWEEN PRECAST BOX CULVERT UNITS, THE USE OF A CAST-IN-PLACE CONCRETE CLOSURE BETWEEN BOXES IS REQUIRED. THE LENGTH OF THE CAST-IN-PLACE CONCRETE CLOSURE SHALL ACCOMMODATE THE PLACEMENT OF THE LOW FILL CULVERT OPTION. SEE CONCRETE CLOSURE DETAILS ON BRIDGE STANDARD SCP-MD.
14. GUARDRAIL HEIGHT MEASUREMENT: WHEN THE GUARDRAIL IS LOCATED ABOVE PAVEMENT, MEASURE THE HEIGHT FROM THE PAVEMENT TO THE TOP OF THE W-BEAM RAIL. WHEN THE GUARDRAIL IS LOCATED UP TO 2' FT. OFF OF THE EDGE OF PAVEMENT OR FOR A PAVEMENT OVERLAY, USE A 10-FOOT STRAIGHTEDGE TO EXTEND THE PAVEMENT/SHOULDER SLOPE TO THE BACK OF RAIL, MEASURE FROM THE BOTTOM OF STRAIGHTEDGE TO THE TOP OF RAIL. FOR GUARDRAIL LOCATED DOWN A 10:1 SLOPE, MEASURE FROM THE NOMINAL TERRAIN.

Texas Department of Transportation — Design Division Standard

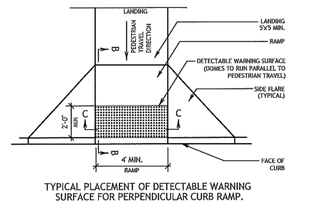
METAL BEAM GUARD FENCE TL-3 MASH COMPLIANT

GF(31)-19

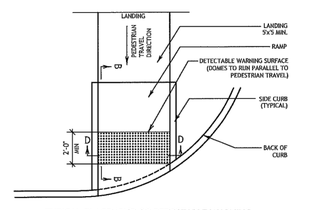
FILE: gf3119.dgn	DN:TxDOT	CK:KM	DW:VP	CK:CGL/AG
©TxDOT: NOVEMBER 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.



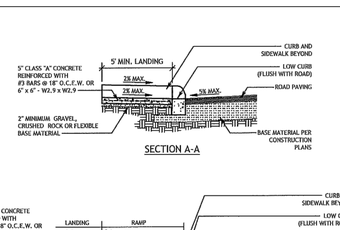
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING FOR PARALLEL CURB RAMP.



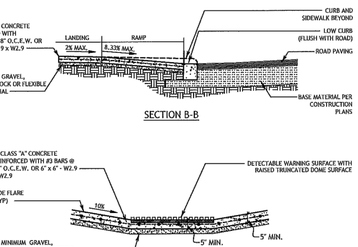
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE FOR PERPENDICULAR CURB RAMP.



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

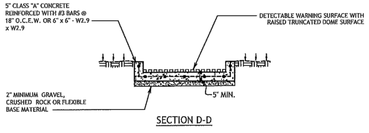


SECTION A-A



SECTION B-B

SECTION C-C



SECTION D-D

CURB RAMP NOTES

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

DETECTABLE WARNING NOTES

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

City of New Braunfels

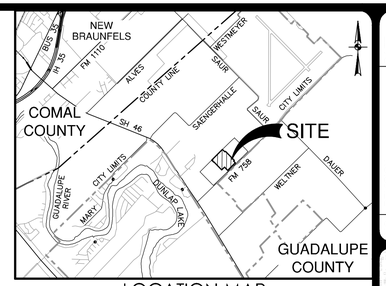
ENGINEERING DIVISION
550 LANDA STREET
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4020
F

GENERAL NOTES:

1. SIDEWALK INFRASTRUCTURE SHALL BE INSTALLED ALONG ALL RESIDENTIAL LOT IMPROVEMENTS BY THE HOME BUILDER. FOR LOTS WITH NO RESIDENTIAL LOT IMPROVEMENTS, SIDEWALKS ARE REQUIRED TO BE CONSTRUCTED WITH THE STREET CONSTRUCTION.
2. ALL PROPOSED STREETS ARE CLASSIFIED AS LOCAL STREETS AND WERE ENGINEERED WITH A DESIGN SPEED OF 20 MPH IN COMPLIANCE WITH THE CITY OF NEW BRAUNFELS CODE OF ORDINANCES SECTION 118-46 (S)(10)(G).
3. ALL ACCESSIBLE RAMPS ARE TO BE CONSTRUCTED AT THE TIME OF STREET CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION:

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



LOCATION MAP

MAPSCO MAP GRID: 123X1
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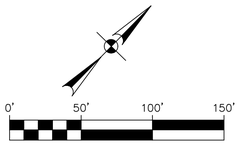

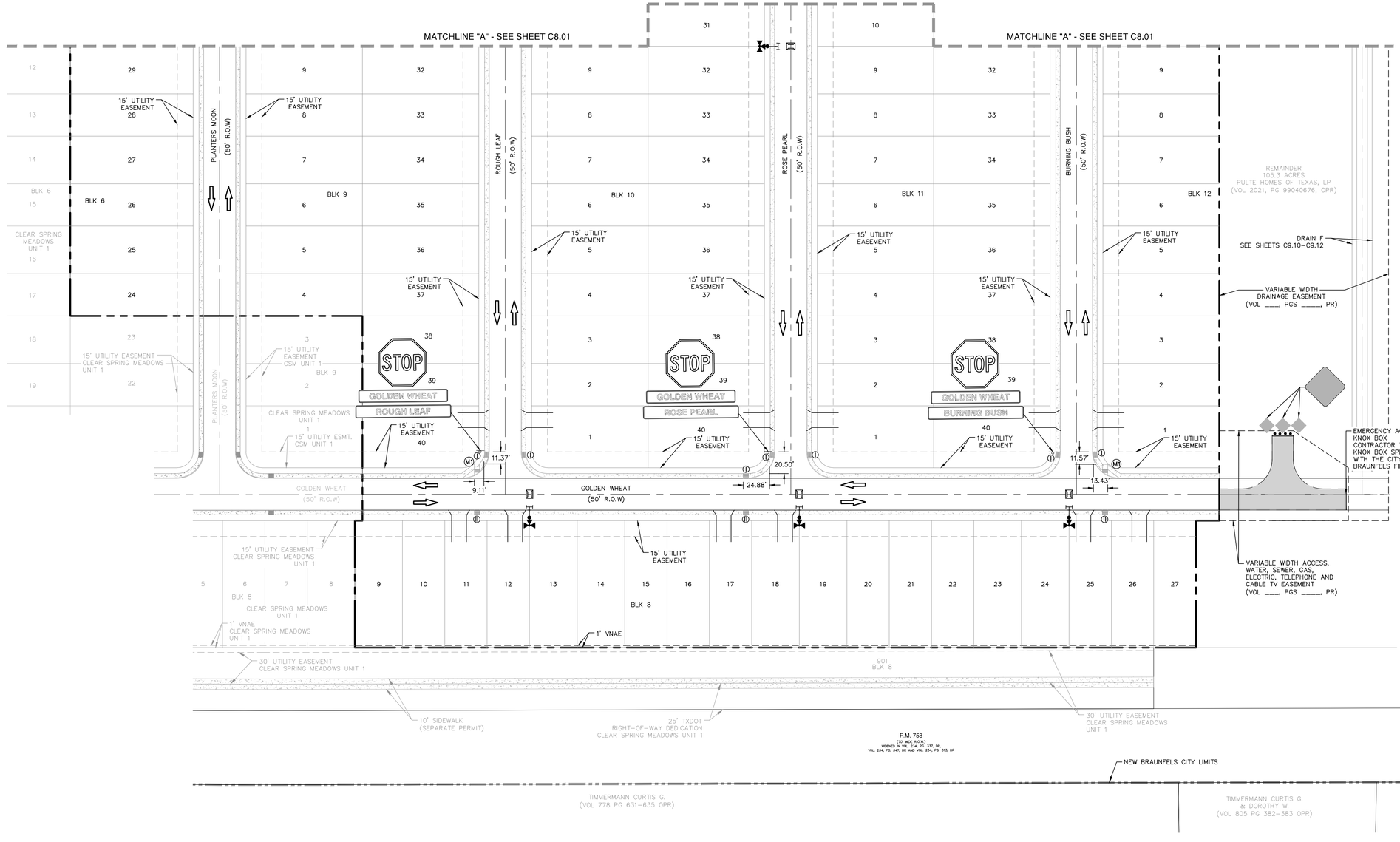

LEGEND

- UNIT BOUNDARY
- CURB INLET
- TRAFFIC FLOW ARROW
- SIDEWALK (HOMEBUILDER RESPONSIBILITY)
- SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)
- WCR — PROPOSED WHEELCHAIR RAMP TYPE
- Street Name — STANDARD NEW BRAUNFELS NAME SIGN 9XSTD (NOTE: STREETS MUST SHOW BLOCK NUMBERS)
- STOP — R1-1 30"X30"
- PROPOSED DRIVEWAY
- TYPE II BLUE RAISED PAVEMENT MARKERS - NO SEPARATE PAY ITEM (N.T.S.)

SIGNAGE NOTES

1. UNDERGROUND UTILITIES EXIST WITHIN THE PROJECT. CONTRACTOR SHALL HAVE THE UTILITIES MARKED PRIOR TO INSTALLATION OF THE SIGN POST. SIGN LOCATIONS ILLUSTRATED ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE SIGNS TO AVOID UTILITIES. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES BEFORE COMMENCING WORK.
2. IN ACCORDANCE WITH THE UNDERGROUND FACILITY DAMAGE PREVENTION ACT THE TELEPHONE NUMBER FOR A UTILITY LOCATOR IS 1-800-545-6005. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS FOR UTILITY LOCATORS, AS NEEDED.
3. WHEN PREPARING HOLES FOR POSTS, CARE SHALL BE TAKEN SO AS NOT TO RUPTURE EXISTING DRAINAGE STRUCTURES, SPRINKLER SYSTEMS, TELECOMMUNICATIONS FACILITIES, ELECTRICAL CONDUITS AND PUBLIC UTILITIES.
4. ALL SIGNS SHALL COMPLY WITH THE SIGN DESIGNS PRESENTED IN STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS OR THE MILLENNIUM STANDARD HIGHWAY SIGN DESIGNS, IF A MILLENNIUM SIGN IS SPECIFIED ON THE PLANS.
5. SIGN LOCATIONS ILLUSTRATED ON THE PLANS ARE APPROXIMATE. SIGNS SHALL BE LOCATED IN THE FIELD TO PROVIDE APPROPRIATE FUNCTIONALITY. SIGN LOCATIONS SHALL COMPLY WITH GUIDELINES AND REQUIREMENTS PRESENTED IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. CONTRACTOR SHALL FURNISH AND MAINTAIN ALL TRAFFIC CONTROL DEVICES, LIGHTING, OR WARNING DEVICES REQUIRED TO COMPLETE THE WORK. ALL CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE NEW, UN-DEPRECIATED STOCK. ALL EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE ON THE PLANS.
8. ALL SIGNS WITH A WHITE BACKGROUND SHALL BE FABRICATED WITH ENGINEER GRADE REFLECTIVE SHEETING (TXDOT TYPE A). ALL SIGNS WITH NON-WHITE BACKGROUNDS SHALL BE FABRICATED WITH HIGH SPECIFIC INTENSITY REFLECTIVE SHEETING (ALL TYPE C TXDOT TSP-(4)-08).
9. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL CONDITION, OR BETTER, ANY DAMAGE DONE TO EXISTING BUILDINGS, RETAINING WALLS, UTILITIES, FENCES, PAVEMENT, CURBS OR DRIVEWAYS (NO SEPARATE PAY ITEM). CONTRACTOR SHALL RESTORE THE CONSTRUCTION AREA TO ORIGINAL CONDITION, OR BETTER, PRIOR TO FINAL INSPECTION.
10. ANY CONFLICT BETWEEN ANY DEFINITION, MATERIAL SPECIFICATION, CONSTRUCTION SPECIFICATION, MEASUREMENT AND PAYMENT PROCEDURE, ETC., SHOWN IN THIS PLAN SET AND ANY TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SHALL BE RESOLVED ONLY BY THE ENGINEER AND THE ENGINEER'S DECISION SHALL BE FINAL AND BINDING.
11. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AS PER TXDOT ITEM NO. 666.
12. GUADALUPE COUNTY WILL INSTALL COUNTY ROAD SIGNS AND INVOICE THE OWNER. THE CONTRACTOR IS TO INSTALL PAVEMENT MARKINGS. ALL ROAD SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED ENGINEERING PLANS. THE COUNTY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.
13. THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE COUNTY AT LEAST 24 HOUR PRIOR TO THE INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE COUNTY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118867
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

OVERALL SIGNAGE PLAN
(SHEET 1 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C8.00

Date: Mar 08, 2024, 1:19pm User ID: grodriguez
File: P:\124\35\03\Design\Civil\SIGOA-124503.dwg

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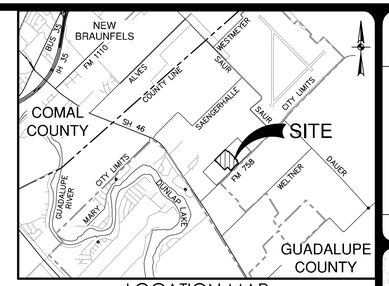
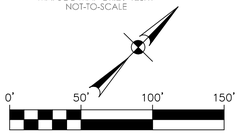
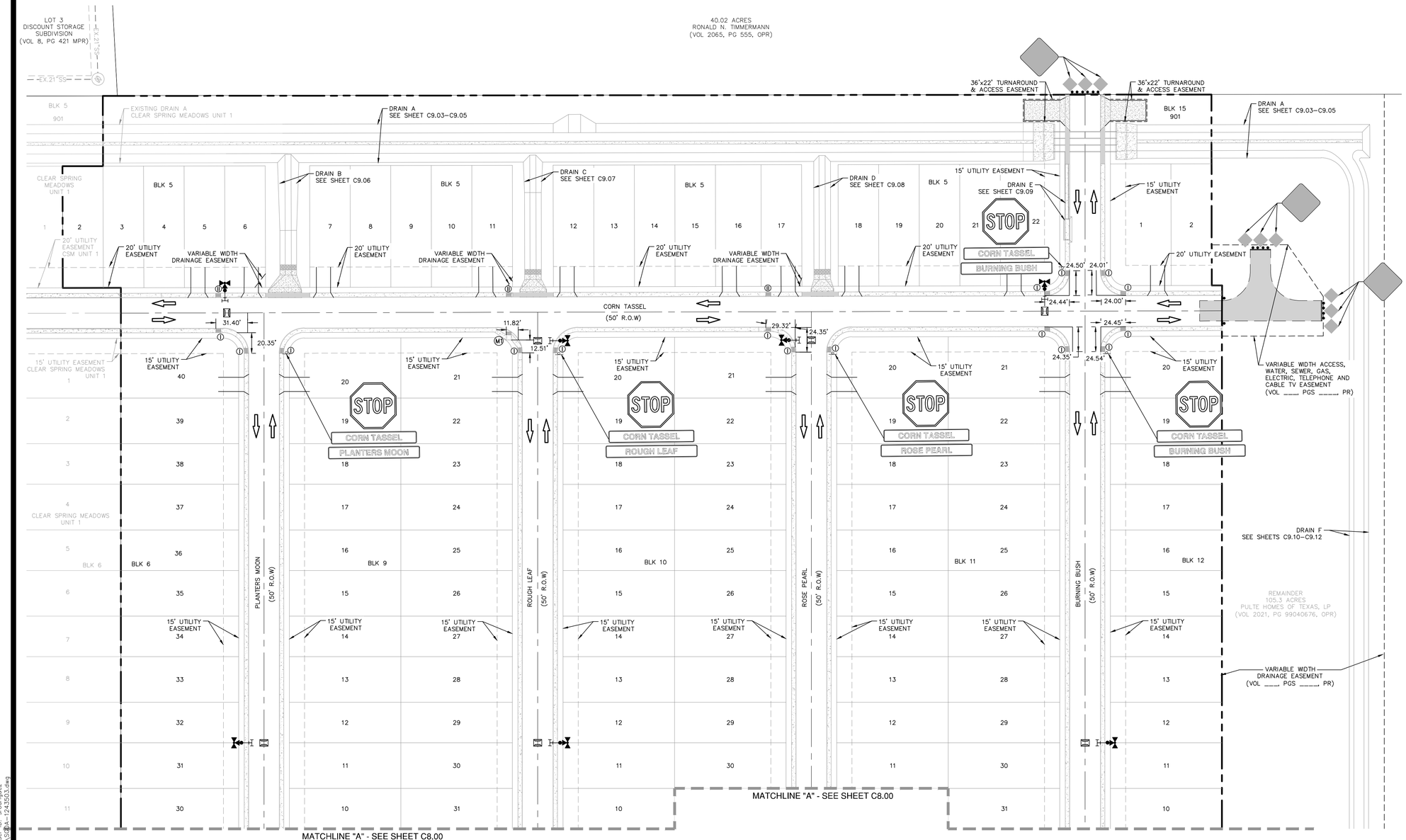


LOCATION MAP

MAPSCO MAP GRID: 123X1
NOT-TO-SCALE



SCALE: 1"= 50'



LEGEND

- UNIT BOUNDARY
- CURB INLET
- TRAFFIC FLOW ARROW
- SIDEWALK (HOMEBUILDER RESPONSIBILITY)
- SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)
- WCR — PROPOSED WHEELCHAIR RAMP TYPE
- Street Name — STANDARD NEW BRAUNFELS NAME SIGN 9XSTD (NOTE: STREETS MUST SHOW BLOCK NUMBERS)
- STOP — R1-1 30"X30"
- PROPOSED DRIVEWAY
- OM4-3 END OF ROAD MARKER (SEE DETAIL SHEET C8.02)
- TYPE II BLUE RAISED PAVEMENT MARKERS - NO SEPARATE PAY ITEM (N.T.S.)

SIGNAGE NOTES

1. UNDERGROUND UTILITIES EXIST WITHIN THE PROJECT. CONTRACTOR SHALL HAVE THE UTILITIES MARKED PRIOR TO INSTALLATION OF THE SIGN POST. SIGN LOCATIONS ILLUSTRATED ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE SIGNS TO AVOID UTILITIES. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES BEFORE COMMENCING WORK.
2. IN ACCORDANCE WITH THE UNDERGROUND FACILITY DAMAGE PREVENTION ACT THE TELEPHONE NUMBER FOR A UTILITY LOCATOR IS 1-800-545-6005. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS FOR UTILITY LOCATORS, AS NEEDED.
3. WHEN PREPARING HOLES FOR POSTS, CARE SHALL BE TAKEN SO AS NOT TO RUPTURE EXISTING DRAINAGE STRUCTURES, SPRINKLER SYSTEMS, TELECOMMUNICATIONS FACILITIES, ELECTRICAL CONDUITS AND PUBLIC UTILITIES.
4. ALL SIGNS SHALL COMPLY WITH THE SIGN DESIGNS PRESENTED IN STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS OR THE MILLENNIUM STANDARD HIGHWAY SIGN DESIGNS, IF A MILLENNIUM SIGN IS SPECIFIED ON THE PLANS.
5. SIGN LOCATIONS ILLUSTRATED ON THE PLANS ARE APPROXIMATE. SIGNS SHALL BE LOCATED IN THE FIELD TO PROVIDE APPROPRIATE FUNCTIONALITY. SIGN LOCATIONS SHALL COMPLY WITH GUIDELINES AND REQUIREMENTS PRESENTED IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. CONTRACTOR SHALL FURNISH AND MAINTAIN ALL TRAFFIC CONTROL DEVICES, LIGHTING, OR WARNING DEVICES REQUIRED TO COMPLETE THE WORK. ALL CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE NEW, UN-DEPRECIATED STOCK. ALL EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE ON THE PLANS.
8. ALL SIGNS WITH A WHITE BACKGROUND SHALL BE FABRICATED WITH ENGINEER GRADE REFLECTIVE SHEETING (TXDOT TYPE A). ALL SIGNS WITH NON-WHITE BACKGROUNDS SHALL BE FABRICATED WITH HIGH SPECIFIC INTENSITY REFLECTIVE SHEETING (ALL TYPE C TXDOT TSP-(4)-08).
9. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL CONDITION, OR BETTER, ANY DAMAGE DONE TO EXISTING BUILDINGS, RETAINING WALLS, UTILITIES, FENCES, PAVEMENT, CURBS OR DRIVEWAYS (NO SEPARATE PAY ITEM). CONTRACTOR SHALL RESTORE THE CONSTRUCTION AREA TO ORIGINAL CONDITION, OR BETTER, PRIOR TO FINAL INSPECTION.
10. ANY CONFLICT BETWEEN ANY DEFINITION, MATERIAL SPECIFICATION, CONSTRUCTION SPECIFICATION, MEASUREMENT AND PAYMENT PROCEDURE, ETC., SHOWN IN THIS PLAN SET AND ANY TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SHALL BE RESOLVED ONLY BY THE ENGINEER AND THE ENGINEER'S DECISION SHALL BE FINAL AND BINDING.
11. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AS PER TXDOT ITEM NO. 666.
12. GUADALUPE COUNTY WILL INSTALL COUNTY ROAD SIGNS AND INVOICE THE OWNER. THE CONTRACTOR IS TO INSTALL PAVEMENT MARKINGS. ALL ROAD SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED ENGINEERING PLANS. THE COUNTY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.
13. THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE COUNTY AT LEAST 24 HOUR PRIOR TO THE INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE COUNTY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS
OVERALL SIGNAGE PLAN (SHEET 2 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C8.01

Date: Mar 08, 2024, 1:20pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\SIGN-124350S.dwg

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DATE: 8/24/16 $TIME$

SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

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

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

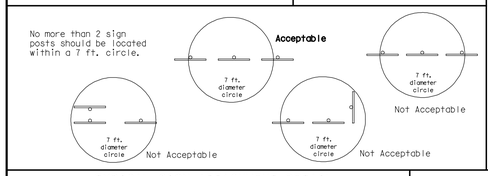
Number of Posts (1 or 2)

Anchor Type
- UA = Universal Anchor - Concreted (see SMD(FRP)) and (TWT))
- UB = Universal Anchor PD 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
- TEXT or ZIP = Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
- BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
- MC = 1.12 Kr/ft Ring Channel (see SMD(SLIP-1) to (SLIP-3))
- EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

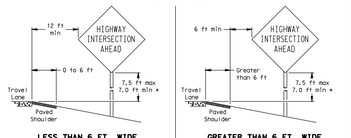
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT

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



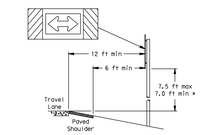
LESS THAN 6 FT. WIDE

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.

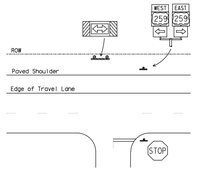
GREATER THAN 6 FT. WIDE

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.

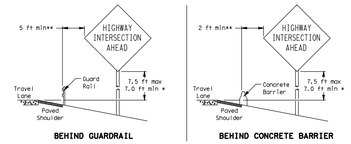
T-INTERSECTION



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

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

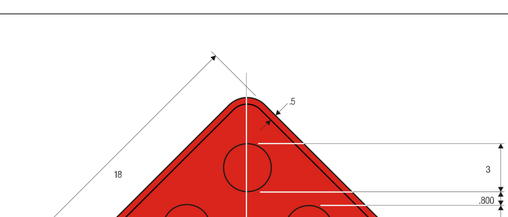
- Signs shall be mounted using the following condition that results in the greatest sign elevation:
  - (1) a minimum of 7 ft to a maximum of 7.5 feet above the edge of the travel lane or
  - (2) a minimum of 7 ft to a maximum of 7.5 feet above the grade at the base of the support when sign is installed 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, Trifingular Slipbase System components and Wedge Anchor System components.

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

TYPICAL SIGN ATTACHMENT DETAIL



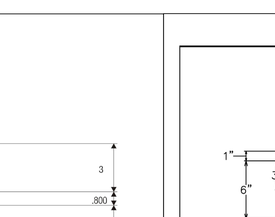
Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

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.

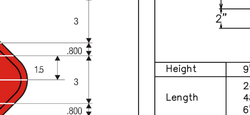
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES

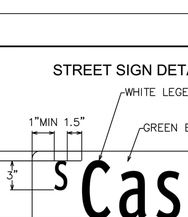


When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

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

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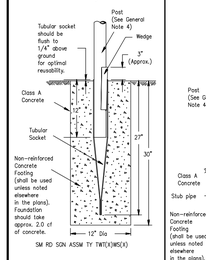
REVISIONS	CONT.	SECT	JOB	HIGHWAY
9-08	DIST	COUNTY		SHEET NO.

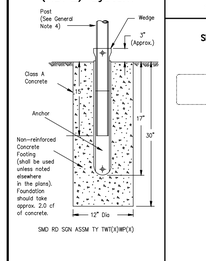
26A

Wedge Anchor Steel System



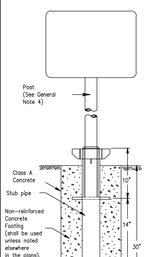
SM RD SGN ASSM TY TWT(W)SC(X)

Wedge Anchor High Density Polyethylene (HDPE) System

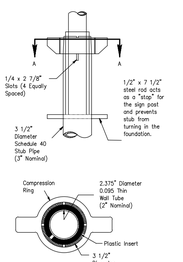


SMD RD SGN ASSM TY TWT(H)WP(X)

Universal Anchor System with Thin-Walled Tubing Post

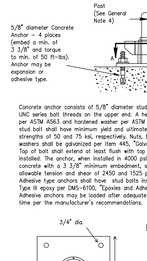


SM RD SGN ASSM TY TWT(X)UA(P)

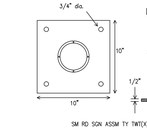


Plastic insert must be used when using the TWT with either the Universal Anchor System or the Bolt Down Universal Anchor System. The insert should be approx. 10" long and cover the tubing from just above the top of the stub pipe to the bottom of the sign post when using the Universal Anchor System. The insert should be cut to approx. 4 1/2" when used with the Bolt Down Universal Anchor System.

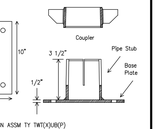
5/8" diameter Concrete Anchor - 4 places (embed a min. of 3 3/8" and torque to min. of 50 ft-lbs). Anchor may be expansion or adhesive type.



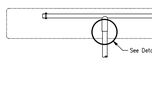
Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 3 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 psi, respectively. Adhesive type anchors shall have stud bolts installed with Type III epoxy per SMD-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations.



SM RD SGN ASSM TY TWT(X)UB(P)



Sign Installation Using a Prefabricated T-Bracket for Thin-Wall Tubing Post



SM RD SGN ASSM TY TWT(X)XX(T)
(* - See General Note 6)

Detail A

NOTE

The devices shall be installed per manufacture's recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:
1. The Wedge Anchor System and the Universal Anchor System with thin wall tubing post may be used to support up to 10 square feet of sign area.
2. The tubular socket, wedge and prefabricated T-bracket shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to the approval of the TxDOT Traffic Standards Engineer.
3. Except for posts (13 BWG Tubing), clamps, nuts and bolts, all components shall be prequalified. A list of prequalified vendors may be obtained from the Material Producer List web page. The website address is:
   http://www.txdot.gov/business/producer list.htm
4. Material used as post with this system shall conform to the following specifications:
   13 BWG Tubing (2.375" outside diameter) (TWT)
   for optional wall thickness
   0.095" nominal wall thickness
   Seamless or electric-resistance welded steel tubing
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   18% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of .083" to .099"
   Outside diameter (uncoated) shall be within the range of 2.369" to 2.381"
   Galvanized per ASTM 123 or ASTM A653 G210. For perforated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
5. Sign blanks shall be the sizes and shapes shown on the plans.
6. Additional sign clamp required on the "T-bracket" post for 24" high signs. Place clamp at least 3" above bottom of sign when possible.
7. Slip supports shall not be spliced except where shown. Sign support posts shall not be spliced.
8. See the Traffic Operations Division website for detailed drawings of sign clamps and Wedge Anchor System components. The website address is:
   http://www.txdot.gov/publications/traffic.htm

WEDGE ANCHOR SYSTEM INSTALLATION PROCEDURE
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
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. Place concrete into hole until it is approximately flush with the ground. Concrete shall be Class A.
3. Insert tubular socket into concrete until top of socket is approximately 1/4 " above the concrete footing.
4. Plumb the socket. Allow a minimum 4 days for concrete to set, unless otherwise directed by Engineer.
5. Attach the sign to the sign post.
6. Insert the sign post into socket and align sign face with roadway.
7. Drive the wedge into the socket to secure post. This will leave approximately 3 inches of the wedge exposed.

UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURE
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. Insert base post in hole to depths shown and backfill hole with concrete.
3. Level and plumb the base post using a torpedo level and allow concrete adequate time to set. The bottom of the slots provided in the stub pipe shall remain above the top of the concrete foundation.
4. Attach the sign to the sign post.
5. Install plastic insert around bottom of post.
6. Insert sign post into base post. Lower until the post comes to rest on steel rod.
7. Seat compression ring using a hammer. Typically, the top of compression ring will be approximately level with top of stub post when optimally installed.
8. Check sign post by hand to ensure it is unable to turn. If loose, increase the tightening of the compression ring.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS WEDGE & UNIVERSAL ANCHOR WITH THIN WALL TUBING POST

SMD(TWT)-08

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

26E

NO. REVISION — DATE

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

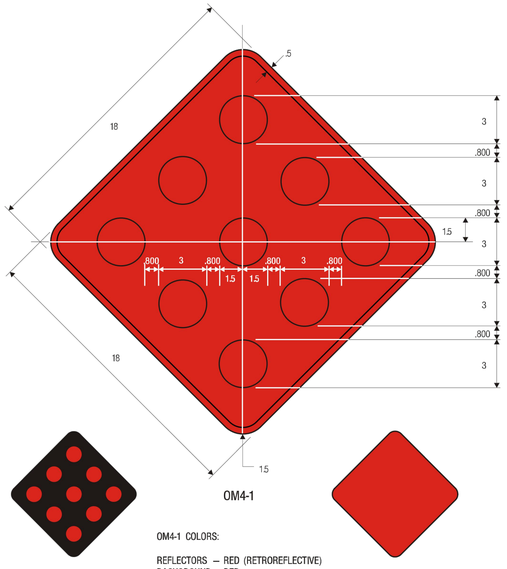
STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

SIGNAGE DETAILS

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C8.02



OM4-1 COLORS:

REFLECTORS – RED (RETROREFLECTIVE)
BACKGROUND – RED
BORDER – RED (RETROREFLECTIVE)

OM4-2 COLORS:

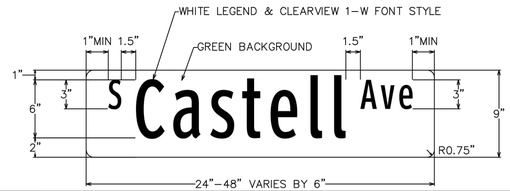
REFLECTORS – RED (RETROREFLECTIVE)
BACKGROUND – BLACK

OM4-3 COLORS:

SIGN PANEL – RED (RETROREFLECTIVE)

11-4

STREET SIGN DETAIL - GROUND MOUNT



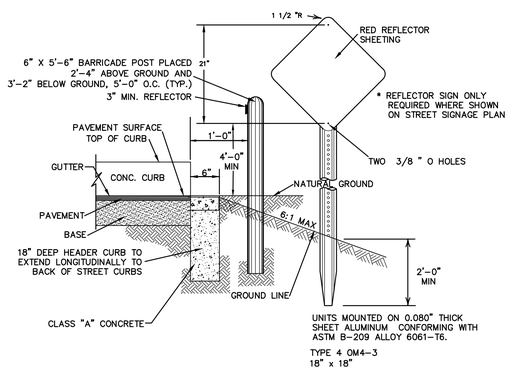
Height	9"
Length	24" min 48" max 6" increments in length
Thickness	0.080"
Substrate	Flat aluminum sheeting with ¾" radius circular fillets at corners conforming to the requirements of ASTM B 209, Alloys 6061-T-6, or 5052-H38.
Sign Face Materials	Green film over High Intensity Prismatic sheeting
Legend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

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

Street Sign Detail - Ground Mount		
ISSUE DATE: February 2013	DWG. NO: ST-024	SCALE: N.T.S.
DRAWN BY: RAS	CONTACT: GF	SHEET: 1 OF 1

City of New Braunfels
ENGINEERING DIVISION
424 S. CASTELL AVE.
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4020
FAX: 830.626 3600

P:\2010 ENGINEERING-AUTOCAD\DETAILS\NB-PUBLIC WORKS DETAILS\NB-UNAPPROVED DETAILS-2013\ST-2013.024 STREET SIGN DETAIL - GROUND MOUNT.DWG



BARRICADE POST AND HEADER CURB DETAIL
NOT TO SCALE

INSTALLATION

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

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

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.

MATERIALS

SIGN MATERIALS INCLUDING ALUMINUM SIGN BLANKS AND SIGN FACE MATERIALS SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS TSR (1 - 5) - 08 AND DEPARTMENTAL MATERIAL SPECIFICATIONS DMS-7110 AND DMS-8300.

1. THE CITY OF NEW BRAUNFELS WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

Date: Mar 08, 2024, 1:29pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\SGDT-124303.dwg

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Ref. Point	Description	Condition	Drainage Areas		Results	
			#	Area (Ac)	Return Year	Q (cfs)
0.01	Existing Culvert (SCS)	Existing	A+C+D+E+F+G	1,348.66	2	1179.9
					10	2333.1
					25	3122.7
					100	4468.4
1.00	Watershed (SCS)	Existing	A+E+F	1,252.51	2	1109.2
					10	2198.7
					25	2945.4
					100	4217.2
1.02	Watershed (SCS)	Existing	E	65.84	2	73.6
					10	148.5
					25	197.5
					100	280.2
2.00	Watershed (RATIONAL)	Existing	B	4.59	2	3.7
					10	6.5
					25	8.8
					100	13.5
6.00	Watershed (RATIONAL)	Existing	C	21.00	2	11.4
					10	20.1
					25	27.6
					100	42.4
7.00	Watershed (RATIONAL)	Existing	D	2.88	2	1.8
					10	3.1
					25	4.3
					100	6.6
8.00	Watershed (RATIONAL)	Existing	F	10.84	2	7.6
					10	13.3
					25	18.1
					100	27.7

SCS Method Watershed Parameters

Drainage Areas			Total Flowpath (ft)	Overland/Sheet Flow			Shallow Concentrated Flow				Channelized Flow				$T_{C\text{-}TOT}$	SCS Transform Parameters		SCS Loss Parameters	
#	Area (Ac)	Area (mi2)		L_O (FT)	S_O (ft/ft)	T_O* (MIN)	L_{SC} (FT)	Condition**	Slope (ft/ft)	V_{SC} (FPS)	T_{SC}** (MIN)	L_{CH} (FT)	V_{CH} (FPS)	T_{CH}** (MIN)		Lag Factor	T_L (MN)	CN	% IMP
A+F	1,175.83	1.8372	14,688	100	0.015	9.7	2,386	U	0.006	1.21	32.8	12,202	4.0	50.8	94	0.60	**56.4**	79.7	0.00
E	65.84	0.1029	3,758	100	0.005	17.0	2,158	U	0.005	1.14	31.5	1,500	2.0	12.5	62	0.60	**37.2**	78.1	0.00
C+D+G	72.27	0.1129	4,218	100	0.005	17.0	3,208	U	0.006	1.25	42.8	910	4.0	3.8	64	0.60	**38.4**	83.1	0.00

Reach Routing Parameters

R1	-	-	1,602						-	-		1,602	4.0	6.7	7	0.60	**4.2**		

Rational Method Watershed Parameters

Ref. Point	Description	Drainage Areas			Total Flowpath (ft)	Overland/Sheet Flow*			Shallow Concentrated Flow**					Channelized Flow**				$T_{C\text{-}TOT}$	Rational Method (New Braunfels)	
		#	Area (Ac)	C		L_O (FT)	S_O (ft/ft)	T_O* (MIN)	L_{SC} (FT)	Condition**	Slope (ft/ft)	V_{SC} (FPS)	T_{SC}** (MIN)	L_{CH} (FT)	V_{CH} (FPS)	T_{CH}** (MIN)		Return Year	Intensity (in/hr)
2.00	Watershed Calc	B	4.59	0.25	601	100	0.005	17	501	U	0.003	0.9	9.49	-	-	-	26	2	3.20
				0.30														10	4.69
				0.34														25	5.64
				0.41														100	7.17
6.00	Watershed Calc	C	21.00	0.25	2,838	100	0.005	17	2,738	U	0.006	1.3	35.88	-	-	-	52	2	2.17
				0.30														10	3.19
				0.34														25	3.86
				0.41														100	4.93
7.00	Watershed Calc	D	2.88	0.25	2,788	100	0.005	17	1,526	U	0.005	1.1	22.29	1,162	6.0	3.2	42	2	2.48
				0.30														10	3.64
				0.34														25	4.38
				0.41														100	5.58
8.00	Watershed Calc	F	10.84	0.25	1,276	100	0.005	17	1,176	U	0.005	1.1	17.18	-	6.0	-	34	2	2.79
				0.30														10	4.09
				0.34														25	4.91
				0.41														100	6.24

LEGEND

- CLEAR SPRING MEADOWS BOUNDARY
- PROPERTY LINES
- FEMA 100 YR FLOODPLAIN
- FEMA 500 YR FLOODPLAIN
- DRAINAGE AREA BOUNDARY
- Lo=246' — OVERLAND FLOW PATH
- Lsc=246' — SHALLOW CONCENTRATED FLOW PATH
- Lc=246' — CHANNELIZED FLOW PATH
- 674 — 10' CONTOUR
- 674 — 2' CONTOUR
- (1) — DRAINAGE REFERENCE POINT

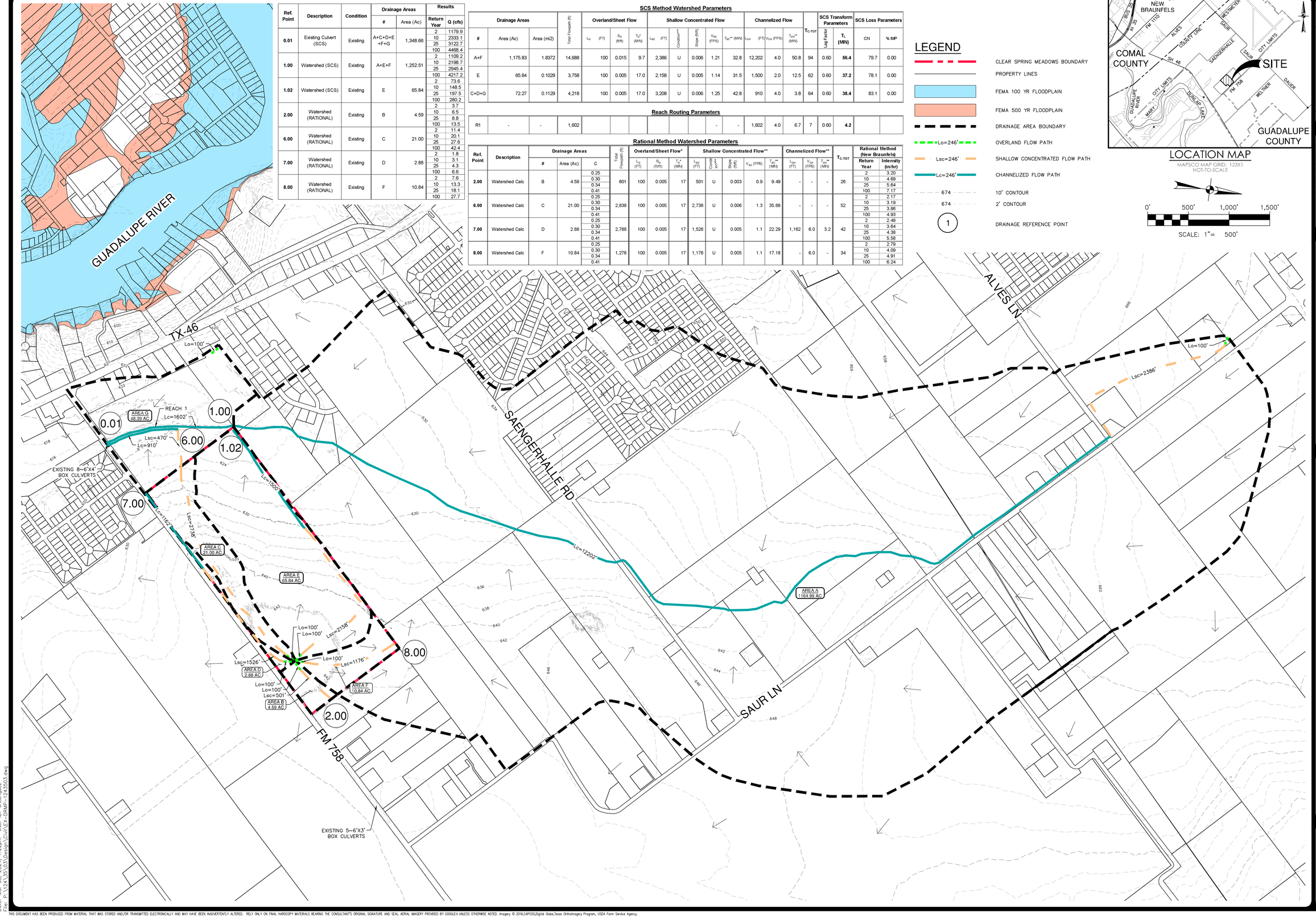
LOCATION MAP

MAPSCO MAP GRID: 123X1

NOT-TO-SCALE

0' 500' 1,000' 1,500'

SCALE: 1"= 500'



PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

STATE OF TEXAS — MATTHEW GEISTWEIDT — 118861 — LICENSED PROFESSIONAL ENGINEER — 3-7-2024

NO.	REVISION	DATE

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

PRE-DEVELOPMENT DRAINAGE MAP

PLAT NO. PLAT #

JOB NO. 12435-03

DATE OCTOBER 2022

DESIGNER EDK

CHECKED MG DRAWN MGG

SHEET C9.00

Date: Mar 08, 2024, 1:22pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\EX-DRMP-1243503.dwg

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Unit 2 Pre-Development Calculations

(Per City of New Braunfels Regulations)

Ref. Point	Structure / Description	Drainage Areas #	Area (Ac)	C	Total Flowpath (ft)	Overland/Sheet Flow (TR-55) L_O (FT)	n	P_2	S_O (ft/ft)	T_O* (MIN)	Shallow Concentrated Flow - 1** L_{SC} (FT)	Condition**	Slope (ft/ft)	V_{SC} (FPS)	T_{SC}** (MIN)	Shallow Concentrated Flow - 2** L_{SC} (FT)	Condition**	Slope (ft/ft)	V_{SC} (FPS)	T_{SC}** (MIN)	Channelized Flow** L_{CH} (FT)	V_{CH} (FPS)	T_{CH}** (MIN)	$T_{C\text{-}TOT}$	Rational Method Q=CIA IDF Curve: CoNB Return Year	Intensity (in/hr)	Q (cfs)
2.00	WATERSHED CALC	B	4.60	0.25	624	100	0.150	4.08	0.005	17	524	U	0.003	0.9	9.9				-	-	-	-	-	26	2	3.20	3.7
				0.30																				26	10	4.69	6.5
				0.34																				26	25	5.64	8.8
				0.41																				26	100	7.17	13.5
5.00	STREET CAPACITY	A-9	7.06	0.46	1,607	100	0.150	4.08	0.005	15	1,236	U	0.005	1.1	18.1	271	S	0.01	2.8	1.6	-	-	-	34	2	2.79	9.1
				0.52																				34	10	4.09	15.0
				0.56																				34	25	4.91	19.4
				0.64																				34	100	6.24	28.2
5.10	WATERSHED CALC	T-1	18.88	0.33	1,810	100	0.150	4.08	0.005	15	1,630	U	0.008	1.4	18.8				-	-	80	6.0	0.2	34	2	2.79	17.4
				0.38																				34	10	4.09	29.3
				0.42																				34	25	4.91	38.9
				0.49																				34	100	6.24	57.7
5.11	DRAIN F	A-9+T-1	25.94	0.37	1,607	100	0.150	4.08	0.005	15	1,236	U	0.005	1.1	18.1	271	S	0.01	2.8	1.6		-	-	34	2	2.79	26.8
				0.42																				34	10	4.09	44.6
				0.46																				34	25	4.91	58.6
				0.53																				34	100	6.24	85.8
5.20	DRAIN A	A-9+T-1+T-2	63.18	0.34	1,607	100	0.150	4.08	0.005	15	1,236	U	0.005	1.1	18.1	271	S	0.01	2.8	1.6		-	-	34	2	2.79	59.9
				0.40																				34	10	4.09	103.4
				0.44																				34	25	4.91	136.5
				0.51																				34	100	6.24	201.1
6.00	WATERSHED CALC	A6	2.37	0.51	167	100	0.150	4.08	0.021	8	67	U	0.014	1.9	0.6				-	-		-	-	10	2	5.05	6.1
				0.57																				10	10	7.50	10.1
				0.62																				10	25	9.12	13.4
				0.70																				10	100	11.70	19.4
7.00	WATERSHED CALC	U-1	4.41	0.36	2,844	100	0.150	4.08	0.005	15	1,697	U	0.005	1.1	24.8				-	-	1,047	6.0	2.9	42	2	2.48	3.9
				0.41																				42	10	3.64	6.6
				0.45																				42	25	4.38	8.7
				0.52																				42	100	5.58	12.8

Rational Method Time of Concentration
*TR-55 Eqn. 3-3
**As Calculated using Mannings or TR-55 Figure 3-1 or 6 ft/s

From TR-55 Equation 3-3*

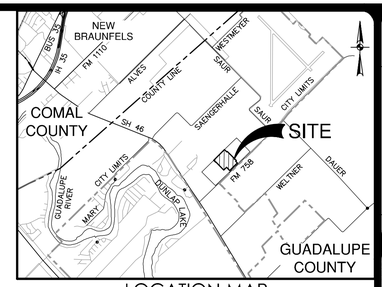
$$T_o = \frac{(0.007(n*L)^{0.8})}{(P2^{0.5}*S^{0.4})} *60$$

From TR-55 Figure 3-1**

$$v = \frac{k}{n} R^{2/3} S_o^{1/2}$$

$$k = 1.486\ ft^{1/3}/s$$

S: For Streets: n = 0.018, R = 0.2 (Adapted from Mannings)
P: For Paved: n = 0.025, R = 0.2
U: For Unpaved: n = 0.05, R = 0.4
D: For Default: v = 6 fps



LOCATION MAP

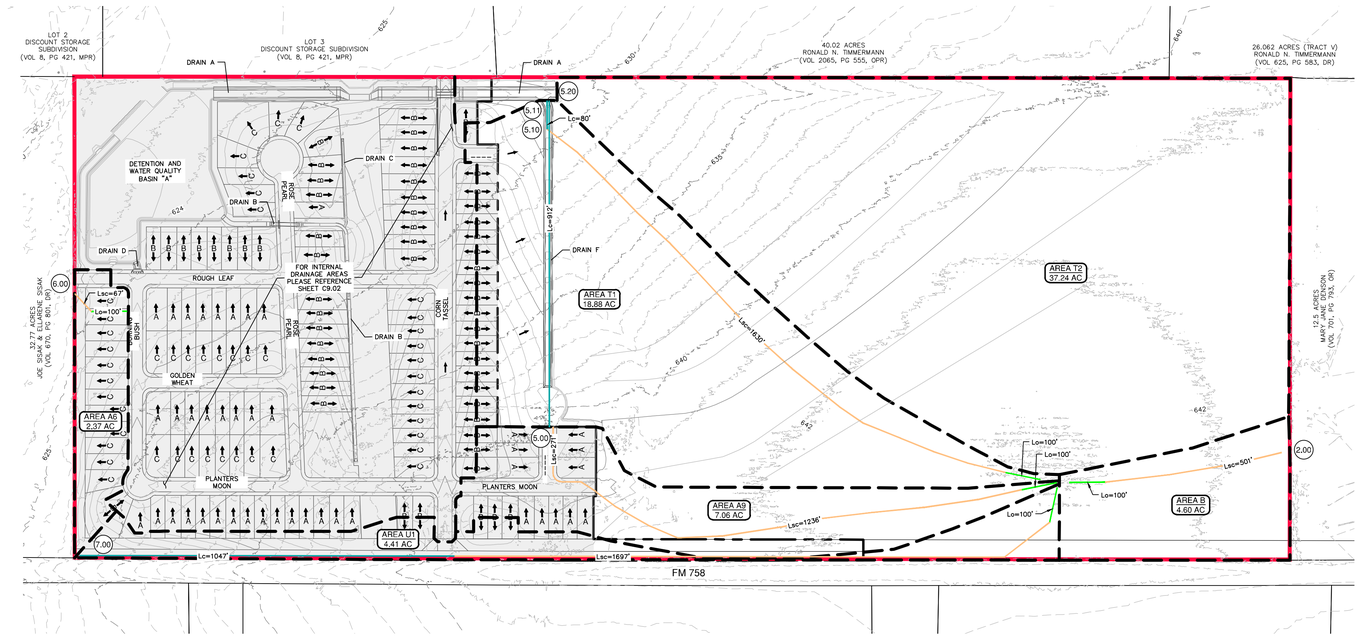
MAPSCO MAP GRID: 123X1
NOT-TO-SCALE

LEGEND

- CLEAR SPRING MEADOWS BOUNDARY
- PROPERTY LINES
- DRAINAGE AREA BOUNDARY
- Lo=246' — OVERLAND FLOW PATH
- Lsc=246' — SHALLOW CONCENTRATED FLOW PATH
- Lc=246' — CHANNELIZED FLOW PATH
- 675 — 5' CONTOUR
- 674 — 1' CONTOUR
- (1) — DRAINAGE REFERENCE POINT
- EXISTING UNIT 1 PROJECT LIMITS
- B — DIRECTION OF FLOW
- FHA LOT GRADE
- DIRECTION OF FLOW

SCALE: 1"= 200'

0' 200' 400' 600'



STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

NO. REVISION | DATE

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

UNIT 2 PRE-DEVELOPMENT CONDITIONS DRAINAGE MAP

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.00-A

Date: Mar 08, 2024, 1:25pm User ID: arodriguez
File: P:\124\35\03\Design\Civil\PRE-DRNP.dwg
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Post-Development Clear Spring Meadows Unit 2 Calculations

(Per City of New Braunfels Regulations)

Ref. Point	Structure / Description	Drainage Areas #	Area (Ac)	C	Total Flowpath (ft)	Overland/Sheet Flow (TR-55) L_O (FT)	n	P_2	S_O (ft/ft)	T_O* (MIN)	Shallow Concentrated Flow - 1** L_{SC} (FT)	Condition**	Slope (ft/ft)	V_{SC} (FPS)	T_{SC}** (MIN)	Shallow Concentrated Flow - 2** L_{SC} (FT)	Condition**	Slope (ft/ft)	V_{SC} (FPS)	T_{SC}** (MIN)	Channelized Flow** L_{CH} (FT)	V_{CH} (FPS)	T_{CH}** (MIN)	T_{C-TOT}	Rational Method Q=CIA IDF Curve: CoNB Return Year	Intensity (in/hr)	Q (cfs)
2.00	WATERSHED CALC	B	4.60	0.25	624	100	0.150	4.08	0.005	17	524	U	0.003	0.9	9.9				-	-		-	-	26	2	3.20	3.7
				0.30																				26	10	4.69	6.5
				0.34																				26	25	5.64	8.8
				0.41																				26	100	7.17	13.5
5.10	WATERSHED CALC	T1	12.25	0.25	1,143	100	0.150	4.08	0.005	17	683	U	0.005	1.1	10.0				-	-	360	6.0	1.0	27	2	3.14	9.6
				0.30																				27	10	4.60	16.9
				0.34																				27	25	5.53	23.0
				0.41																				27	100	7.03	35.3
5.11	WATERSHED CALC	T1+T2	28.22	0.25	1,143	100	0.150	4.08	0.005	17	683	U	0.005	1.1	10.0				-	-	360	6.0	1.0	27	2	3.14	22.2
				0.30																				27	10	4.60	38.9
				0.34																				27	25	5.53	53.1
				0.41																				27	100	7.03	81.3
7.00	WATERSHED CALC	U1	5.60	0.36	2,844	100	0.150	4.08	0.005	17	1,697	U	0.005	1.1	24.8				-	-	1,047	6.0	2.9	44	2	2.42	4.9
				0.41																				44	10	3.54	8.1
				0.45																				44	25	4.27	10.8
				0.52																				44	100	5.43	15.8

Rational Method Time of Concentration
*TR-55 Eqn. 3-3
**As Calculated using Mannings or TR-55 Figure 3-1 or 6 ft/s

From TR-55 Equation 3-3*

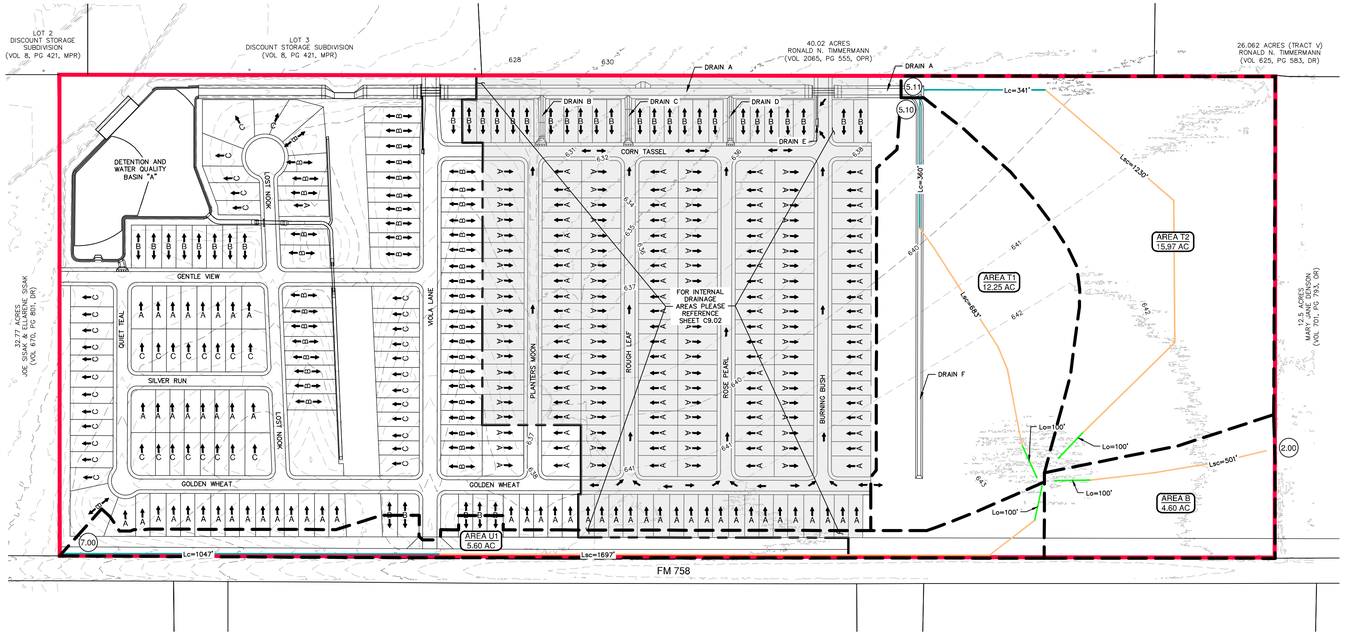
$$T_o = \frac{(0.007(n*L)^{0.8})}{(P2^{.5}s^{.4})} *60$$

From TR-55 Figure 3-1**

$$v = \frac{k}{n} R^{2/3} S_o^{1/2}$$

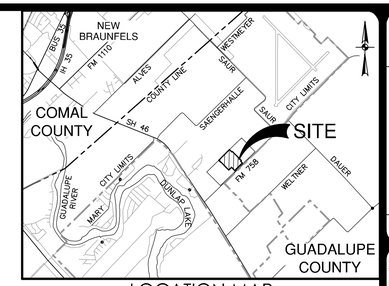
$$k = 1.486\ ft^{1/3}/s$$

S: For Streets: n = 0.018, R = 0.2 (Adapted from Mannings)
P: For Paved: n = 0.025, R = 0.2
U: For Unpaved: n = 0.05, R = 0.4
D: For Default: v = 6 fps



LOCATION MAP

MAPSCO MAP GRID: 123X1
NOT-TO-SCALE



0' 200' 400' 600'

SCALE: 1"= 200'

LEGEND

- CLEAR SPRING MEADOWS BOUNDARY
- PROPERTY LINES
- DRAINAGE AREA BOUNDARY
- Lo=246' — OVERLAND FLOW PATH
- Lsc=246' — SHALLOW CONCENTRATED FLOW PATH
- Lc=246' — CHANNELIZED FLOW PATH
- 675 — 5' CONTOUR
- 674 — 1' CONTOUR
- (1) — DRAINAGE REFERENCE POINT
- UNIT 2 PROJECT LIMITS
- B — DIRECTION OF FLOW
- FHA LOT GRADE
- DIRECTION OF FLOW

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

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TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

UNIT 2 POST-DEVELOPMENT CONDITIONS DRAINAGE MAP

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.01

Date: Mar 08, 2024, 1:33pm User ID: srodriguez
File: P:\12435\03\Design\Civil\PR-DRNP-1243503.dwg

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Fully Developed Clear Spring Meadows Calculations

(Per City of New Braunfels Regulations)

Ref. Point	Structure / Description	Drainage Areas #	Area (Ac)	C	Total Flowpath (ft)	Overland/Sheet Flow (TR-55) L_O (FT)	n	P_2	S_O (ft/ft)	T_o* (MIN)	Shallow Concentrated Flow - 1** L_{SC} (FT)	Condition***	Slope (ft/ft)	V_{SC} (FPS)	T_{SC}** (MIN)	Shallow Concentrated Flow - 2** L_{SC} (FT)	Condition***	Slope (ft/ft)	V_{SC} (FPS)	T_{SC}** (MIN)	Channelized Flow** L_{CH} (FT)	V_{CH} (FPS)	T_{CH}** (MIN)	$T_{C\text{-}TOT}$	Rational Method Q=CIA IDF Curve: CoNB Return Year	Intensity (in/hr)	Q (cfs)
0.01	EXISTING 8-6'X4' BOX CULVERTS	A0+A1+A2+A3+A4+A5 +A6+A7+G+U1+U2+U4 +T3+T4+T5	1,316.97	REFERENCE CLEAR SPRING MEADOWS UNIT 1 SWMP																					2	-	1,145.9
																									10	-	2,258.0
																									25	-	3,025.2
																									100	-	4,334.8
1.00	EXISTING 8-6'X4' BOX CULVERTS	A0+A1+A2+A3+A4+A5 +A7+U2+U4+T3+T4+T5	1,259.90	REFERENCE CLEAR SPRING MEADOWS UNIT 1 SWMP																					2	-	1,108.9
																									10	-	2,186.7
																									25	-	2,928.1
																									100	-	4,193.0
1.01	BASIN INFLOW	A-1+A-2+A-3+A-4+A-5+A-7+U-2+T-3+T-4	93.29	REFERENCE CLEAR SPRING MEADOWS UNIT 1 SWMP																					2	-	204.0
																									10	-	356.0
																									25	-	438.2
																									100	-	585.2
1.02	BASIN OUTFLOW	A-1+A-2+A-3+A-4+A-5+A-7+U-2+T-3+T-4	93.29	REFERENCE CLEAR SPRING MEADOWS UNIT 1 SWMP																					2	-	196.3
																									10	-	345.7
																									25	-	427.9
																									100	-	573.5
2.00	WATERSHED CALC	U-3	1.94	REFERENCE CLEAR SPRING MEADOWS UNIT 1 SWMP																					2	-	3.0
																									10	-	5.0
																									25	-	6.5
																									100	-	9.5
6.00	WATERSHED CALC	A-6	2.37	REFERENCE CLEAR SPRING MEADOWS UNIT 1 SWMP																					2	-	6.1
																									10	-	10.1
																									25	-	13.4
																									100	-	19.4
7.00	WATERSHED CALC	U-1	5.27	REFERENCE CLEAR SPRING MEADOWS UNIT 1 SWMP																					2	-	6.7
																									10	-	11.0
																									25	-	14.5
																									100	-	20.7
5.20	WATERSHED CALC	A-8+A-8A+A-9+A-9A+A-10+A-10A+A-11+A-11A+A-12+U-2	65.05	0.61 0.68 0.73 0.81	3,475	100	0.150	4.08	0.020	8	1,203	S	0.006	2.2	9.2						-	-	2,172	6.0	6.0	23	2	3.41	135.3
																									23	10	4.99	220.7
																									23	25	6.00	284.9
																									23	100	7.64	402.6
8.00A	WATERSHED CALC // STREET CAPACITY	A-8A	8.08	0.63 0.70 0.75 0.83	1,117	100	0.150	4.08	0.013	10	1,017	S	0.010	2.8	6.1						-	-	-	-	-	16	2	4.10	20.9
																									16	10	6.03	34.1
																									16	25	7.26	44.0
																									16	100	9.29	62.3
8.00	WATERSHED CALC	A-8+A-8A	9.11	0.63 0.70 0.75 0.83	1,117	100	0.150	4.08	0.013	10	1,017	S	0.010	2.8	6.1						-	-	-	-	-	16	2	4.10	23.5
																									16	10	6.03	38.5
																									16	25	7.26	49.6
																									16	100	9.29	70.2
9.00A	WATERSHED CALC // STREET CAPACITY	A-9A	6.57	0.62 0.69 0.74 0.82	1,176	100	0.150	4.08	0.013	10	1,076	S	0.010	2.8	6.5						-	-	-	-	-	16	2	4.10	16.7
																									16	10	6.03	27.3
																									16	25	7.26	35.3
																									16	100	9.29	50.0
9.00	WATERSHED CALC	A-9+A-9A	7.31	0.62 0.69 0.74 0.82	1,176	100	0.150	4.08	0.013	10	1,076	S	0.010	2.8	6.5						-	-	-	-	-	16	2	4.10	18.6
																									16	10	6.03	30.4
																									16	25	7.26	39.3
																									16	100	9.29	55.7
10.00A	WATERSHED CALC // STREET CAPACITY	A-10A	6.37	0.64 0.71 0.76 0.84	1,163	100	0.150	4.08	0.013	10	1,063	S	0.010	2.8	6.4						-	-	-	-	-	16	2	4.10	16.7
																									16	10	6.03	27.3
																									16	25	7.26	35.1
																									16	100	9.29	49.7
10.00	WATERSHED CALC	A-10+A-10A	6.96	0.64 0.71 0.76 0.84	1,163	100	0.150	4.08	0.013	10	1,063	S	0.010	2.8	6.4						-	-	-	-	-	16	2	4.10	18.3
																									16	10	6.03	29.8
																									16	25	7.26	38.4
																									16	100	9.29	54.3
11.00A	WATERSHED CALC // STREET CAPACITY	A-11A	6.37	0.64 0.71 0.76 0.84	1,210	100	0.150	4.08	0.013	10	1,110	S	0.010	2.8	6.7						-	-	-	-	-	16	2	4.10	16.7
																									16	10	6.03	27.3
																									16	25	7.26	35.1
																									16	100	9.29	49.7
11.00	WATERSHED CALC	A-11+A-11A	7.24	0.64 0.71 0.76 0.84	1,210	100	0.150	4.08	0.013	10	1,110	S	0.010	2.8	6.6						-	-	-	-	-	16	2	4.10	19.0
																									16	10	6.03	31.0
																									16	25	7.26	39.9
																									16	100	9.29	56.5
12.00	WATERSHED CALC	U-2	31.37	0.61 0.68 0.73 0.81	2,381	100	0.150	4.08	0.020	8	1,203	S	0.006	2.2	9.2						-	-	1,078	6.0	3.0	20	2	3.65	69.8
																									20	10	5.36	114.3
																									20	25	6.45	147.7
																									20	100	8.23	209.1
12.01	WATERSHED CALC	U-2+A-11+A-11A	38.61	0.62 0.69 0.74 0.82	2,381	100	0.150	4.08	0.020	8	1,203	S	0.006	2.2	9.2						-	-	1,078	6.0	3.0	20	2	3.65	87.4
																									20	10	5.36	142.8
																									20	25	6.45	184.3
																									20	100	8.23	260.6

Rational Method Time of Concentration
*TR-55 Eqn. 3-3
**As Calculated using Mannings or TR-55 Figure 3-1 or 6 ft/s

From TR-55 Equation 3-3*

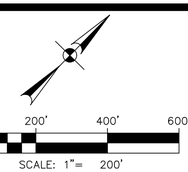
$$T_o = \frac{(0.007(nL)^{0.8})}{(P2^{0.5}s^{0.4})} + 60$$

From TR-55 Figure 3-1**

$$v = \frac{k}{n} R^{2/3} S_o^{1/2}$$

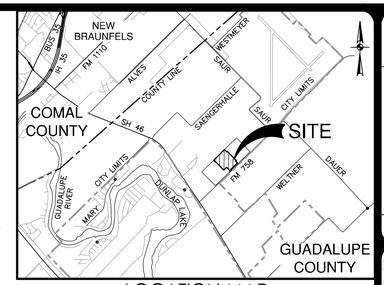
$$k = 1.486\ ft^{1/3}/s$$

S: For Streets: n = 0.018, R = 0.2 (Adapted from Mannings)
P: For Paved: n = 0.025, R = 0.2
U: For Unpaved: n = 0.05, R = 0.4
D: For Default: v = 6 fps

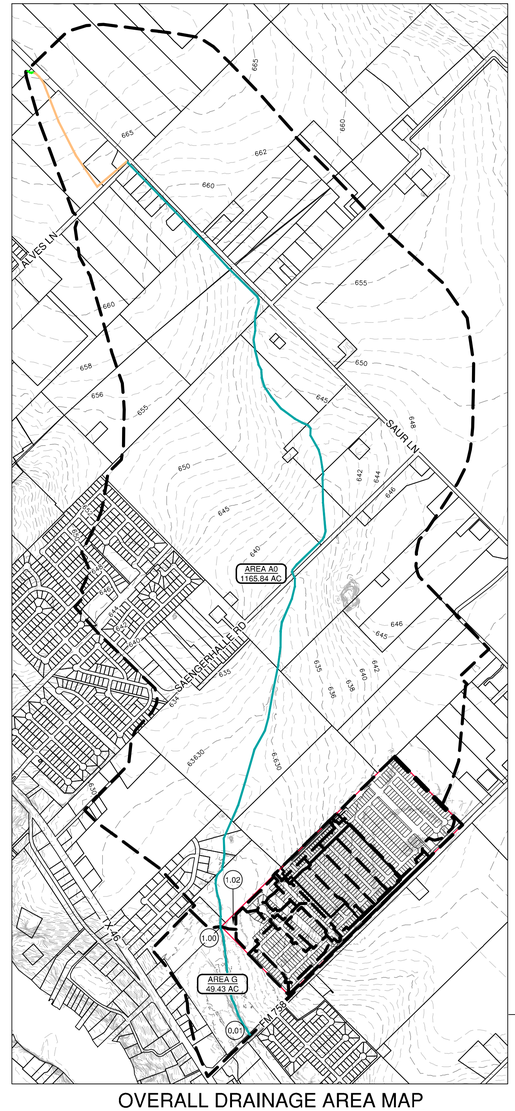


LEGEND

- CLEAR SPRING MEADOWS BOUNDARY
- PROPERTY LINES
- DRAINAGE AREA BOUNDARY
- Lo=246' OVERLAND FLOW PATH
- Lsc=246' SHALLOW CONCENTRATED FLOW PATH
- Lc=246' CHANNELIZED FLOW PATH
- 674 5' CONTOUR
- 674 1' CONTOUR
- 1 DRAINAGE REFERENCE POINT



LOCATION MAP
MAPSCO MAP GRID: 123X1
NOT-TO-SCALE



OVERALL DRAINAGE AREA MAP
SCALE = 1":1000'

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

NO.	REVISION	DATE

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

FULLY DEVELOPED CLEAR SPRING MEADOWS DRAINAGE MAP

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.02

Date: Mar 08, 2024, 1:41pm User ID: sndriguez
File: P:\124\135\03\Design\Civil\UD-DRMP-1243503.dwg

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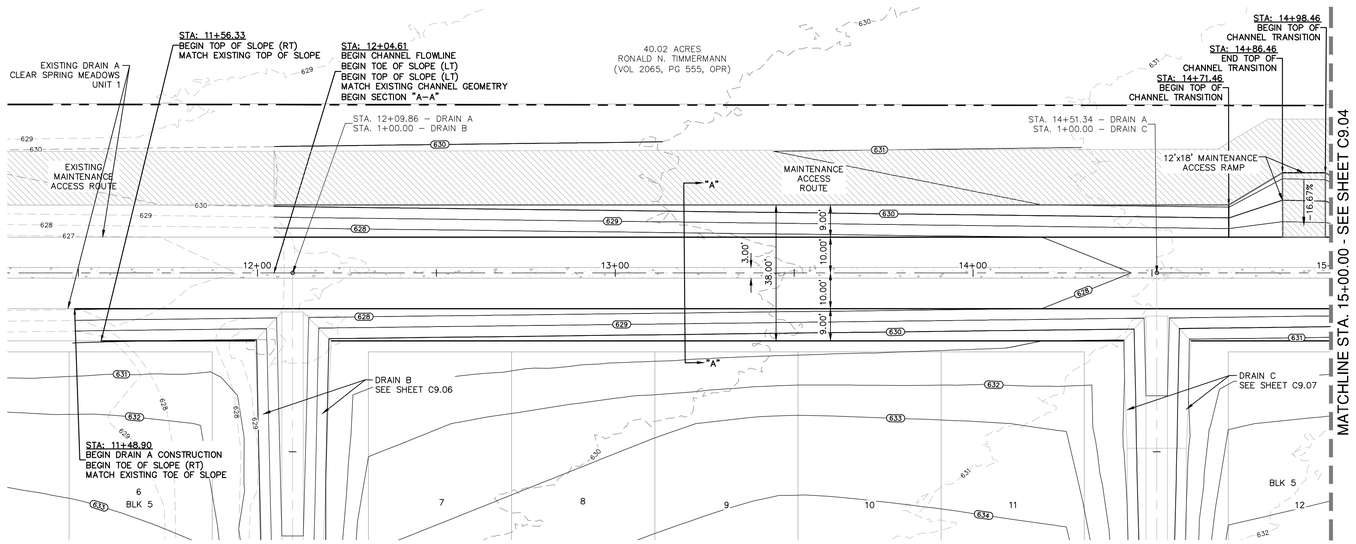
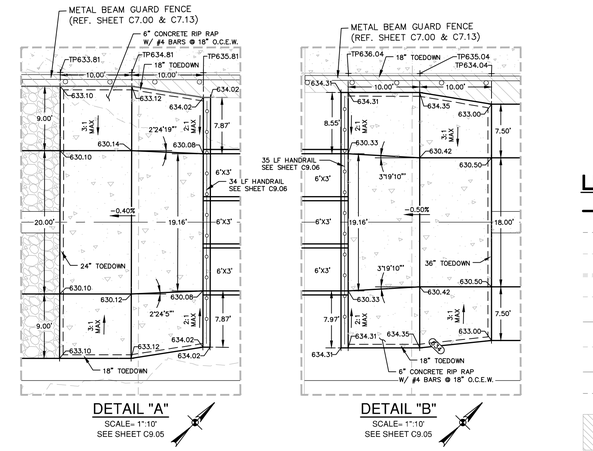
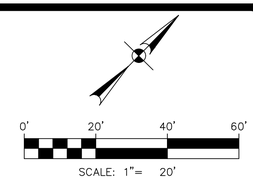
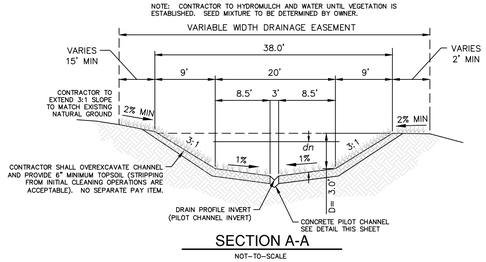


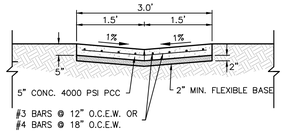




LEGEND:

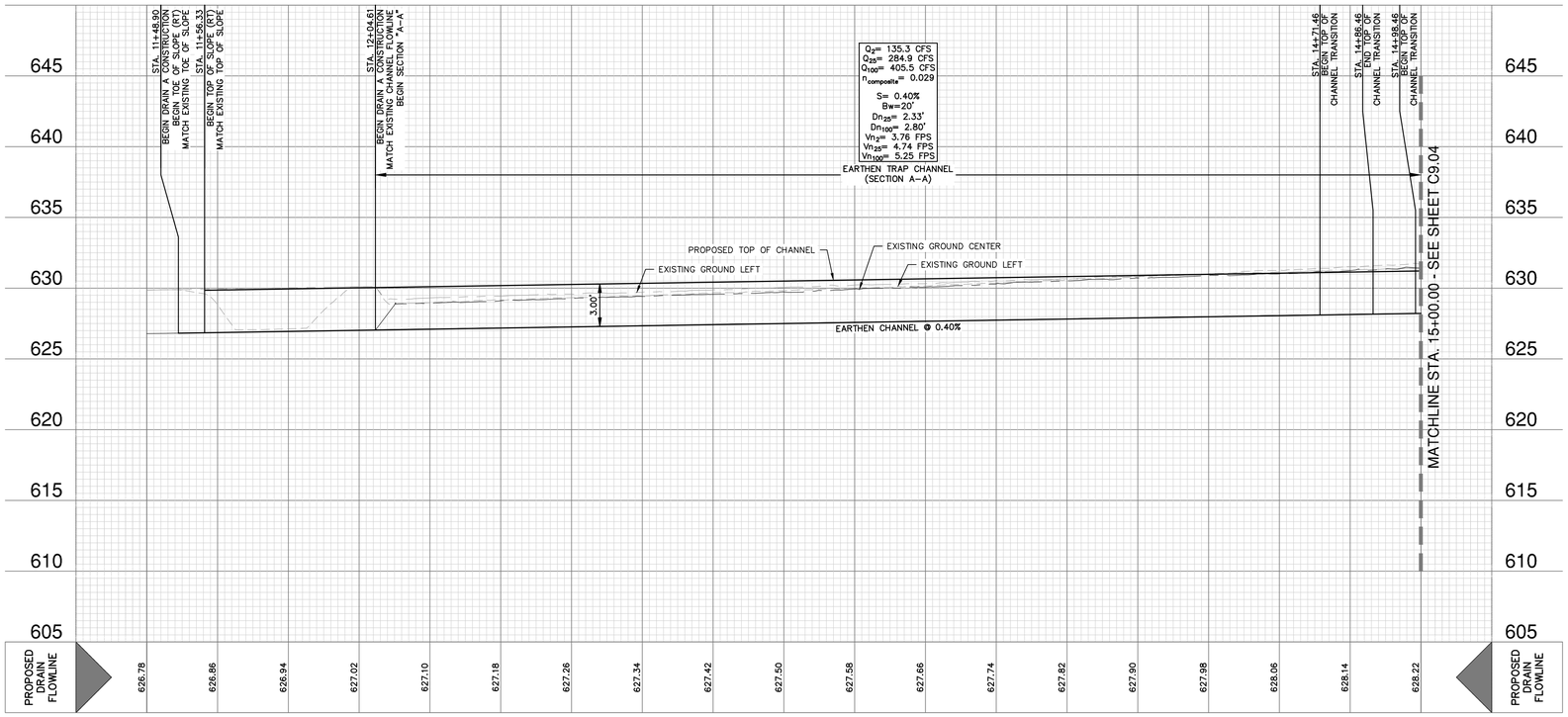
- UNIT BOUNDARY
- 960 EXISTING 10' CONTOUR
- 958 EXISTING 2' CONTOUR
- 100-YEAR FLOODPLAIN
- EXISTING SANITARY SEWER
- MANHOLE — PROPOSED SANITARY SEWER
- EXISTING POTABLE WATER
- FIRE HYDRANT — PROPOSED POTABLE WATER
- PROPOSED EASEMENT
- MAINTENANCE ACCESS ROUTE
- FLOW ARROW





DRAIN A
PLAN AND PROFILE (STA.12+04.61 TO STA. 15+00.00)

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



MAINTENANCE NOTE:

FOR THE CHANNEL AND BASIN MAINTENANCE PLAN AND SCHEDULE, PLEASE REFERENCE SHEET C9.13.

NOTES:

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
2. THE ENGINEER SHALL PROVIDE ONE SET OF CONSTRUCTION STAKES AND ONE SET OF CUT SHEETS AT 50' INTERVALS FOR EACH DRAIN. CONTRACTOR SHALL LOCATE AND PROTECT CONSTRUCTION STAKES IMMEDIATELY AFTER STAKING IS COMPLETE AND PRIOR TO STARTING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE ANY CONSTRUCTION STAKES THAT ARE LOST OR DESTROYED DURING CONSTRUCTION.
3. ALL CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
4. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
5. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
6. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
7. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

TRENCH EXCAVATION SAFETY PROTECTION:

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

CAUTION!!

EXISTING UTILITIES ARE LOCATED WITHIN THE LIMITS OF THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL EXERCISE EXTRA CARE IN DIGGING ANY TRENCH FOR PROPOSED UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, VERIFYING THE EXACT LOCATION AND IDENTIFYING ANY AREAS OF CONFLICTS WITH EXISTING UTILITIES AND WILL NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS ARE FOUND.

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

DRAIN A
PLAN AND PROFILE (STA.12+04.61 TO STA. 15+00.00)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.03

Date: Mar 08, 2024, 1:44pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\DRA-1243503.dwg

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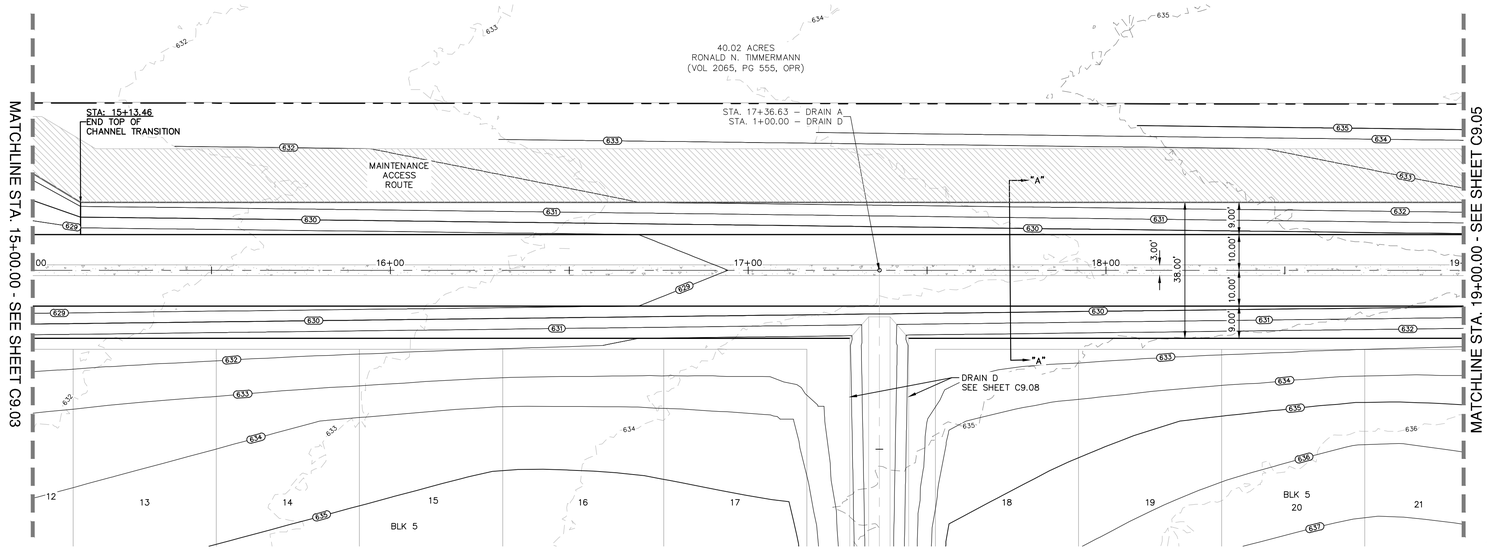
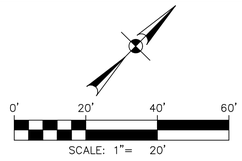
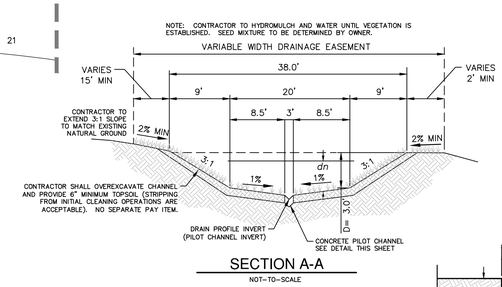




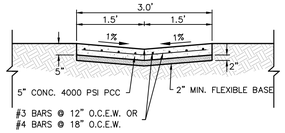
LEGEND:

- UNIT BOUNDARY
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- 100-YEAR FLOODPLAIN
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING POTABLE WATER
- PROPOSED POTABLE WATER
- PROPOSED EASEMENT
- MAINTENANCE ACCESS ROUTE
- FLOW ARROW



SECTION A-A

NOT-TO-SCALE

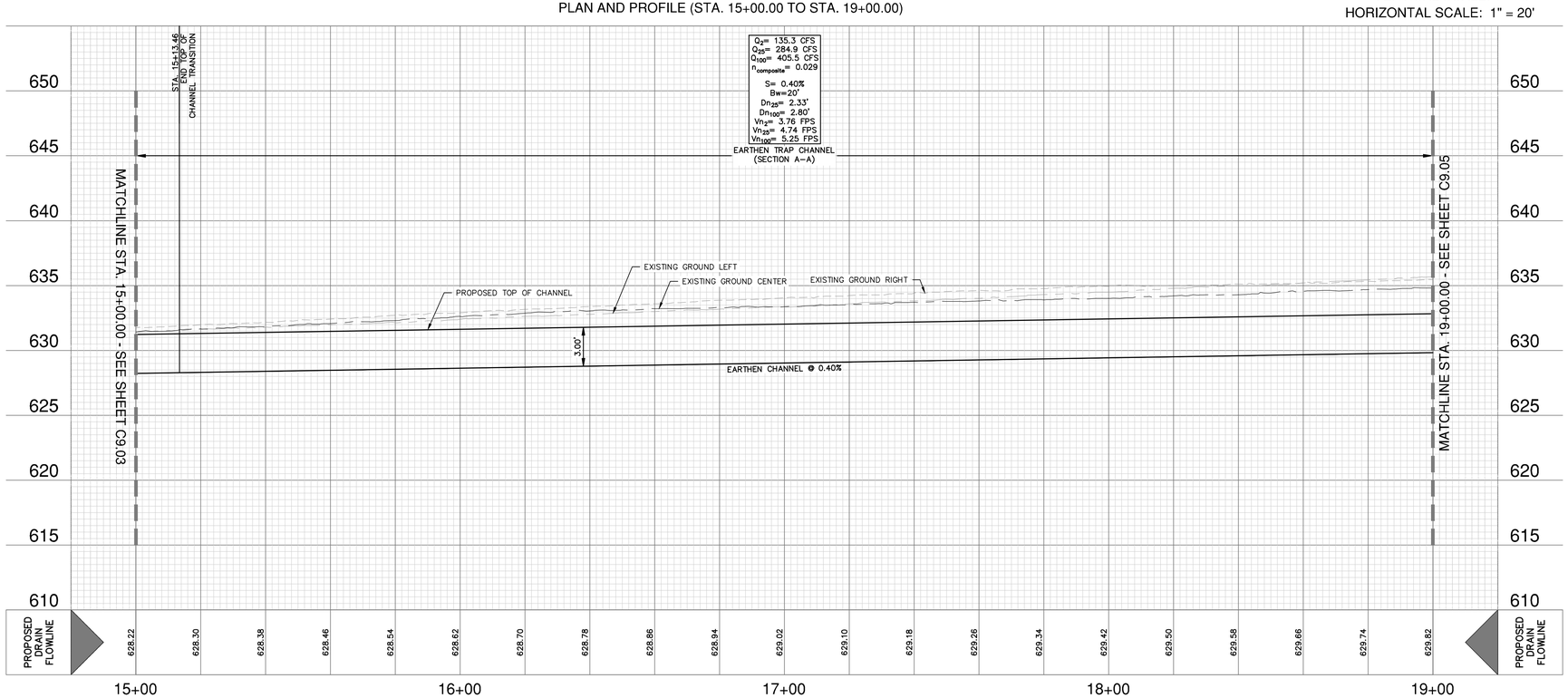


PILOT CHANNEL

NOT-TO-SCALE

DRAIN A
PLAN AND PROFILE (STA. 15+00.00 TO STA. 19+00.00)

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



MAINTENANCE NOTE:

FOR THE CHANNEL AND BASIN MAINTENANCE PLAN AND SCHEDULE, PLEASE REFERENCE SHEET C9.13.

NOTES:

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CAUTION!!

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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

DRAIN A
PLAN AND PROFILE (STA. 15+00.00 TO STA. 19+00.00)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.04

Date: Mar 08, 2024, 1:44pm User ID: arodriguez
File: P:\124\35\03\Design\Civil\DRA-124350 3.dwg

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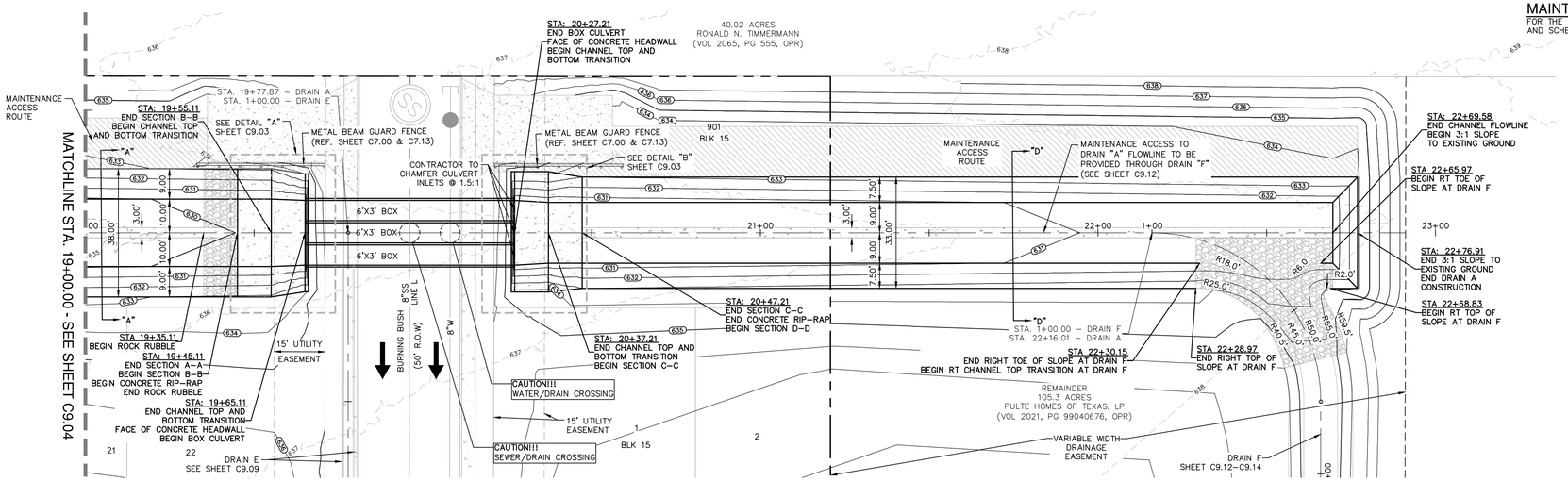


MAINTENANCE NOTE:

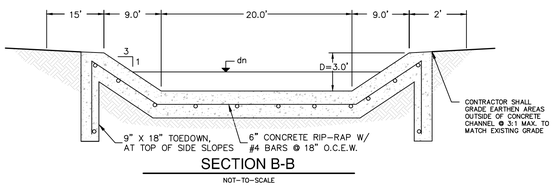
FOR THE CHANNEL AND BASIN MAINTENANCE PLAN AND SCHEDULE, PLEASE REFERENCE SHEET C9.13.

0' 20' 40' 60'

SCALE: 1"= 20'

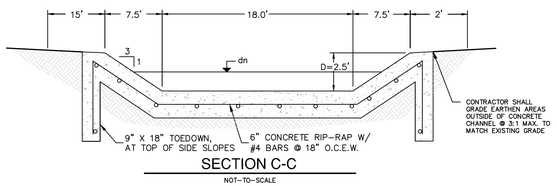
LEGEND:

- UNIT BOUNDARY
- 960 EXISTING 10' CONTOUR
- 958 EXISTING 2' CONTOUR
- 100–YEAR FLOODPLAIN
- MANHOLE — EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- FIRE HYDRANT — EXISTING POTABLE WATER
- PROPOSED POTABLE WATER
- PROPOSED EASEMENT
- MAINTENANCE ACCESS ROUTE
- FLOW ARROW



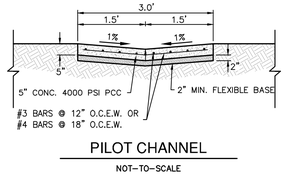
SECTION B-B

NOT–TO–SCALE



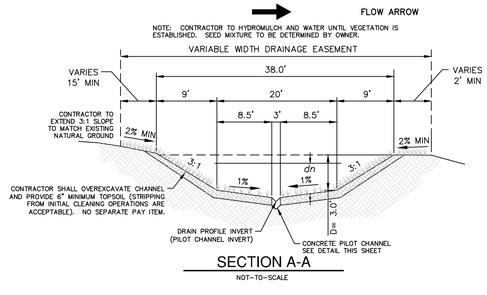
SECTION C-C

NOT–TO–SCALE



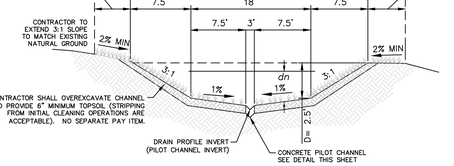
PILOT CHANNEL

NOT–TO–SCALE



SECTION A-A

NOT–TO–SCALE



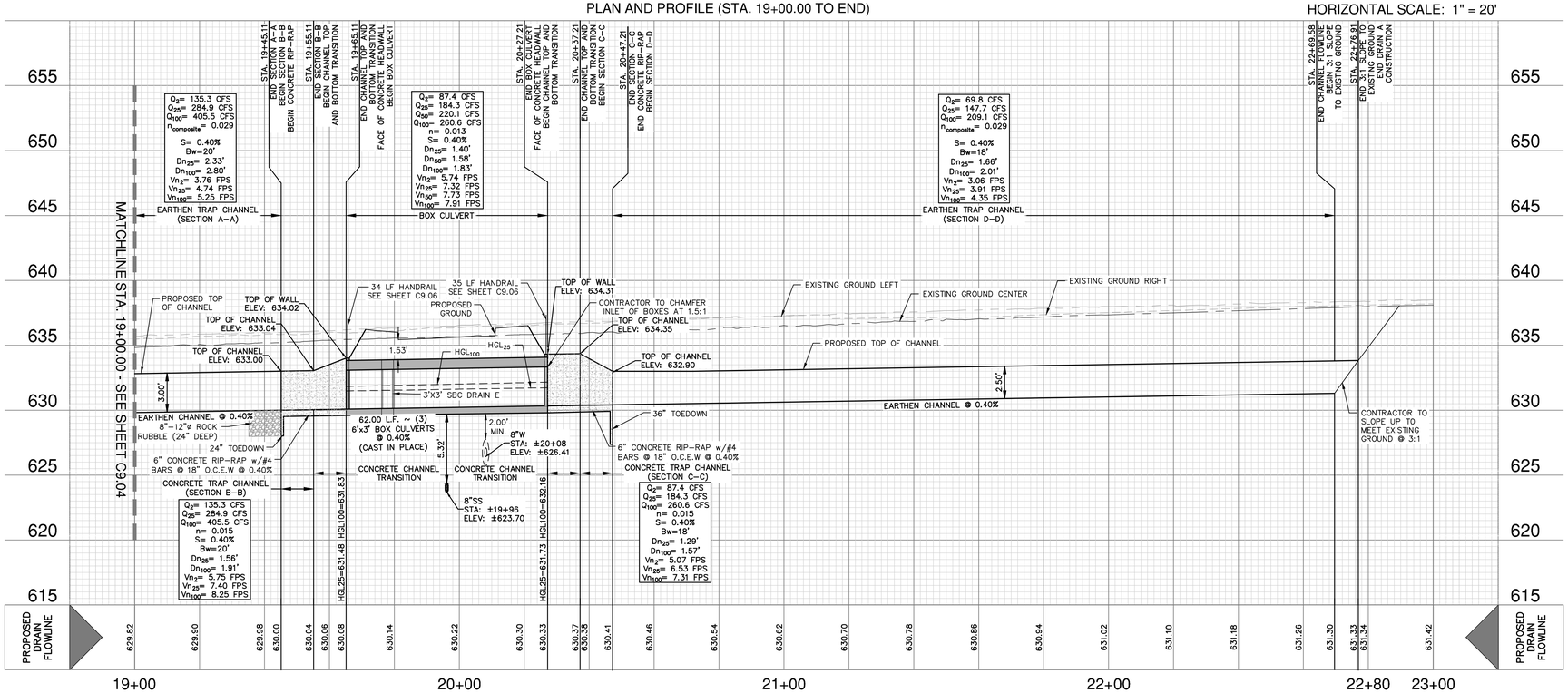
SECTION D-D

NOT–TO–SCALE

DRAIN A
PLAN AND PROFILE (STA. 19+00.00 TO END)

VERTICAL SCALE: 1" = 5'

HORIZONTAL SCALE: 1" = 20'



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3. ALL CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
4. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
5. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
6. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
7. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

TRENCH EXCAVATION SAFETY PROTECTION:

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STATE OF TEXAS
MATTHEW GEISTWEIDT
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3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
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CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

DRAIN A
PLAN AND PROFILE (STA. 19+00.00 TO END)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.05

Date: Mar 08, 2024, 1:46pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\DRA-124350 3.dwg

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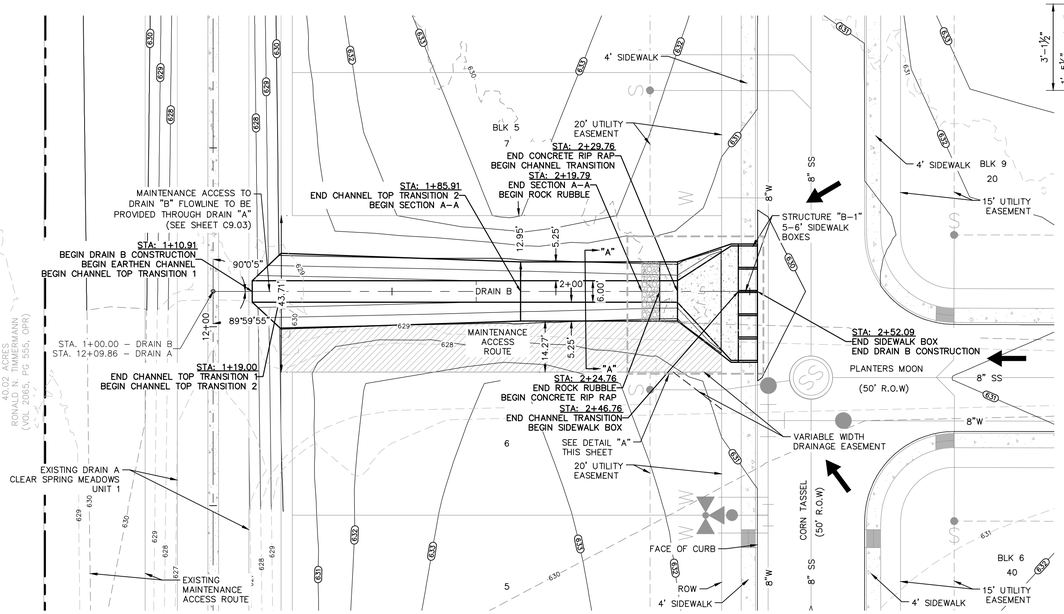
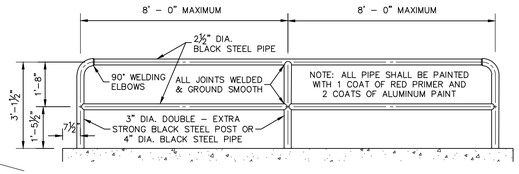
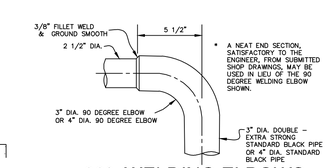




NOTE: ALL CONSTRUCTION OF HANDRAIL SHALL FOLLOW THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

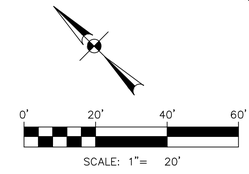
PIPE RAILING DETAIL

NOT-TO-SCALE



90° WELDING ELBOWS

NOT TO SCALE



SCALE: 1"= 20'

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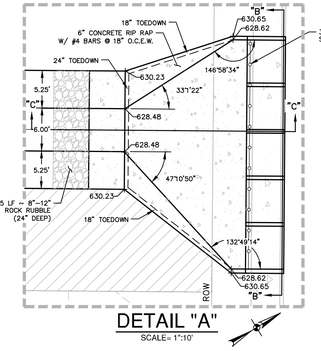

DETAIL "A"

SCALE= 1":10'

NOTE: CONTRACTOR TO HYDROMULCH AND WATER UNTIL VEGETATION IS ESTABLISHED. SEED MIXTURE TO BE DETERMINED BY OWNER.

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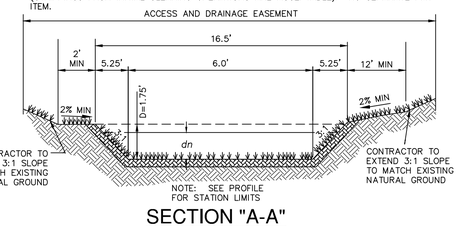


NOTE: SEE PROFILE FOR STATION LIMITS

SECTION "A-A"

NOT-TO-SCALE

SIDEWALK BOX IN SAG HYDRAULIC CALCULATION

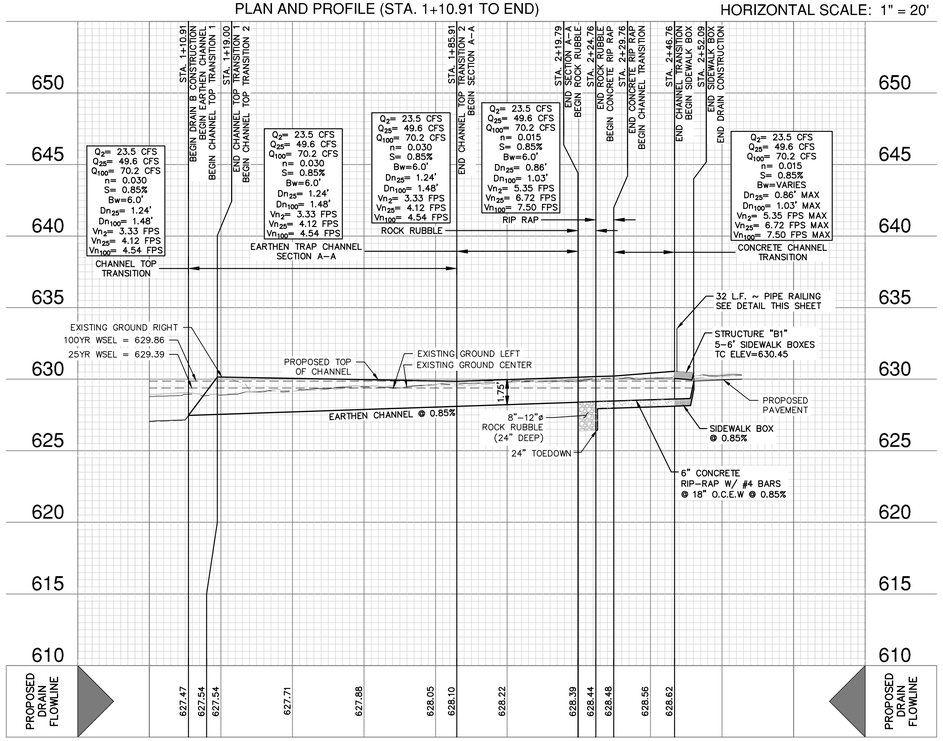
Q_{25} = 49.6 CFS (POINT 8.00)
Q_{25} = Cw x L x $H^{3/2}$
Cw = 3.087
H = 0.79'
Lcal = 22.88'
USE L = 5–6' SIDEWALK BOXES = 30' TOTAL
H = 0.66'

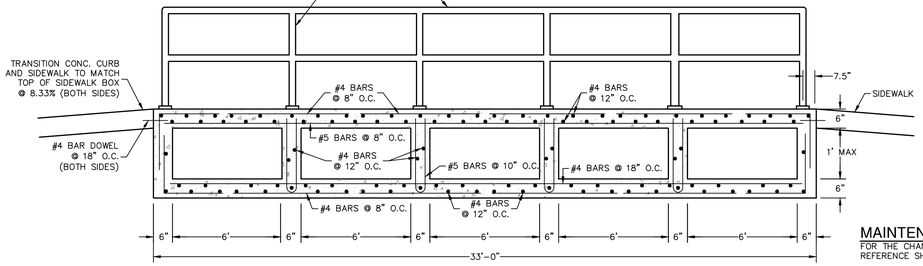
WATER PONDING WIDTH

SEE STORMWATER REPORT FOR STREET CAPACITY CALCULATIONS (10–YEAR SPREAD WIDTH CONTAINED WITHIN THE CURB)

DRAIN B
PLAN AND PROFILE (STA. 1+10.91 TO END)

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





SIDEWALK BOX DETAIL
SECTION B-B

NOT–TO–SCALE

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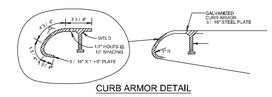
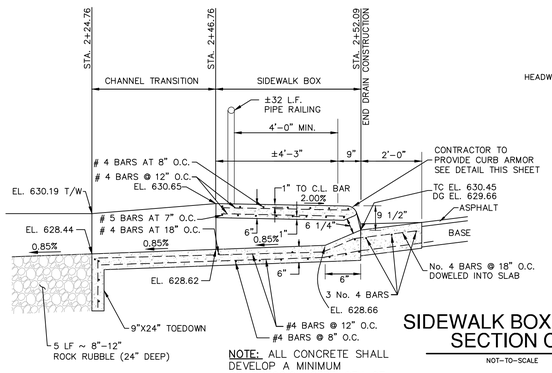


CURB ARMOR DETAIL



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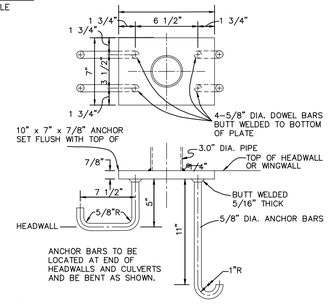
SIDEWALK BOX DETAIL
SECTION C-C

NOT–TO–SCALE



PIPE ANCHORAGE DETAIL

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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

DRAIN B
PLAN AND PROFILE (STA. 1+10.91 TO END)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.06

Date: Mar 08, 2024, 1:48pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\DRB-124303.dwg

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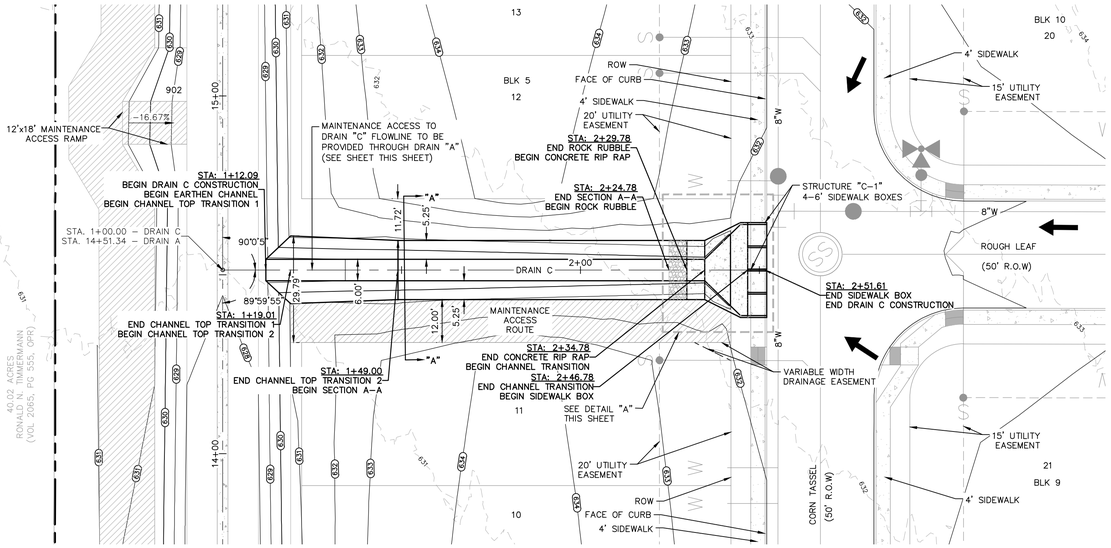

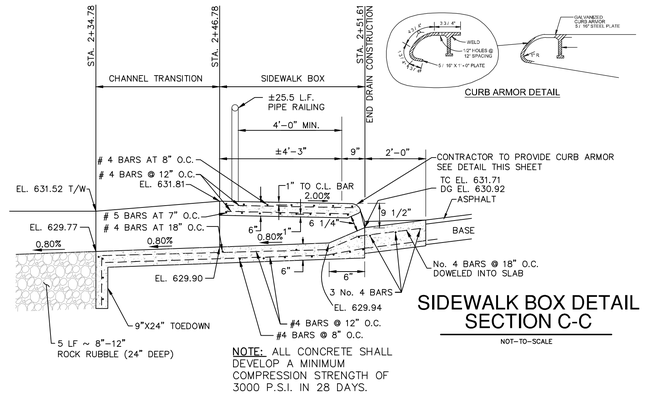

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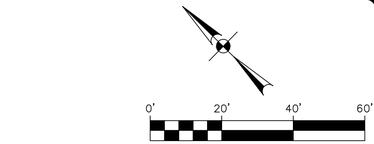
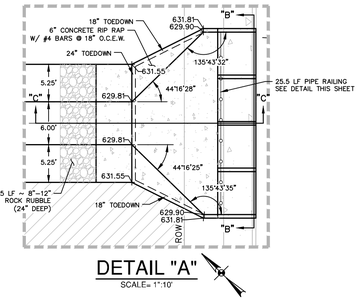
SIDEWALK BOX DETAIL SECTION C-C

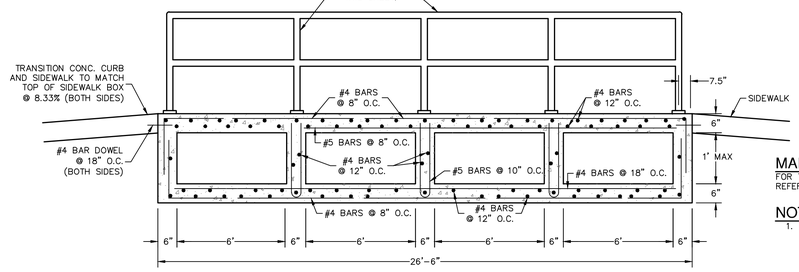
NOT-TO-SCALE





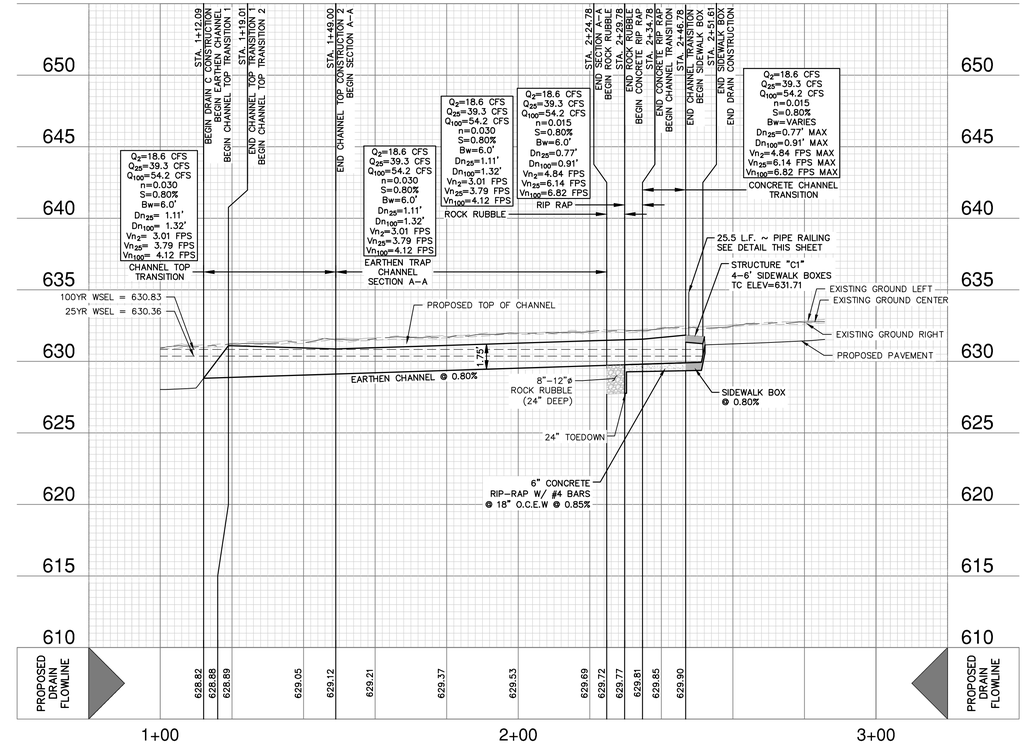
DETAIL "A"

SCALE= 1":10'



SIDEWALK BOX DETAIL SECTION B-B

NOT-TO-SCALE



NOTE: CONTRACTOR TO HYDROMULCH AND WATER UNTIL VEGETATION IS ESTABLISHED. SEED MIXTURE TO BE DETERMINED BY OWNER.

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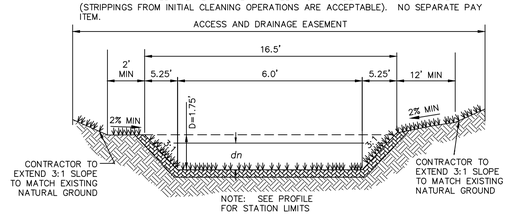

SECTION "A-A"

NOT-TO-SCALE

SIDEWALK BOX IN SAG HYDRAULIC CALCULATION

Q_{25} = 39.3 CFS (POINT 9.00)
$Q_{25} = Cw \times L \times H^{3/2}$
Cw = 3.087
H = 0.79'
Lcal = 18.13'
USE L = 4–6' SIDEWALK BOXES = 24' TOTAL
H = 0.66'

WATER PONDING WIDTH

SEE STORMWATER REPORT FOR STREET CAPACITY CALCULATIONS (10-YEAR SPREAD WIDTH CONTAINED WITHIN THE CURB)

LEGEND:

- UNIT BOUNDARY
- 960 EXISTING 10' CONTOUR
- 958 EXISTING 2' CONTOUR
- 100-YEAR FLOODPLAIN
- MANHOLE — EXISTING SANITARY SEWER
- MANHOLE — PROPOSED SANITARY SEWER
- FIRE HYDRANT — EXISTING POTABLE WATER
- FIRE HYDRANT — PROPOSED POTABLE WATER
- PROPOSED EASEMENT
- MAINTENANCE ACCESS ROUTE
- FLOW ARROW

MAINTENANCE NOTE:

FOR THE CHANNEL AND BASIN MAINTENANCE PLAN AND SCHEDULE, PLEASE REFERENCE SHEET C9.13.

NOTES:

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
2. THE ENGINEER SHALL PROVIDE ONE SET OF CONSTRUCTION STAKES AND ONE SET OF CUT SHEETS AT 50' INTERVALS FOR EACH DRAIN. CONTRACTOR SHALL LOCATE AND PROTECT CONSTRUCTION STAKES IMMEDIATELY AFTER STAKING IS COMPLETE AND PRIOR TO STARTING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE ANY CONSTRUCTION STAKES THAT ARE LOST OR DESTROYED DURING CONSTRUCTION.
3. ALL CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
4. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
5. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
6. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
7. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

TRENCH EXCAVATION SAFETY PROTECTION:

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

CAUTION!!

EXISTING UTILITIES ARE LOCATED WITHIN THE LIMITS OF THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL EXERCISE EXTRA CARE IN DIGGING ANY TRENCH FOR PROPOSED UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, VERIFYING THE EXACT LOCATION AND IDENTIFYING ANY AREAS OF CONFLICTS WITH EXISTING UTILITIES AND WILL NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS ARE FOUND.

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

DRAIN C
PLAN AND PROFILE (STA. 1+12.09 TO END)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.07

Date: Mar 08, 2024, 1:49pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\DRC-124503.dwg

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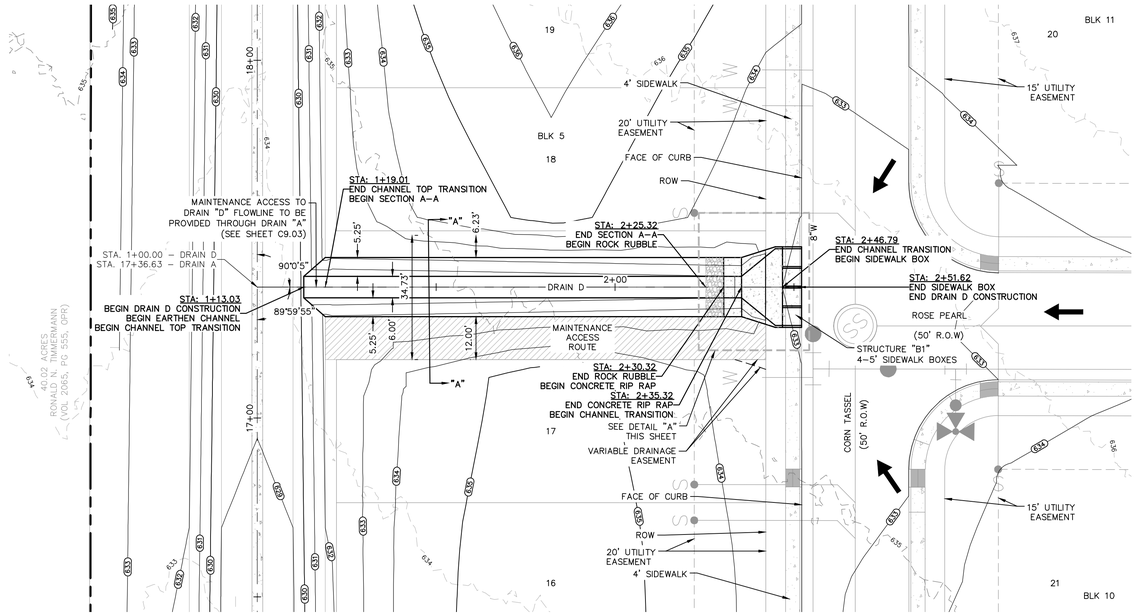
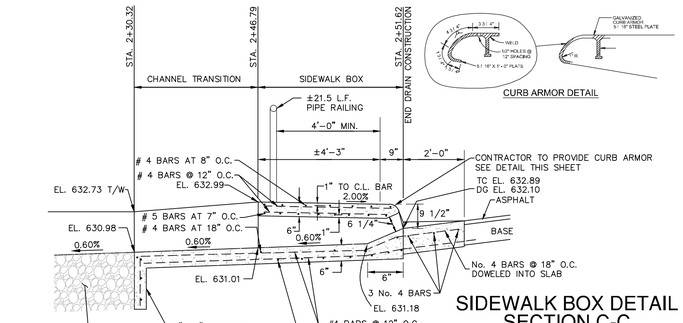
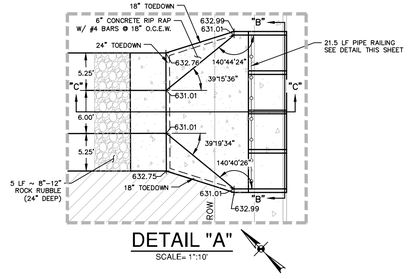




SIDEWALK BOX DETAIL SECTION C-C

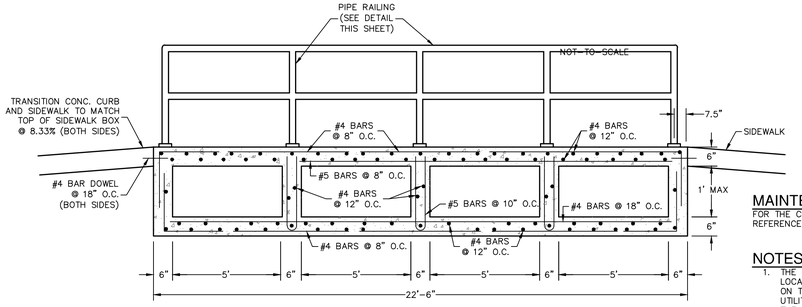
NOT–TO–SCALE

NOTE: ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSION STRENGTH OF 3000 P.S.I. IN 28 DAYS.



DETAIL "A"

SCALE= 1":10'

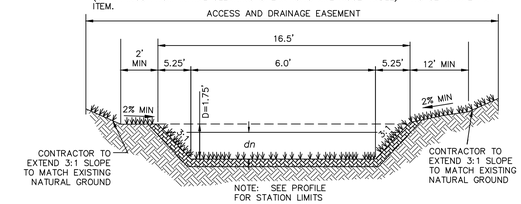


SIDEWALK BOX DETAIL SECTION B-B

NOT–TO–SCALE

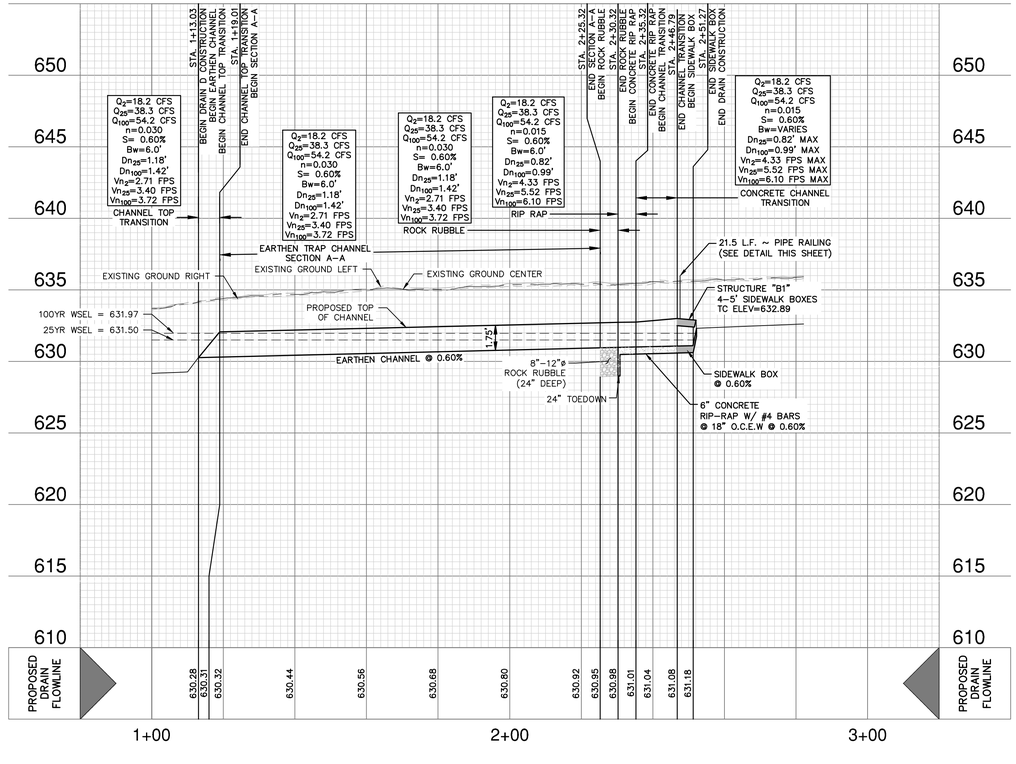
NOTE: CONTRACTOR TO HYDROMULCH AND WATER UNTIL VEGETATION IS ESTABLISHED. SEED MIXTURE TO BE DETERMINED BY OWNER.

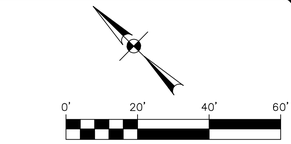
CONTRACTOR SHALL OVER EXCAVATE CHANNEL AND PROVIDE 6" MINIMUM TOPSOIL (STRIPPINGS FROM INITIAL CLEANING OPERATIONS ARE ACCEPTABLE). NO SEPARATE PAY ITEM.



SECTION "A-A"

NOT–TO–SCALE





SCALE: 1"= 20'

LEGEND:

- UNIT BOUNDARY
- 960 EXISTING 10' CONTOUR
- 958 EXISTING 2' CONTOUR
- 100–YEAR FLOODPLAIN
- EXISTING SANITARY SEWER
- MANHOLE — PROPOSED SANITARY SEWER
- EXISTING POTABLE WATER
- FIRE HYDRANT — PROPOSED POTABLE WATER
- PROPOSED EASEMENT
- MAINTENANCE ACCESS ROUTE
- FLOW ARROW

SIDEWALK BOX IN SAG HYDRAULIC CALCULATION

Q_{25} = 38.3 CFS (POINT 10.00)
$Q_{25} = Cw \times L \times H^{3/2}$
Cw = 3.087
H = 0.79'
Lcal = 17.67'
USE L = 4–5' SIDEWALK BOXES = 20' TOTAL
H = 0.73'

WATER PONDING WIDTH

SEE STORMWATER REPORT FOR STREET CAPACITY CALCULATIONS (10–YEAR SPREAD WIDTH CONTAINED WITHIN THE CURB)

MAINTENANCE NOTE:

FOR THE CHANNEL AND BASIN MAINTENANCE PLAN AND SCHEDULE, PLEASE REFERENCE SHEET C9.13.

NOTES:

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7. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

TRENCH EXCAVATION SAFETY PROTECTION:

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

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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

DRAIN D
PLAN AND PROFILE (STA. 1+13.03 TO END)

PLAT NO. PLAT #
JOB NO. 12435–03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.08

Date: Mar 08, 2024, 1:51pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\DRD–124303.dwg

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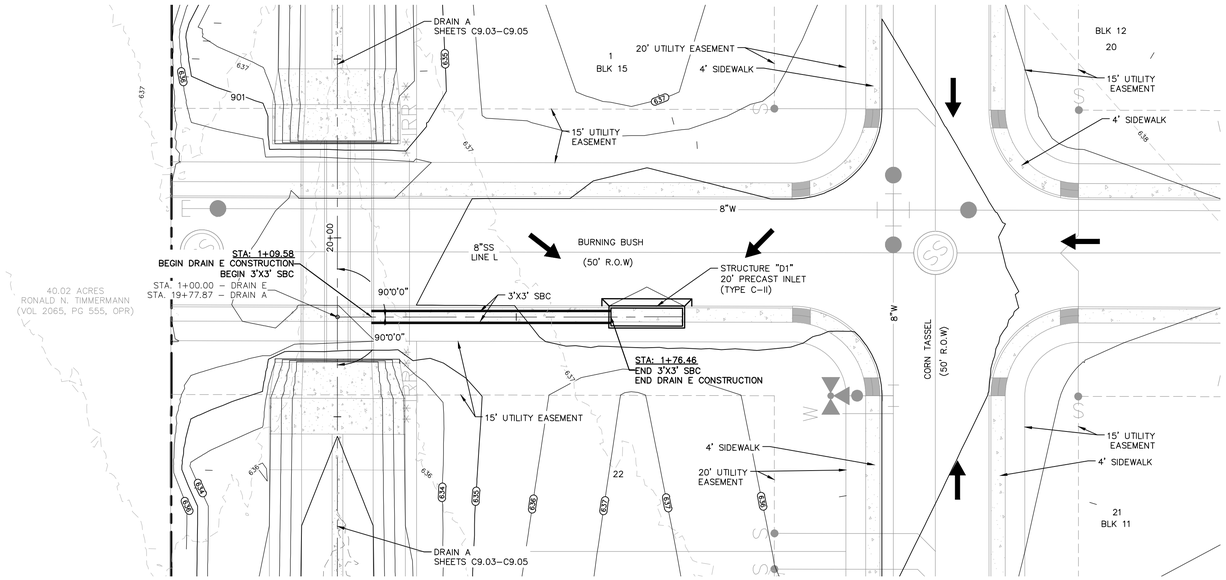


0' 20' 40' 60'

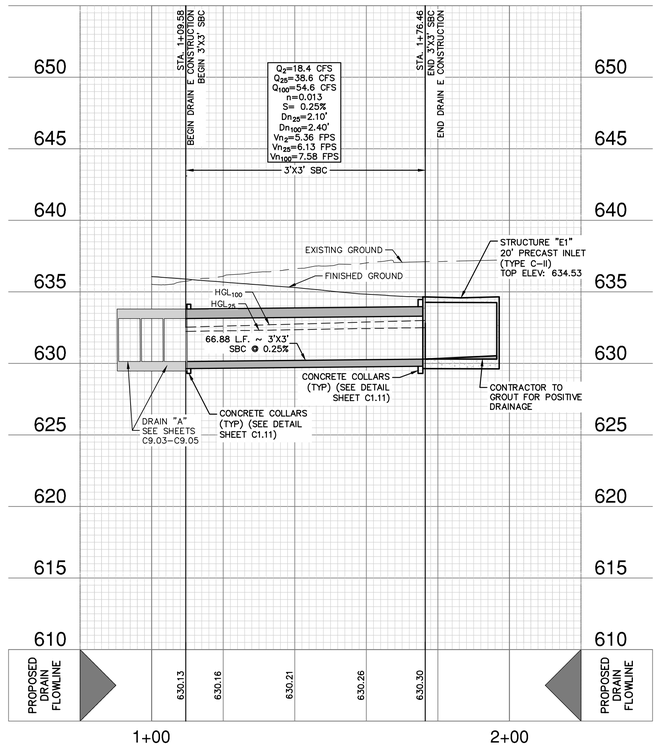
SCALE: 1"= 20'

LEGEND:

- UNIT BOUNDARY
- 960 EXISTING 10' CONTOUR
- 958 EXISTING 2' CONTOUR
- 100–YEAR FLOODPLAIN
- MANHOLE EXISTING SANITARY SEWER
- MANHOLE PROPOSED SANITARY SEWER
- FIRE HYDRANT EXISTING POTABLE WATER
- FIRE HYDRANT PROPOSED POTABLE WATER
- PROPOSED EASEMENT
- MAINTENANCE ACCESS ROUTE
- FLOW ARROW

DRAIN E
PLAN AND PROFILE (STA. 1+09.58 TO END)

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



CURB INLET IN SAG
HYDRAULIC CALCULATION

Q_{25} = 38.6 CFS (POINT 11.00)
Q_{25} = Cw x L x $H^{3/2}$
Cw = 3.087
H = 0.79'
Leal = 17.81'
USE L = 20'
H = 0.74'

WATER PONDING WIDTH

SEE STORMWATER REPORT FOR STREET CAPACITY CALCULATIONS (10–YEAR SPREAD WIDTH CONTAINED WITHIN THE CURB)

NOTES:

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4. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
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CAUTION!!

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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

DRAIN E
PLAN AND PROFILE (STA. 1+09.58 TO END)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.09

Date: Mar 08, 2024, 1:53pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\DRE-1243503.dwg

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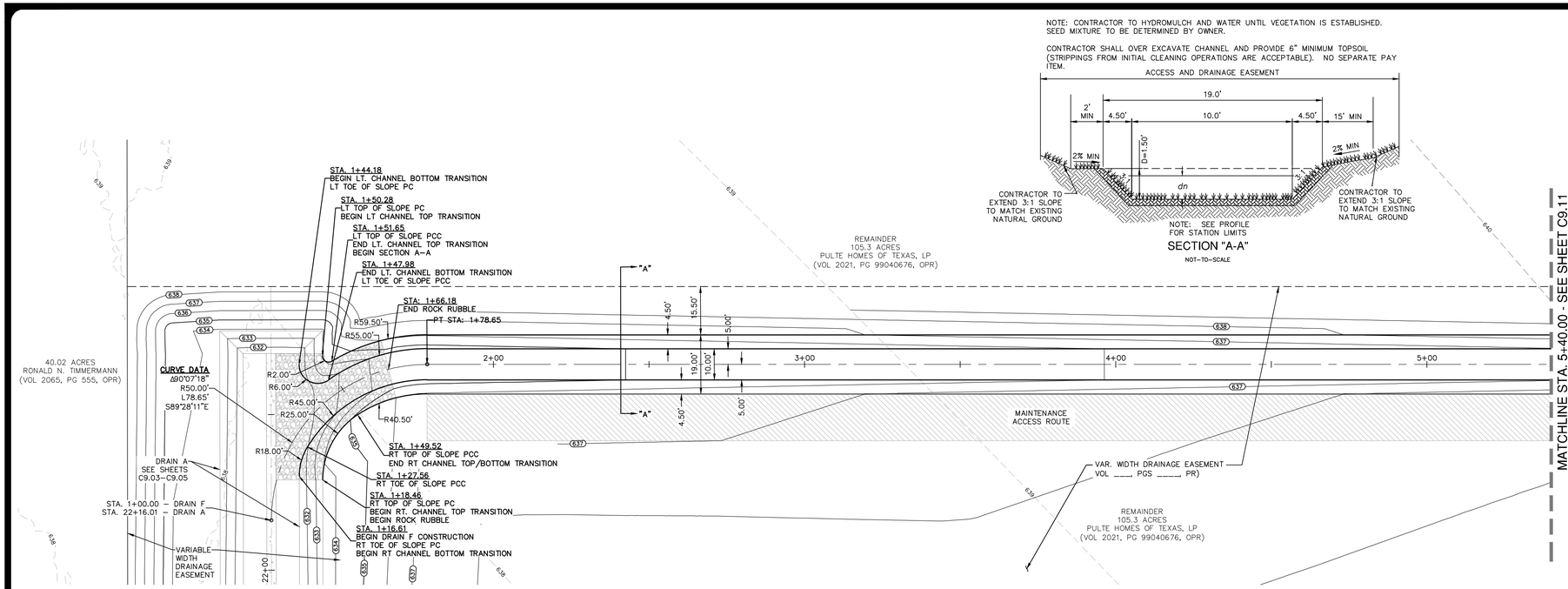
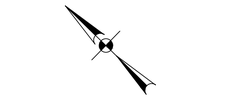


NOTE: CONTRACTOR TO HYDROMULCH AND WATER UNTIL VEGETATION IS ESTABLISHED. SEED MIXTURE TO BE DETERMINED BY OWNER.

CONTRACTOR SHALL OVER EXCAVATE CHANNEL AND PROVIDE 6" MINIMUM TOPSOIL (STRIPPINGS FROM INITIAL CLEANING OPERATIONS ARE ACCEPTABLE). NO SEPARATE PAY ITEM.

SECTION "A-A"
NOT-TO-SCALE



SCALE: 1"= 20'

LEGEND:

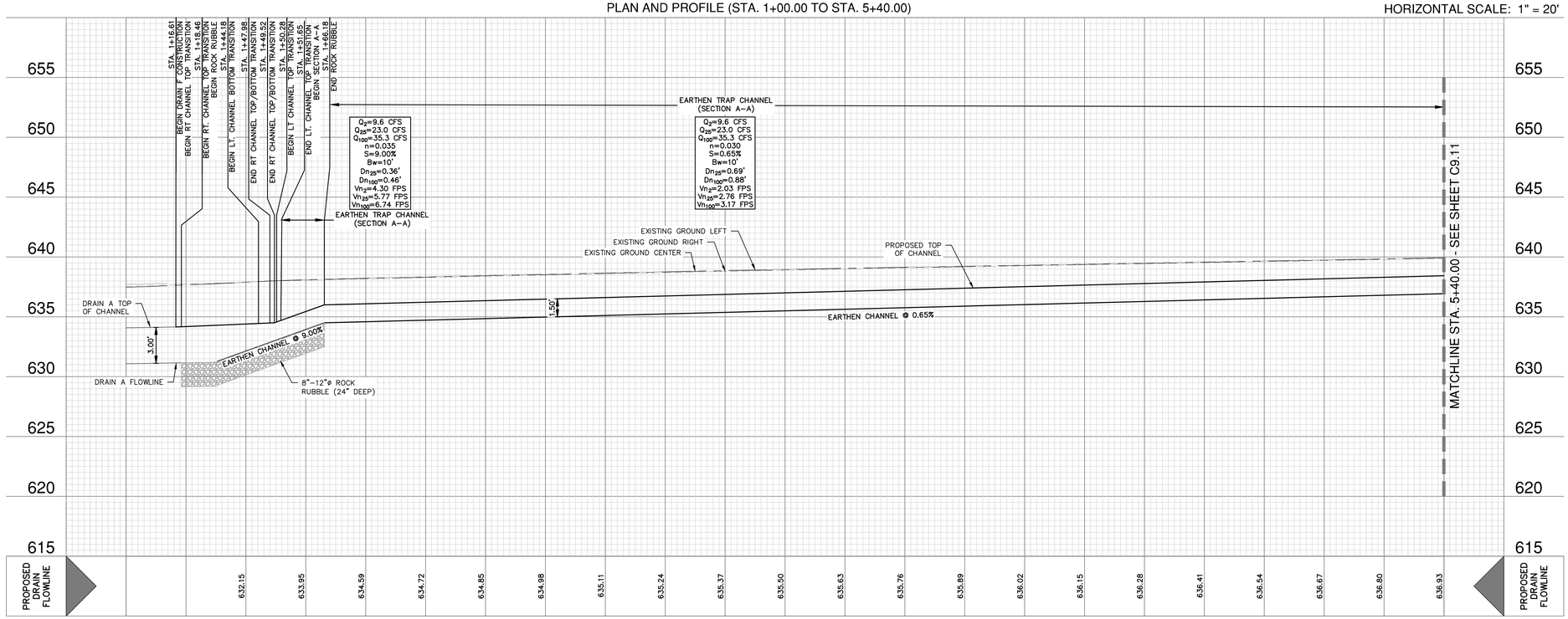
- UNIT BOUNDARY
- 960 EXISTING 10' CONTOUR
- 958 EXISTING 2' CONTOUR
- 100-YEAR FLOODPLAIN
- EXISTING SANITARY SEWER
- MANHOLE — PROPOSED SANITARY SEWER
- EXISTING POTABLE WATER
- FIRE HYDRANT — PROPOSED POTABLE WATER
- PROPOSED EASEMENT
- MAINTENANCE ACCESS ROUTE
- FLOW ARROW

MAINTENANCE NOTE:

FOR THE CHANNEL AND BASIN MAINTENANCE PLAN AND SCHEDULE, PLEASE REFERENCE SHEET C9.13.

DRAIN F
PLAN AND PROFILE (STA. 1+00.00 TO STA. 5+40.00)

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



NOTES:

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7. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

TRENCH EXCAVATION SAFETY PROTECTION:

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

CAUTION!!

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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

DRAIN F
PLAN AND PROFILE (STA. 1+00.00 TO STA. 5+40.00)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.10

Date: Mar 08, 2024, 1:55pm User ID: erodriguez
File: P:\12435\03\Design\Civil\DRF-1243503.dwg

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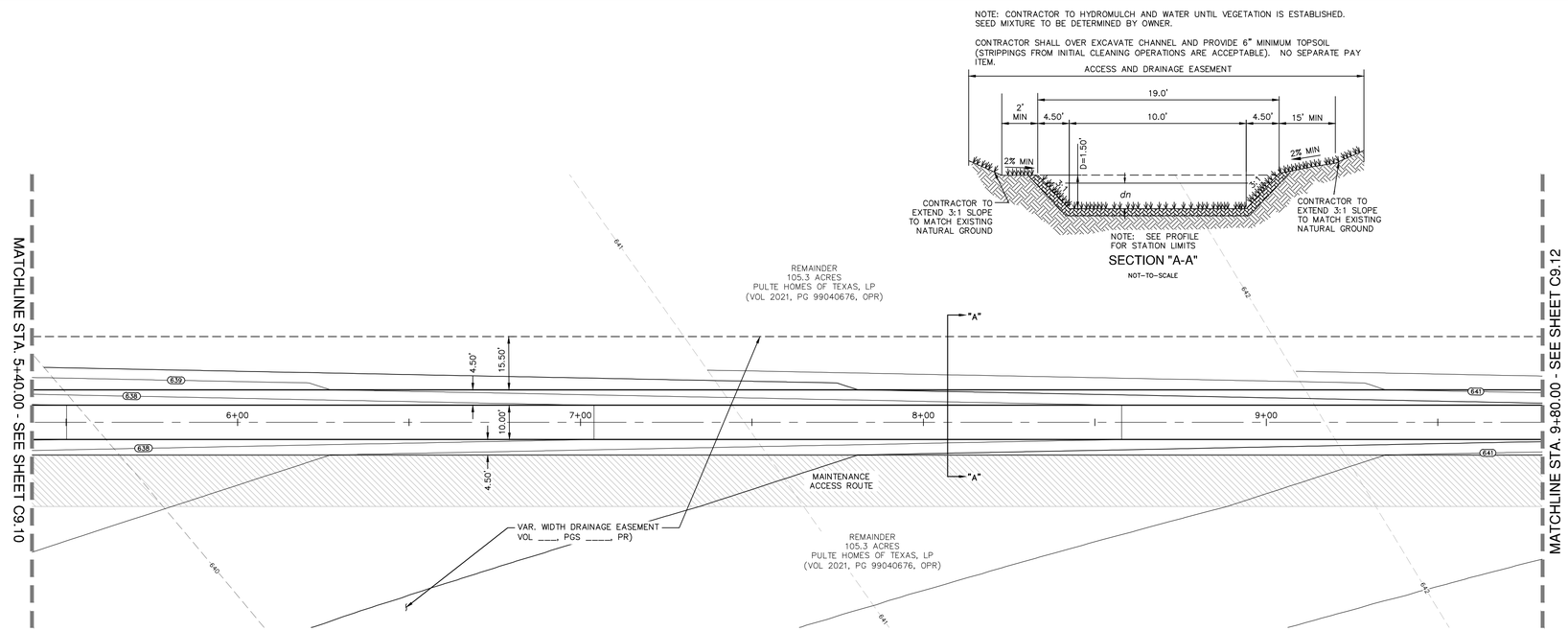


0' 20' 40' 60'

SCALE: 1"= 20'

LEGEND:

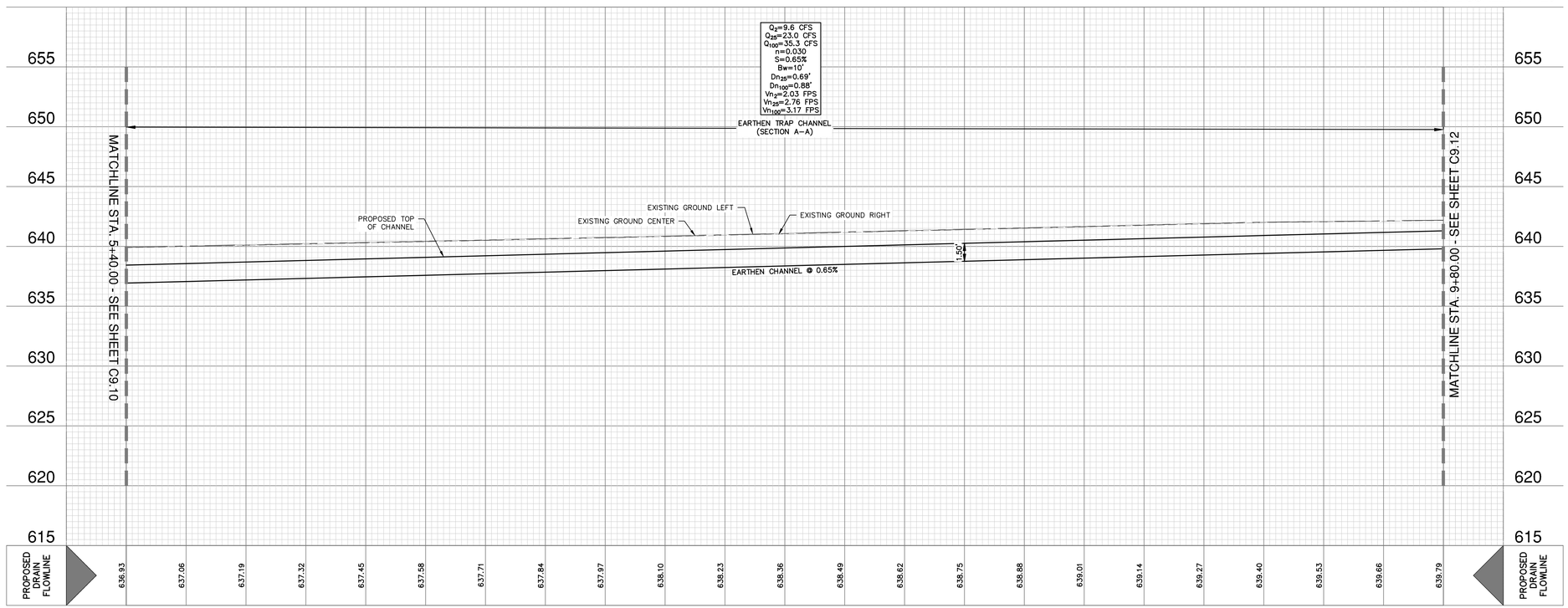
- UNIT BOUNDARY
- 960 EXISTING 10' CONTOUR
- 958 EXISTING 2' CONTOUR
- 100-YEAR FLOODPLAIN
- EXISTING SANITARY SEWER
- MANHOLE
- PROPOSED SANITARY SEWER
- EXISTING POTABLE WATER
- FIRE HYDRANT
- PROPOSED POTABLE WATER
- PROPOSED EASEMENT
- MAINTENANCE ACCESS ROUTE
- FLOW ARROW

MAINTENANCE NOTE:

FOR THE CHANNEL AND BASIN MAINTENANCE PLAN AND SCHEDULE, PLEASE REFERENCE SHEET C9.13.

DRAIN F
PLAN AND PROFILE (STA. 5+40.00 TO STA. 9+80.00)

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



NOTES:

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
2. THE ENGINEER SHALL PROVIDE ONE SET OF CONSTRUCTION STAKES AND ONE SET OF CUT SHEETS AT 50' INTERVALS FOR EACH DRAIN. CONTRACTOR SHALL LOCATE AND PROTECT CONSTRUCTION STAKES IMMEDIATELY AFTER STAKING IS COMPLETE AND PRIOR TO STARTING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE ANY CONSTRUCTION STAKES THAT ARE LOST OR DESTROYED DURING CONSTRUCTION.
3. ALL CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
4. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
5. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
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STATE OF TEXAS
MATTHEW GEISTWEIDT
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TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

DRAIN F
PLAN AND PROFILE (STA. 5+40.00 TO STA. 9+80.00)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.11

Date: Mar 08, 2024, 1:55pm User ID: erodriguez
File: P:\124\35\03\Design\Civil\DRF-1243503.dwg

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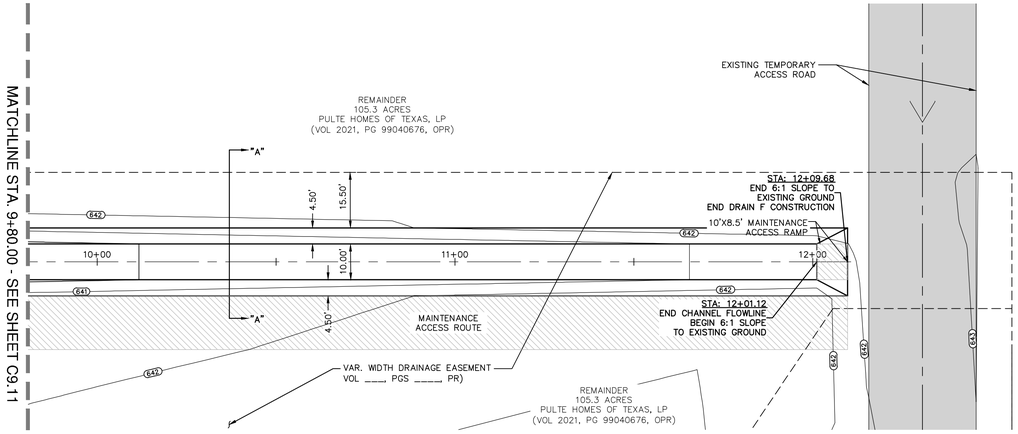
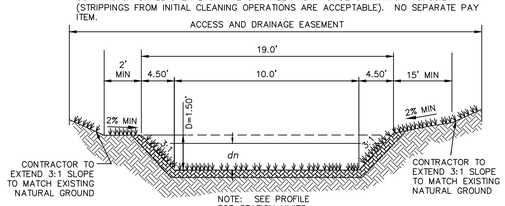


NOTE: CONTRACTOR TO HYDROMULCH AND WATER UNTIL VEGETATION IS ESTABLISHED. SEED MIXTURE TO BE DETERMINED BY OWNER.

CONTRACTOR SHALL OVER EXCAVATE CHANNEL AND PROVIDE 6" MINIMUM TOPSOIL (STRIPPINGS FROM INITIAL CLEANING OPERATIONS ARE ACCEPTABLE). NO SEPARATE PAY ITEM.

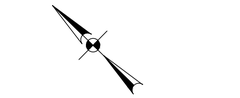


NOTE: SEE PROFILE FOR STATION LIMITS

SECTION "A-A"

NOT-TO-SCALE

REMAINDER
105.3 ACRES
PULTE HOMES OF TEXAS, LP
(VOL 2021, PG 99040676, OPR)



SCALE: 1"= 20'

LEGEND:

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MAINTENANCE NOTE:

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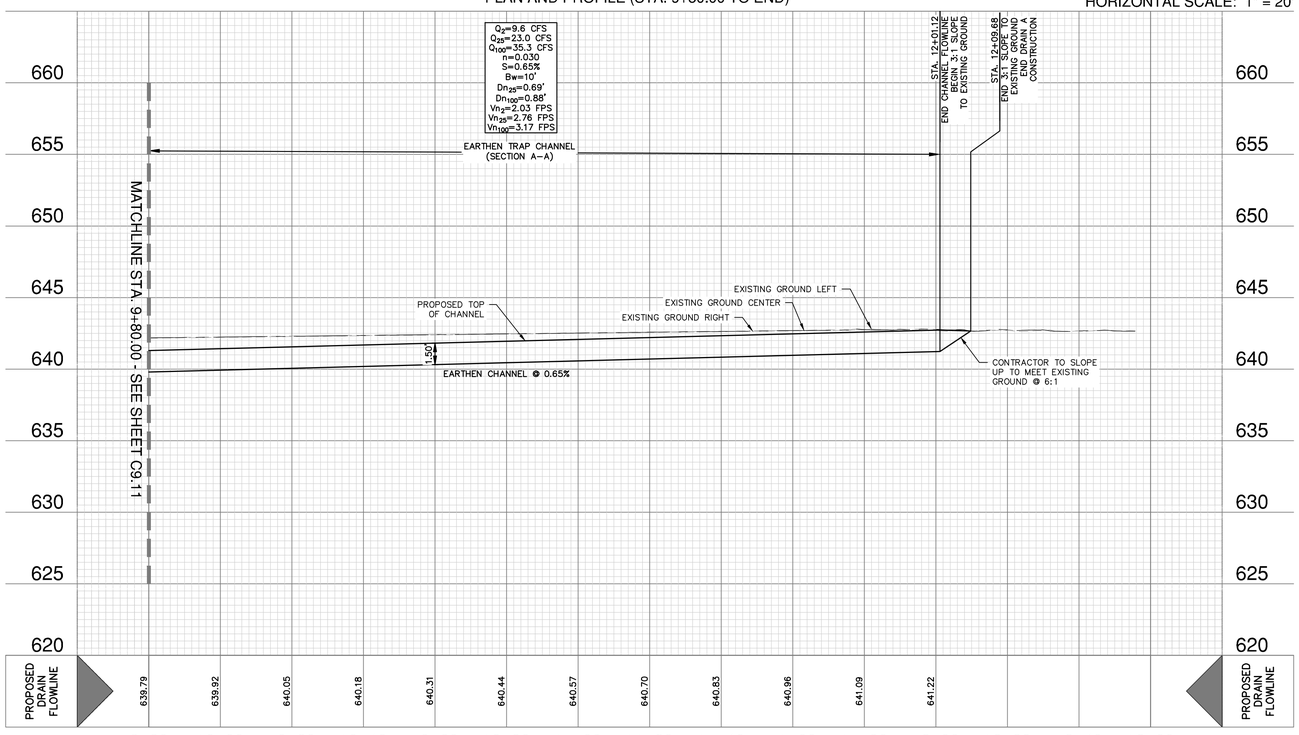
DRAIN F
PLAN AND PROFILE (STA. 9+80.00 TO END)

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



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CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

DRAIN F
PLAN AND PROFILE (STA. 9+80.00 TO END)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.12

Date: Mar 08, 2024, 1:56pm User ID: erodriguez
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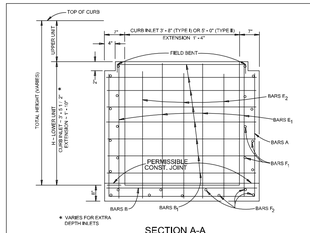
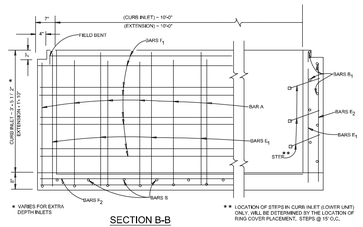
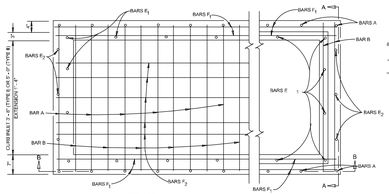


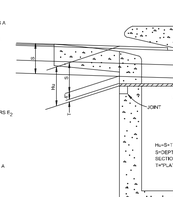
SECTION A-A



SECTION B-B

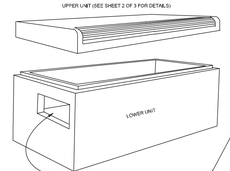


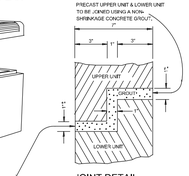
FLOOR STEEL



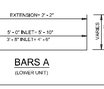
WALL STEEL

PLAN

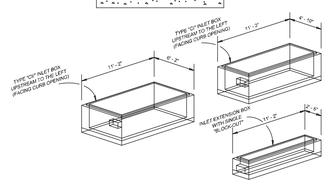




JOINT DETAIL



BARS A
(LOWER UNIT)



CONCRETE INLET BOX CONFIGURATIONS (LOWER UNITS)

REINFORCING STEEL

LOWER UNIT 10' X 3'-8" (TYPE I)				
BAR	NO.	SIZE	SPAC.	LENGTH
A	12	#4	12"	VARIES
B	11	#4	12"	4'-6"
B_1	VARIES	#4	12"	4'-6"
L_1	20	#4	18" ±	VARIES
E_2	6	#4	18" ±	VARIES
F_1	VARIES	#4	12" ±	10'-10"
F_2	9	#4	—	10'-0"

LOWER UNIT 10' X 5'- 0" (TYPE II)				
BAR	NO.	SIZE	SPAC.	LENGTH
A	12	#4	12"	VARIES
B	11	#4	12"	5'-10"
B_1	VARIES	#4	12"	5'-10"
L_1	22	#4	18" ±	VARIES
E_2	8	#4	18" ±	VARIES
F_1	VARIES	#4	12" ±	10'-10"
F_2	11	#4	—	10'-10"

GENERAL NOTES

1. 5' INLETS AND 5' EXTENSIONS MUST BE IN ACCORDANCE WITH THE LATEST TXDOT CURB INLET TYPE "C" AND EXTENSION TYPE "E" (E.-C).
2. TYPE "CAP" INLET TO BE USED ONLY WHEN STORM DRAIN PIPE IS IN-LINE WITH CURB INLET AND APPROVED BY THE ENGINEER.
3. QUANTITIES SHOWN ARE FOR CONTRACTORS INFORMATION ONLY.
4. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 PSI IN 28 DAYS.
5. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
6. ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 1 1/ 2".
7. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A-615, GRADE 60 REQUIREMENTS.
8. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3 / 4".
9. DEPRESSION SLAB SHALL RECEIVE A WOOD FLOAT FINISH.
10. FACE OF INLET TO CONFORM TO FACE OF CURB LINE.
11. ALL BARS EXTENDING INTO MANHOLE RING & COVER SHALL BE CUT OR BENT.
12. PAYMENT FOR ALL EXCAVATION, BACK-FILLING, CONCRETE, REINFORCING STEEL, RING AND COVER, CURB ARMOR AND STEPS SHALL BE INCLUDED IN THE UNIT COST OF ITEM 403 "STORM SEWER JUNCTION BOXES AND INLETS".
13. CAST IRON MANHOLE RING AND COVER TO BE PLACED NEXT TO OUTLET PIPE, EXCEPT FOR VERTICAL OUTLET PIPE IN WHICH CASE MANHOLE RING AND COVER WILL BE OFFSET.
14. GALVANIZED BOLTS, NUTS, WASHERS, PLATES AND GASKETS ARE SUBSIDIARY TO INLETS.
15. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MEANS TO LIFT AND PLACE THE INLETS, WHEN USING PRECAST UNITS.
16. ALL BARS AT PIPE BLOCKOUT LOCATIONS SHALL BE CUT OR BENT.
17. ALL LOWER UNITS SHALL RECEIVE INVERT MORTAR SHAPING.
18. PIPE BLOCKOUTS IN INLET WALLS SHOULD NOT EXCEED 3' BEYOND THE OUTER SHELL OF THE PIPE. TAKING INTO ACCOUNT THE SKEW OF THE PIPE, AS NECESSARY, CONSTRUCTION JOINT MAY BE RAISED A MAXIMUM OF 6".

PHASE CONSTRUCTION

NOTES FOR PHASE CONSTRUCTION (WHEN DIRECTED BY THE ENGINEER):

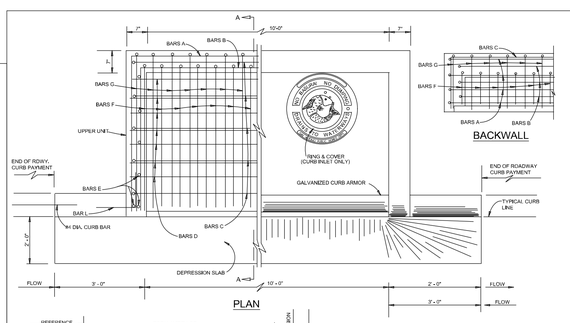
1. THE CURB INLET AND EXTENSION SHALL BE CONSTRUCTED TO A DEPTH "Hu" BELOW THE INLET AND EXTENSION GUTTER LINE ELEVATION.
2. CAP THE CURB INLET AND EXTENSION WITH A STEEL PLATE AND ASPHALT. THE ENGINEER AND CONSTRUCT THE ROADWAY OVER THE INLET.
3. AFTER THE ROADWAY IS COMPLETED, BUT PRIOR TO THE FINAL HMAC OVERLAY, SAW CUT THE PAVEMENT, REMOVE THE PLATE, AND COMPLETE THE UPPER PORTION OF THE CURB INLET AND/OR EXTENSION.

MAY 2009

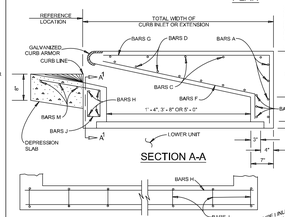
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TYPE "C" INLET (TYPE I & II)
& INLET EXTENSION STANDARDS
SHEET 1 OF 3

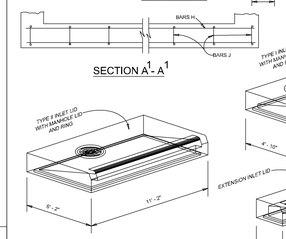
% SUBMITTAL	PROJECT NO.:	DATE:
DRAWN BY: D. HODGES	DESIGN BY: E.E. WALTOS, P.E.	CHKD. BY: R.S. HOSSEINI, P.E.



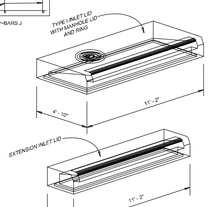
PLAN



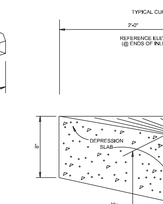
SECTION A-A



SECTION A^1 - A^1



CONCRETE INLET LID CONFIGURATIONS (UPPER UNITS)



INLET OPENING DETAIL

REINFORCING STEEL (FOR Hu=11")

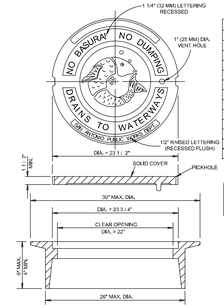
UPPER UNIT 10' X 3'-8" (TYPE I)					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	4	#4	—	10'-10"	53
B	3	#4	—	10'-10"	38
C	5	#4	11"	13'-2"	44
D	7	#4	6"	10'-10"	51
E	12	#4	11"	1'-2"	9
F	21	#6	6"	4'-6"	147
G	22	#6	6"	5'-8"	187
H	4	#4	—	10'-10"	29
J	12	#4	12"	3'-6"	28
L	4	#4	—	2'-0"	5
M	3	#4	—	14'-8"	29
TOTAL WEIGHT					620 LBS.

UPPER UNIT 10' X 5' (TYPE II)					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	4	#4	—	22'-8"	60
B	3	#4	—	21'-6"	43
C	7	#4	11"	13'-2"	62
D	11	#4	6"	10'-10"	80
E	16	#4	11"	1'-2"	13
F	21	#6	6"	5'-8"	179
G	22	#6	6"	7'-0"	231
H	4	#4	—	10'-10"	29
J	12	#4	12"	3'-6"	28
L	4	#4	—	2'-0"	5
M	3	#4	—	14'-8"	29
TOTAL WEIGHT					759 LBS.

CLASS "A" CONCRETE QUANTITIES (FOR Hu = 11")

DEPRESSION SLAB	C.Y.
10' INLET	0.7
10' EXTENSION	0.7

UPPER UNIT (ONLY)	C.Y.
10' X 3'-8" CURB INLET	1.9
10' X 5'-0" CURB INLET	2.7
10' EXTENSION	1.0

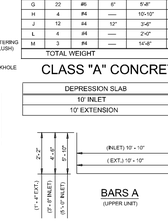


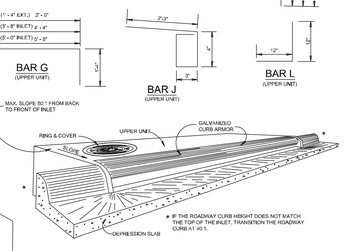
MANHOLE LID & RING DETAIL (ITEM 409)

NOTES FOR MANHOLE LID AND RING

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

SEE SHEET 1 OF 3 FOR GENERAL NOTES.



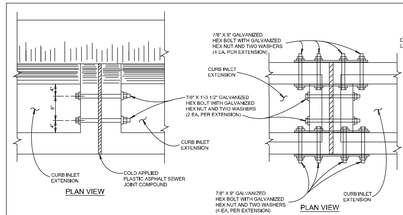


MAY 2009

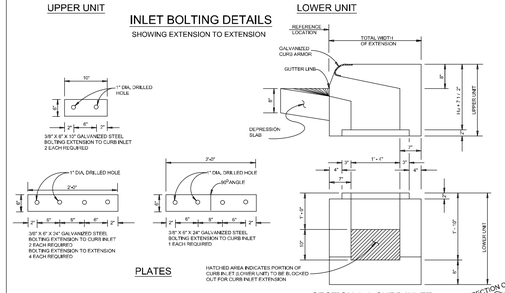
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

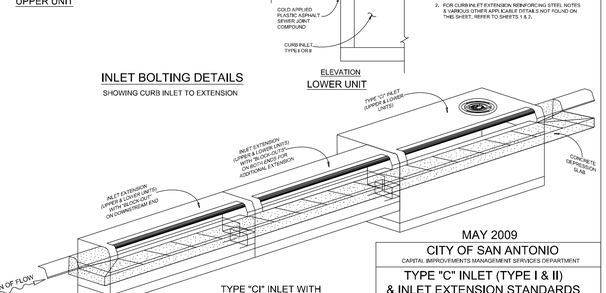
TYPE "C" INLET (TYPE I & II)
& INLET EXTENSION STANDARDS
SHEET 2 OF 3

% SUBMITTAL	PROJECT NO.:	DATE:
DRAWN BY: T. VASQUEZ	DESIGN BY: E.E. WALTOS, P.E.	CHKD. BY: R.S. HOSSEINI, P.E.



INLET BOLTING DETAILS
SHOWING EXTENSION TO EXTENSION





INLET BOLTING DETAILS
SHOWING CURB INLET TO EXTENSION

UPPER UNIT EXTENSION (FOR Hu = 11")					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	4	#4	—	15' - 2"	41
B	3	#4	—	14' - 2"	28
C	3	#4	11"	13' - 2"	26
D	3	#4	6"	10' - 10"	22
E	6	#4	11"	1' - 2"	5
F	21	#6	6"	2' - 9"	63
G	22	#6	6"	3' - 4"	110
H	4	#4	—	10' - 10"	29
J	12	#4	12"	3' - 6"	28
L	4	#4	—	2' - 0"	5
M	3	#4	—	14' - 8"	29
REINFORCING STEEL				LBS.	387
CLASS "A" CONCRETE				C.Y.	1.0

LOWER UNIT EXTENSION					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	10	#4	12"	9' - 2"	46
B	11	#4	12"	7' - 2"	16
B_1	3	#4	12"	7' - 2"	4
E_1	10	#4	18" ±	2' - 3"	27
E_2	4	#4	18" ±	2' - 1"	6
F_1	16	#4	12" ±	10' - 10"	116
F_2	5	#4	—	10' - 10"	36
REINFORCING STEEL				LBS.	254
CLASS. "A" CONCRETE				C.Y.	1.4

GENERAL NOTES

1. WHEN INLET EXTENSIONS ARE REQUIRED FOR ON GRADE INLETS WITH EXTENSIONS) SHALL BE PLACED ON THE UPSTREAM END OF THE INLET.
2. FOR CURB INLET EXTENSION REINFORCING STEEL NOTES & VARIOUS OTHER APPLICABLE DETAILS NOT FOUND ON THIS SHEET, REFER TO SHEETS 1 & 3.

INLET BOLTING DETAILS
SHOWING CURB INLET TO EXTENSION

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TYPE "C" INLET (TYPE I & II)
& INLET EXTENSION STANDARDS
SHEET 3 OF 3

% SUBMITTAL	PROJECT NO.:	DATE:
DRAWN BY: T. VASQUEZ	DESIGN BY: E.E. WALTOS, P.E.	CHKD. BY: R.S. HOSSEINI, P.E.

CHANNEL MAINTENANCE PLAN

The following are guidelines for the overall maintenance of the channel system and drainage easement by the designated maintenance entity as defined by the executed drainage agreement. The designated maintenance entity will be responsible for the operation, maintenance, and repair of the system and easement to ensure that it operates as designed.

Inspections. The channel should be inspected to assure proper operation at least 4 times annually. One of these inspections should occur during or immediately following wet weather.

- *Mowing.* The side slopes and bottom of the channel that are covered with grass must be mowed regularly to discourage woody growth and control weeds. Grass areas in and around the channel must be mowed at least four times annually to limit vegetation height to 12 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing is performed, a mulching mower should be used, or grass clippings should be caught and removed. Vegetation shall be maintained so as to match the intent of the original design of the channel and preserve the flow conveyance capacity. Any woody vegetation which becomes established shall be periodically removed or mulched to ground level. Any removal of brush which results in disturbance of established grades shall be repaired/re-graded and revegetated.

- *Debris, Litter, and Obstruction Removal.* Debris and litter may accumulate in the channel and/or near the drop structure and outfall and should be removed during regular mowing operations and inspections or after large rainfall events. Any other obstructions that impede flow as intended by the original design shall be removed in a timely manner.

Erosion Control. The channel side slopes and embankment may periodically suffer from slumping and erosion. Regrading and re-establishment of vegetation may be required to correct the problems. Vegetation should be re-established to the original design standards. Inspection of sediment deposits along the length of the channel should occur during the stated intervals. All sediment deposits exceeding 12" in depth or which are preventing positive drainage should be removed from the channel at least once annually. All sediment should be removed and disposed of properly.

DETENTION BASIN MAINTENANCE PLAN

The following are guidelines for the overall maintenance of the detention basins.

- *Inspections.* The detention system should be inspected to assure proper operation at least 4 times annually. One of these inspections should occur during or immediately following wet weather.

- *Sediment Removal.* Remove sediment from outlet structure, and downstream of the outlet at least 2 times annually, or when depth reaches 3 inches. When sediment accumulation in other areas of the basin, fills the basin by 10% of the basin volume, all sediment should be removed and disposed of properly.

- *Mowing.* The side slopes, and embankment of a detention basin must be mowed regularly to discourage woody growth and control weeds. Grass areas in and around basins must be mowed at least four times annually to limit vegetation height to 12 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing is performed, a mulching mower should be used, or grass clippings should be caught and removed.

- *Debris and Litter Removal.* Debris and litter will accumulate near the outfall weir and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the outfall weir.

- *Erosion Control.* The pond side slopes and embankment may periodically suffer from slumping and erosion, although this should not occur often if the soils are properly compacted during construction. Regrading and revegetation may be required to correct the problems.

- *Nuisance Control.* Standing water or soggy conditions in the detention basin can create nuisance conditions for nearby residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing and debris removal).

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
5-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

DRAINAGE DETAILS
(SHEET 1 OF 3)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C9.13

Date: Mar 08, 2024, 1:57pm User ID: srodriguez
File: P:\1241\35\03\Design\Civil\DROT-124350 3.dwg

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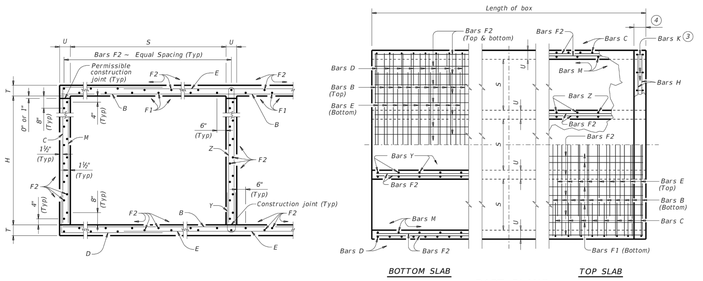
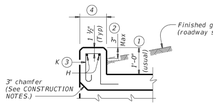


TYPICAL SECTION

BOTTOM SLAB TOP SLAB

PART PLANS



SECTION THRU CURB

TABLE OF BAR DIMENSIONS		
H	"X"	"Y"
2'-0"	2'-7 ½"	4'-1"
3'-0"	3'-7 ½"	4'-1"
4'-0"	4'-7 ½"	4'-1"
5'-0"	5'-7 ½"	4'-1"
6'-0"	6'-7 ½"	4'-1"

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. Z'-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.) = (12 in. per ft.) = 4.86" Max spacing. Required lap length for the provided D30.6 wire is 2'-1" (the same minimum lap length required for uncoated #5 bars, as listed under MATERIAL NOTES).

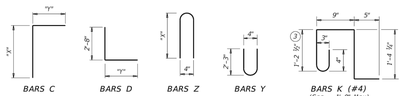
CONSTRUCTION NOTES:
Do not use permanent forms.
Chamfer the bottom edge of the top slab 3" at the entrance.
Optionally, raise construction joints shown at the flow line by a maximum of 6". If this option is taken, Bars M may be cut off or raised, Bars C and D may be reversed, and Bars Y and Z may be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

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Provide Class C concrete (f'c = 3,600 psi) for culvert barrel and curb, with the following exceptions: provide Class S concrete (f'c = 4,000 psi) for top slabs of:
- culverts with overlay,
- culverts with 1-to-2 course surface treatment, or
- culverts with the top slab as the final riding surface.

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

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

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



HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

MULTIPLE BOX CULVERTS
CAST-IN-PLACE
6'-0" SPAN
0' TO 16' FILL

MC-6-16

FILE: mc616dn-20.dgn	DN: TBE	CK: BWP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

NUMBER OF SPANS	SECTION DIMENSIONS				BILLS OF REINFORCING STEEL (For Box Length = 40 feet)																										QUANTITIES					
					Bars B						Bars C & D								Bars E						Bars F1 ~ #4			Bars F2 ~ #4			Bars M ~ #4			Bars Y & Z ~ #4						Bars H 4 ~ #4		Bars K	Per Foot of Barrel		Curb		Total	
	S	H	T	U	No.	Size	Spa	Length	Wt	No.	Size	Spa	Bars C Length	Bars C Wt	Bars D Length	Bars D Wt	No.	Size	Spa	Length	Wt	No.	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	6'-0"	2'-0"	9"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	6'-8"	751	6'-9"	760	108	#6	9"	10'-2"	1,649	10	18"	39'-9"	266	44	18"	39'-9"	1,168	108	9"	2'-0"	144	54	9"	4'-9"	171	5'-5"	195	13'-6"	36	30	84	0.894	182.4	1.0	120	36.8	7,414
3	6'-0"	2'-0"	9"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	6'-8"	751	6'-9"	760	108	#6	9"	16'-9"	2,717	15	18"	39'-9"	398	63	18"	39'-9"	1,673	108	9"	2'-0"	144	108	9"	4'-9"	343	5'-5"	391	20'-1"	54	44	122	1.302	260.9	1.5	176	53.6	10,611
4	6'-0"	2'-0"	9"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	6'-8"	751	6'-9"	760	108	#6	9"	23'-4"	3,785	20	18"	39'-9"	531	82	18"	39'-9"	2,177	108	9"	2'-0"	144	162	9"	4'-9"	514	5'-5"	586	26'-8"	71	56	156	1.711	339.4	2.0	227	70.4	13,801
5	6'-0"	2'-0"	9"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	6'-8"	751	6'-9"	760	108	#6	9"	29'-11"	4,853	25	18"	39'-9"	664	101	18"	39'-9"	2,682	108	9"	2'-0"	144	216	9"	4'-9"	685	5'-5"	782	33'-3"	89	70	195	2.120	417.9	2.5	284	87.3	16,999
6	6'-0"	2'-0"	9"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	6'-8"	751	6'-9"	760	108	#6	9"	36'-6"	5,921	30	18"	39'-9"	797	120	18"	39'-9"	3,186	108	9"	2'-0"	144	270	9"	4'-9"	857	5'-5"	977	39'-10"	106	82	228	2.529	496.4	3.0	334	104.1	20,189
2	6'-0"	3'-0"	9"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	7'-8"	864	6'-9"	760	108	#6	9"	10'-2"	1,649	10	18"	39'-9"	266	50	18"	39'-9"	1,328	108	9"	3'-0"	216	54	9"	4'-9"	171	7'-5"	268	13'-6"	36	30	84	0.958	192.8	1.0	120	39.3	7,832
3	6'-0"	3'-0"	9"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	7'-8"	864	6'-9"	760	108	#6	9"	16'-9"	2,717	15	18"	39'-9"	398	71	18"	39'-9"	1,885	108	9"	3'-0"	216	108	9"	4'-9"	343	7'-5"	535	20'-1"	54	44	122	1.389	274.4	1.5	176	57.1	11,152
4	6'-0"	3'-0"	9"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	7'-8"	864	6'-9"	760	108	#6	9"	23'-4"	3,785	20	18"	39'-9"	531	92	18"	39'-9"	2,443	108	9"	3'-0"	216	162	9"	4'-9"	514	7'-5"	803	26'-8"	71	56	156	1.819	356.1	2.0	227	74.7	14,469
5	6'-0"	3'-0"	9"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	7'-8"	864	6'-9"	760	108	#6	9"	29'-11"	4,853	25	18"	39'-9"	664	113	18"	39'-9"	3,000	108	9"	3'-0"	216	216	9"	4'-9"	685	7'-5"	1,070	33'-3"	89	70	195	2.250	437.7	2.5	284	92.5	17,790
6	6'-0"	3'-0"	9"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	7'-8"	864	6'-9"	760	108	#6	9"	36'-6"	5,921	30	18"	39'-9"	797	134	18"	39'-9"	3,558	108	9"	3'-0"	216	270	9"	4'-9"	857	7'-5"	1,338	39'-10"	106	82	228	2.681	519.3	3.0	334	110.2	21,107
2	6'-0"	4'-0"	9"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	8'-8"	976	6'-9"	760	108	#6	9"	10'-2"	1,649	10	18"	39'-9"	266	50	18"	39'-9"	1,328	108	9"	4'-0"	289	54	9"	4'-9"	171	9'-5"	340	13'-6"	36	30	84	1.023	199.2	1.0	120	41.9	8,089
3	6'-0"	4'-0"	9"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	8'-8"	976	6'-9"	760	108	#6	9"	16'-9"	2,717	15	18"	39'-9"	398	71	18"	39'-9"	1,885	108	9"	4'-0"	289	108	9"	4'-9"	343	9'-5"	679	20'-1"	54	44	122	1.475	282.6	1.5	176	60.5	11,481
4	6'-0"	4'-0"	9"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	8'-8"	976	6'-9"	760	108	#6	9"	23'-4"	3,785	20	18"	39'-9"	531	92	18"	39'-9"	2,443	108	9"	4'-0"	289	162	9"	4'-9"	514	9'-5"	1,019	26'-8"	71	56	156	1.927	366.1	2.0	227	79.1	14,870
5	6'-0"	4'-0"	9"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	8'-8"	976	6'-9"	760	108	#6	9"	29'-11"	4,853	25	18"	39'-9"	664	113	18"	39'-9"	3,000	108	9"	4'-0"	289	216	9"	4'-9"	685	9'-5"	1,359	33'-3"	89	70	195	2.380	449.5	2.5	284	97.7	18,264
6	6'-0"	4'-0"	9"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	8'-8"	976	6'-9"	760	108	#6	9"	36'-6"	5,921	30	18"	39'-9"	797	134	18"	39'-9"	3,558	108	9"	4'-0"	289	270	9"	4'-9"	857	9'-5"	1,698	39'-10"	106	82	228	2.832	533.0	3.0	334	116.2	21,652
2	6'-0"	5'-0"	9"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	9'-8"	1,089	6'-9"	760	108	#6	9"	10'-2"	1,649	10	18"	39'-9"	266	56	18"	39'-9"	1,487	108	9"	5'-0"	361	54	9"	4'-9"	171	11'-5"	412	13'-6"	36	30	84	1.088	209.6	1.0	120	44.5	8,505
3	6'-0"	5'-0"	9"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	9'-8"	1,089	6'-9"	760	108	#6	9"	16'-9"	2,717	15	18"	39'-9"	398	79	18"	39'-9"	2,098	108	9"	5'-0"	361	108	9"	4'-9"	343	11'-5"	824	20'-1"	54	44	122	1.562	296.2	1.5	176	64.0	12,024
4	6'-0"	5'-0"	9"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	9'-8"	1,089	6'-9"	760	108	#6	9"	23'-4"	3,785	20	18"	39'-9"	531	102	18"	39'-9"	2,708	108	9"	5'-0"	361	162	9"	4'-9"	514	11'-5"	1,235	26'-8"	71	56	156	2.035	382.7	2.0	227	83.4	15,536
5	6'-0"	5'-0"	9"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	9'-8"	1,089	6'-9"	760	108	#6	9"	29'-11"	4,853	25	18"	39'-9"	664	125	18"	39'-9"	3,319	108	9"	5'-0"	361	216	9"	4'-9"	685	11'-5"	1,647	33'-3"	89	70	195	2.509	469.3	2.5	284	102.8	19,056
6	6'-0"	5'-0"	9"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	9'-8"	1,089	6'-9"	760	108	#6	9"	36'-6"	5,921	30	18"	39'-9"	797	148	18"	39'-9"	3,930	108	9"	5'-0"	361	270	9"	4'-9"	857	11'-5"	2,059	39'-10"	106	82	228	2.983	555.9	3.0	334	122.3	22,570
2	6'-0"	6'-0"	9"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	10'-8"	1,202	6'-9"	760	108	#6	9"	10'-2"	1,649	10	18"	39'-9"	266	62	18"	39'-9"	1,646	108	9"	6'-0"	433	54	9"	4'-9"	171	13'-5"	484	13'-6"	36	30	84	1.153	220.0	1.0	120	47.1	8,921
3	6'-0"	6'-0"	9"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	10'-8"	1,202	6'-9"	760	108	#6	9"	16'-9"	2,717	15	18"	39'-9"	398	87	18"	39'-9"	2,310	108	9"	6'-0"	433	108	9"	4'-9"	343	13'-5"	968	20'-1"	54	44	122	1.648	309.7	1.5	176	67.4	12,565
4	6'-0"	6'-0"	9"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	10'-8"	1,202	6'-9"	760	108	#6	9"	23'-4"	3,785	20	18"	39'-9"	531	112	18"	39'-9"	2,974	108	9"	6'-0"	433	162	9"	4'-9"	514	13'-5"	1,452	26'-8"	71	56	156	2.144	399.4	2.0	227	87.7	16,204
5	6'-0"	6'-0"	9"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	10'-8"	1,202	6'-9"	760	108	#6	9"	29'-11"	4,853	25	18"	39'-9"	664	137	18"	39'-9"	3,638	108	9"	6'-0"	433	216	9"	4'-9"	685	13'-5"	1,936	33'-3"	89	70	195	2.639	489.1	2.5	284	108.0	19,849
6	6'-0"	6'-0"	9"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	10'-8"	1,202	6'-9"	760	108	#6	9"	36'-6"	5,921	30	18"	39'-9"	797	162	18"	39'-9"	4,302	108	9"	6'-0"	433	270	9"	4'-9"	857	13'-5"	2,420	39'-10"	106	82	228	3.134	578.9	3.0	334	128.3	23,488

HL93 LOADING SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

MULTIPLE BOX CULVERTS
CAST-IN-PLACE
6'-0" SPAN
0' TO 16' FILL

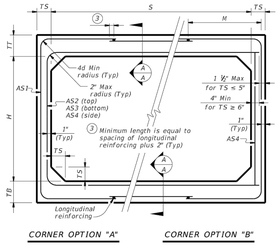
MC-6-16

FILE: mc616dn-20.dgn	DN: TBE	CK: BWP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

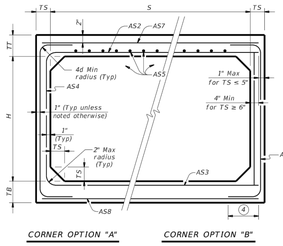
BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (sq. in. / ft.) ②							① Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
3	2	7	6	4	< 2	-	0.17	0.25	0.16	0.10	0.17	0.17	0.14	3.3
3	2	4	4	4	2 < 3	31	0.13	0.19	0.18	0.10	-	-	-	2.4
3	2	4	4	4	3 – 5	31	0.10	0.11	0.12	0.10	-	-	-	2.4
3	2	4	4	4	10	31	0.10	0.10	0.10	0.10	-	-	-	2.4
3	2	4	4	4	15	31	0.10	0.13	0.13	0.10	-	-	-	2.4
3	2	4	4	4	20	31	0.11	0.17	0.17	0.10	-	-	-	2.4
3	2	4	4	4	25	31	0.14	0.21	0.21	0.10	-	-	-	2.4
3	2	4	4	4	30	31	0.17	0.25	0.25	0.10	-	-	-	2.4
3	2	4	4	4	35	31	0.20	0.29	0.30	0.10	-	-	-	2.4
3	3	7	6	4	< 2	-	0.17	0.27	0.17	0.10	0.17	0.17	0.14	3.7
3	3	4	4	4	2 < 3	31	0.10	0.22	0.21	0.10	-	-	-	2.8
3	3	4	4	4	3 – 5	31	0.10	0.14	0.14	0.10	-	-	-	2.8
3	3	4	4	4	10	31	0.10	0.11	0.11	0.10	-	-	-	2.8
3	3	4	4	4	15	31	0.10	0.14	0.15	0.10	-	-	-	2.8
3	3	4	4	4	20	31	0.10	0.18	0.19	0.10	-	-	-	2.8
3	3	4	4	4	25	31	0.10	0.23	0.23	0.10	-	-	-	2.8
3	3	4	4	4	30	31	0.12	0.27	0.28	0.10	-	-	-	2.8
3	3	4	4	4	35	31	0.14	0.32	0.32	0.10	-	-	-	2.8

① For box length = 8'-0"
② AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.

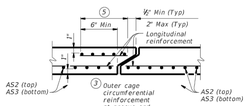


FILL HEIGHT 2 FT AND GREATER



FILL HEIGHT LESS THAN 2 FT

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



SECTION A-A
(Showing top and bottom slab joint reinforcement.)

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

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

HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

SINGLE BOX CULVERTS
PRECAST
3'-0" SPAN

SCP-3

FILE: scp03dn-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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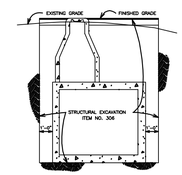
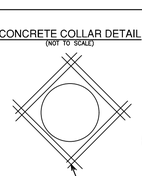
REVISIONS	DIST	COUNTY		SHEET NO.

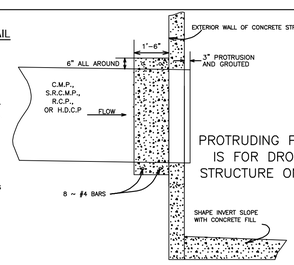


STRUCTURAL EXCAVATION AT JUNCTION BOXES
(NOT TO SCALE)

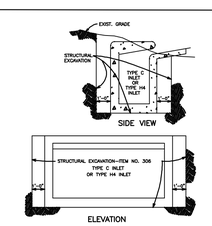
1. CONCRETE FOR STRUCTURE SHALL BE CLASS "A," 3,000 P.S.I. AT 28 DAYS.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. REINFORCING STEEL SHALL BE NEW BILLET STEEL, INTERMEDIATE GRADE, ASTM. A–15. THE DEFORMATION SHALL CONFORM TO ASTM. A–305.
4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER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

CONCRETE COLLAR DETAIL
(NOT TO SCALE)

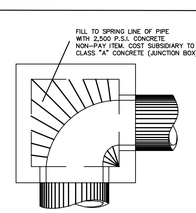




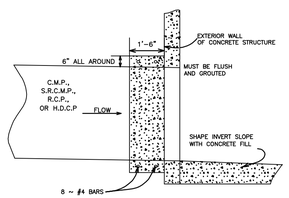
PROTRUDING PIPE IS FOR DROP STRUCTURE ONLY



STRUCTURAL EXCAVATION AT DRAINAGE INLETS
(NOT TO SCALE)



CURVED DEFLECTOR DETAIL
(NOT TO SCALE)



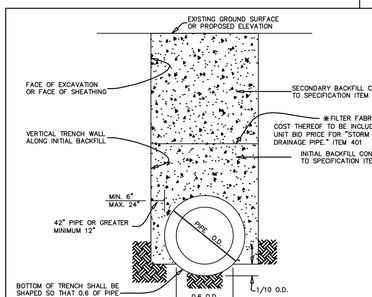
PIPE FLUSH WITH INVERT

JANUARY 2006

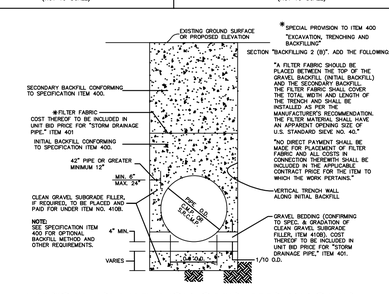
STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEVELOPMENT SERVICES

CONCRETE COLLAR DETAIL

DRAWN BY: ANDREW WINTER, P.E.	DATE:	REVISIONS	SCALE: SEE ABOVE
CHECKED BY: SAM BENT, P.E.			DATE: 29 JANUARY 2006
			SHEET: 1 OF 1



TYPICAL DETAIL FOR R.C.P.
NOT–TO–SCALE

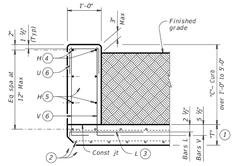


TYPICAL DETAIL FOR C.M.P. AND S.R.C.M.P.
NOT TO SCALE

NO.	REVISION	DATE

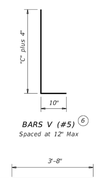
PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2

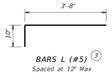


TYPICAL SECTION

Used for curbs over 1'-0" to 5'-0"



BARS V (#5) ⑥
Spaced at 12" Max



BARS L (#5) ③
Spaced at 12" Max

OPTIONAL BARS L (#5) ③ ⑦
Spaced at 12" Max

BARS U (#4) ⑥
Spaced at 12" Max

TABLE OF ESTIMATED CURB QUANTITIES ⑧

Curb Height "C"	Conc (CY/LF)	Reinf Steel (Lb/LF)
1'-0"	0.037	10.4
1'-6"	0.056	14.5
2'-0"	0.074	15.6
2'-6"	0.093	18.0
3'-0"	0.111	19.0
3'-6"	0.130	21.3
4'-0"	0.148	22.4
4'-6"	0.167	24.8
5'-0"	0.185	25.9

① "T" is equal to the culvert top slab thickness. For precast boxes with slabs less than 8" thick, see SCP-MD standard for additional details.

② Adjust normal culvert slab bars as necessary to clear obstructions.

③ Place bars L as shown. Tilt hook as necessary to maintain cover.

④ Place normal culvert curb bars H(#4) as shown. Adjust as necessary to clear obstructions.

⑤ Additional bars H(#4) as required to maintain 12" Max spacing.

⑥ Replace normal culvert curb bars K with one bar U and two bars V as shown spaced at 12" Max. Adjust length of bars V as necessary to maintain clear cover.

⑦ Optional bars L are to be used only for precast box culverts with 3'-0" closure pour.

⑧ Quantities shown are for Contractor's information only. Quantities are per linear foot of curb length. The value in table can be interpolated for intermediate values of curb height, "C". Quantity includes bars V as shown (#bar) applicable).

CONSTRUCTION NOTES:

Adjust reinforcing steel as necessary to provide 1 ½" cover.
For vehicle safety, top of the curb must not project more than 3" above the finished grade.

MATERIAL NOTES:

Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Provide Class "C" concrete (f'c = 3,600 psi) minimum for curbs.
Provide bar laps, where required, as follows:
• Uncoated or galvanized – #4 = 1'-8" Min

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
These extended curb details have sufficient strength to allow for future retrofit of Type T631 or T631LS railing. These details are suitable for use with PR11, PR22 and PR3 type rails. These details are not suitable for the mounting of other rail types. For new construction using T631 or T631LS railing, use the T631-CM standard.
This Curb is considered as part of the Box Culvert for payment.

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

Texas Department of Transportation — Bridge Division Standard

EXTENDED CURB DETAILS
FOR BOX CULVERTS WITH CURBS OVER 1'-0" TO 5'-0" TALL

ECD

FILE:	ecd1d01-20.dgn	DN: GAF	CK: TxDOT	DW: TxDOT	CK: GAF
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REVISIONS		DIST	COUNTY		SHEET NO.

DISCLAIMER:
The use of this standard is governed by the Texas Engineering Practice Act. No liability of any kind is assumed by the Texas Department of Transportation for any damages resulting from its use or for any modification or adaptation hereof or for any unintended reuses or changes in engineering practices. All responsibility for the adequacy of these uses and changes shall be borne by the engineer adapting or modifying this standard to other project conditions.

DATE:
FILE:

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

Maximum Wingwall Height Hw	W	X	Y	Z	Variable Reinforcing Bars J1 Size	J1 Spa	Bars J2 Size	J2 Spa	Estimated Quantities per ft of wing (2-wings) ④ Reinf (Lb/Ft)	Conc (CY/Ft)	Estimated Quantities per ft of Toewall (1-toewall) Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	48.64	0.406	6.85	0.071
2'-9"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	49.31	0.424	6.85	0.071
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'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	63.45	0.632	6.96	0.075
5'-6"	3'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	67.46	0.668	6.96	0.075
6'-0"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	80.67	0.730	7.07	0.078
6'-6"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	85.05	0.768	7.07	0.078
7'-0"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	92.15	0.864	8.07	0.093
7'-6"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	96.54	0.902	8.07	0.093
8'-0"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	139.04	0.962	8.13	0.095
8'-6"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	144.47	1.000	8.13	0.095
9'-6"	6'-0"	2'-10"	2'-2"	9"	#5	6"	#5	6"	156.93	1.136	8.41	0.110
10'-6"	6'-5"	3'-0"	2'-5"	9"	#6	6"	#5	6"	196.27	1.234	8.57	0.117
11'-6"	7'-2"	3'-6"	2'-8"	11"	#6	6"	#6	6"	230.13	1.438	9.52	0.140
12'-6"	7'-8"	3'-9"	2'-11"	1'-0"	#7	6"	#6	6"	283.41	1.592	9.74	0.157
13'-6"	8'-2"	4'-0"	3'-2"	1'-2"	#8	6"	#6	6"	348.72	1.804	10.02	0.186
14'-6"	8'-10"	4'-5"	3'-5"	1'-4"	#9	6"	#6	6"	432.94	2.046	10.30	0.218
15'-6"	9'-6"	4'-10"	3'-8"	1'-6"	#9	6"	#7	6"	489.52	2.302	11.24	0.253
16'-0"	9'-11"	5'-0"	3'-11"	1'-7"	#9	6"	#7	6"	505.72	2.448	11.47	0.279

TABLE OF WINGWALL REINFORCING (2-wings)

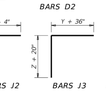
Bar	Size	No.	Spa
D1	#6	~	1'-0"
D2	#6	~	1'-0"
E1	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	~	8"
H1	#4	4	~
P	#4	~	1'-0"
V	#4	~	1'-0"

TABLE OF TOEWALL REINFORCING

Bar	Size	No.	Spa
J3	#4	~	1'-0"
M2	#4	2	~
E2	#4	~	1'-0"

BARS D1

BARS D2



BARS J1 BARS J2 BARS J3 BARS V

WING DIMENSION FORMULAS:

(All values are in feet.)

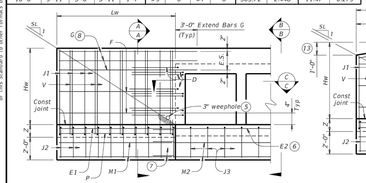
Hw = H + T + C
Lw = (Hw) (SL) + cosine (θ) for Type PW-1
= (Hw – T) (SL) + cosine (θ) for Type PW-2 and Hw ≥ 4'
= (Hw – 0.5') (SL) + cosine (θ) for Type PW-2 and Hw < 4'

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

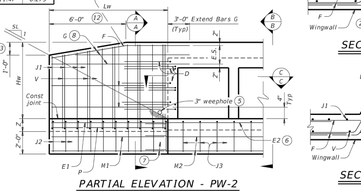
For precast culverts:
Ltw = [(N) (2 U + S) + (N – 1) (0.5')] + cosine (θ)
Total Wingwall Area (two wings – SF)
= (2)(Hw)(Lw) for Type PW-1
= (2)(Hw)(Lw) – 0.5F for Type PW-2 and Hw≥ 4'
= (2)(Hw)(Lw) – 1.5 SF for Type PW-2 and Hw < 4'

Hw = Height of wingwall
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans
SL:1 = Culvert slope ratio. (horizontal: 1 vertical, usual value is 2:1)
θ = Culvert skew

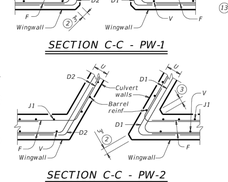
See applicable box culvert standard sheet for S, H, T, and U values.



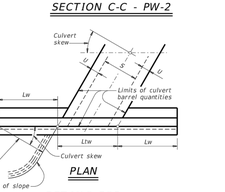
PARTIAL ELEVATION - PW-1



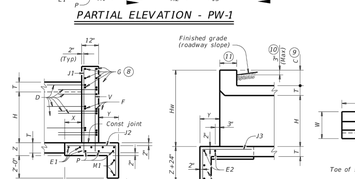
PARTIAL ELEVATION - PW-2



SECTION C-C - PW-1

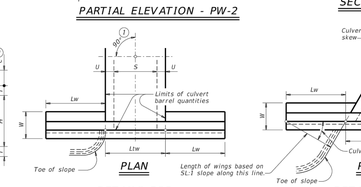


SECTION C-C - PW-2



SECTION A-A *(Showing wing reinforcement.)*

SECTION B-B *(Showing wing reinforcement.)*



PLAN

DETAILS FOR NON-SKEWED BOX CULVERTS

PLAN

DETAILS FOR SKEWED BOX CULVERTS *(Showing 30° skew.)*

① Skew = 0°

② At discharge end, chamfer may be ¾" minimum.

③ For 15° skew – 1"
For 30° skew – 2"
For 45° skew – 3"

④ Quantities shown are for two Type PW-1 wings. Adjust concrete volume for Type PW-2 wings. To determine estimated quantities for two wings, multiply the tabulated values by Lw. Quantities shown do not include weight of Bars D.

⑤ Provide weepholes for Hw = 5'-0" and greater. Fill around weepholes with coarse gravel.

⑥ Extend Bars E2 1'-6" minimum into the wingwall footing.

⑦ Lap Bars M1 1'-6" minimum with Bars M2.

⑧ Place Bars G as shown, equally spaced at 8" maximum. Provide at least two pairs of Bars G per wing.

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

⑩ For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

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

⑪ 1'-0" typical, 2'-3" when the Box Culvert Rail Mounting Details (RAC) standard sheet is referred to elswhere in the plans.

⑫ 2'-0" for Hw < 4'.

⑬ 6" for Hw < 4'.

DESIGNER NOTES:

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

MATERIAL NOTES:

Provide Class C concrete (f'c=3,600 psi).
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.

GENERAL NOTES:

Designed in accordance with AASHTO LRFD Bridge Design Specifications.
Depth of toewalls for wingwalls and culverts may be reduced or eliminated when founded on solid rock, when directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for wingwall type and additional dimensions and information.
Quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for the Contractor's information only.

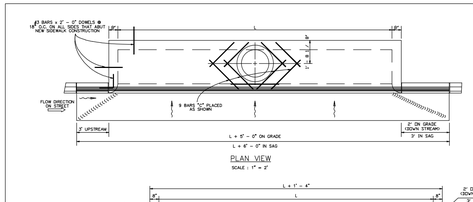
Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing dimensions are out-to-out of bars.

Texas Department of Transportation — Bridge Division Standard

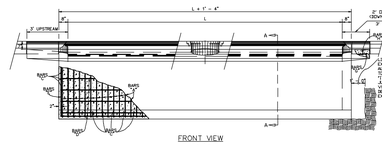
CONCRETE WINGWALLS
WITH PARALLEL WINGS FOR BOX CULVERTS TYPES PW-1 AND PW-2

PW

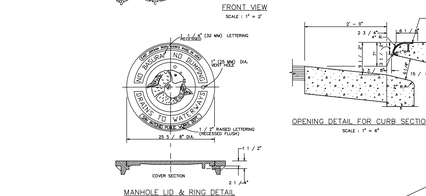
FILE:	pw1d001-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT	February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.



PLAN VIEW
SCALE : 1" = 2'



FRONT VIEW
SCALE : 1" = 2'



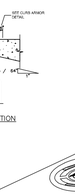
MANHOLE LID & RING DETAIL (ITEM 409)
SCALE : 1" = 8"

NOTES FOR MANHOLE LID AND RING

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

SECTION "A–A"
SCALE : 1" = 1'

ISOMETRIC VIEW



CURB ARMOR DETAIL

INLET LENGTH	REINFORCING STEEL SCHEDULE							
	BAR NO.	SIZE	SPACING	LENGTH	WEIGHT
L=5' – 0"	A	4	1'-0"	5'-0"	13
	B	4	1'-0"	5'-0"	13
	C	4	1'-0"	5'-0"	13
	D	4	1'-0"	5'-0"	13
	E	4	1'-0"	5'-0"	13
	F	4	1'-0"	5'-0"	13
	G	4	1'-0"	5'-0"	13
	H	4	1'-0"	5'-0"	13
	J	4	1'-0"	5'-0"	13
	K	4	1'-0"	5'-0"	13
	L	4	1'-0"	5'-0"	13
	M	4	1'-0"	5'-0"	13
* CONCRETE TOTAL=3.53 CU. YDS. M.H. CASTING=280 LBS. STEEL TOTAL=438 LBS.					
L=10' – 0"	A	4	1'-0"	10'-0"	26
	B	4	1'-0"	10'-0"	26
	C	4	1'-0"	10'-0"	26
	D	4	1'-0"	10'-0"	26
	E	4	1'-0"	10'-0"	26
	F	4	1'-0"	10'-0"	26
	G	4	1'-0"	10'-0"	26
	H	4	1'-0"	10'-0"	26
	J	4	1'-0"	10'-0"	26
	K	4	1'-0"	10'-0"	26
	L	4	1'-0"	10'-0"	26
	M	4	1'-0"	10'-0"	26
* CONCRETE TOTAL=5.75 CU. YDS. M.H. CASTING=280 LBS. STEEL TOTAL=704 LBS.					
L=15' – 0"	A	4	1'-0"	15'-0"	39
	B	4	1'-0"	15'-0"	39
	C	4	1'-0"	15'-0"	39
	D	4	1'-0"	15'-0"	39
	E	4	1'-0"	15'-0"	39
	F	4	1'-0"	15'-0"	39
	G	4	1'-0"	15'-0"	39
	H	4	1'-0"	15'-0"	39
	J	4	1'-0"	15'-0"	39
	K	4	1'-0"	15'-0"	39
	L	4	1'-0"	15'-0"	39
	M	4	1'-0"	15'-0"	39
* CONCRETE TOTAL=7.97 CU. YDS. M.H. CASTING=280 LBS. STEEL TOTAL=963 LBS.					
L=20' – 0"	A	4	1'-0"	20'-0"	52
	B	4	1'-0"	20'-0"	52
	C	4	1'-0"	20'-0"	52
	D	4	1'-0"	20'-0"	52
	E	4	1'-0"	20'-0"	52
	F	4	1'-0"	20'-0"	52
	G	4	1'-0"	20'-0"	52
	H	4	1'-0"	20'-0"	52
	J	4	1'-0"	20'-0"	52
	K	4	1'-0"	20'-0"	52
	L	4	1'-0"	20'-0"	52
	M	4	1'-0"	20'-0"	52
* CONCRETE TOTAL=10.18 CU. YDS. M.H. CASTING=280 LBS. STEEL TOTAL=1237 LBS.					

* THESE FIGURES DO NOT EXCLUDE CONCRETE & STEEL INTERCEPTED BY MANHOLE AND REINFORCED CONC. PIPE.
• INCLUDES CONCRETE OUTSIDE FOR ON GRADE INLET. INCREASE BY 40 CU. YDS PER INLETS IN SUMP.

GENERAL NOTES:

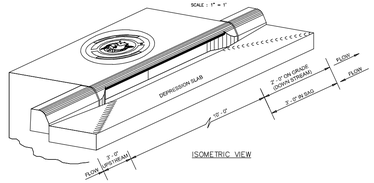
1. ALL BARS INTERCEPTING MANHOLE RING & REINFORCING CONCRETE PIPE SHALL BE FIELD CUT.
2. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 PSI IN 28 DAYS.
3. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER BARS.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED TO 3 / 4".
5. CONSTRUCTION JOINT SHOWN AT FLOWLINE MAY BE RAISED A MAXIMUM OF 6" AT THE CONTRACTOR'S DISCRETION. ADJUST LENGTH OF VERTICAL STEEL AS REQUIRED.
6. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A–615, GRADE 60 REQUIREMENTS.
7. INVERT OF DROP INLET TO BE SHAPED WITH CONCRETE FILL TO AFFECT DRAINAGE TO OUTLET PIPE.
8. DELETE A "C" BARS FROM SCHEDULE QUANTITIES IF MANHOLE RING AND COVER ARE PLACED AT END OF INLET.
9. CAST IRON MANHOLE RING AND COVER TO BE PLACED NEXT TO OUTLET PIPE, EXCEPT FOR VERTICAL OUTLET PIPE IN WHICH CASE MANHOLE RING AND COVER WILL BE OFFSET.
10. PAYMENT FOR ALL EXCAVATION, BACK FILLING, CONCRETE, REINFORCING STEEL, RING AND COVER SHALL BE INCLUDED IN THE UNIT COST OF ITEM 403 "STORM SEWER JUNCTION BOXES AND INLETS".

CURB INLET DETAILS
N.T.S.

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

TYPE "C" INLET STANDARDS

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



PLAN VIEW
SCALE : 1" = 2'

FRONT VIEW
SCALE : 1" = 2'

MANHOLE LID & RING DETAIL (ITEM 409)
SCALE : 1" = 8"

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5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 260 LBS.

SECTION "A–A"
SCALE : 1" = 1'

ISOMETRIC VIEW

CURB ARMOR DETAIL

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	L	4	1'-0"	5'-0"	13
	M	4	1'-0"	5'-0"	13
* CONCRETE TOTAL=3.53 CU. YDS. M.H. CASTING=280 LBS. STEEL TOTAL=438 LBS.					
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	C	4	1'-0"	10'-0"	26
	D	4	1'-0"	10'-0"	26
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	F	4	1'-0"	10'-0"	26
	G	4	1'-0"	10'-0"	26
	H	4	1'-0"	10'-0"	26
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	K	4	1'-0"	10'-0"	26
	L	4	1'-0"	10'-0"	26
	M	4	1'-0"	10'-0"	26
* CONCRETE TOTAL=5.75 CU. YDS. M.H. CASTING=280 LBS. STEEL TOTAL=704 LBS.					
L=15' – 0"	A	4	1'-0"	15'-0"	39
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* CONCRETE TOTAL=7.97 CU. YDS. M.H. CASTING=280 LBS. STEEL TOTAL=963 LBS.					
L=20' – 0"	A	4	1'-0"	20'-0"	52
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	D	4	1'-0"	20'-0"	52
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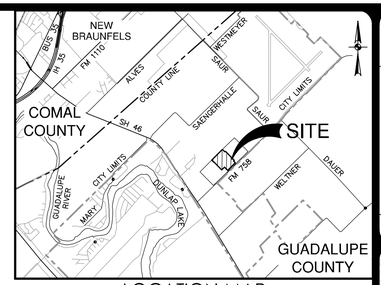
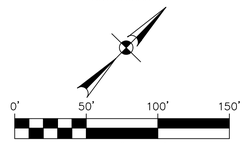
10. PAYMENT FOR ALL EXCAVATION, BACK FILLING, CONCRETE, REINFORCING STEEL, RING AND COVER SHALL BE INCLUDED IN THE UNIT

GENERAL GRADING NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
3. ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
4. ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
5. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
6. THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
8. THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC. AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPPINGS AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
9. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGE WAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
11. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
13. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ENSURE THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED.
14. UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
15. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
16. FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.
17. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.
18. 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).



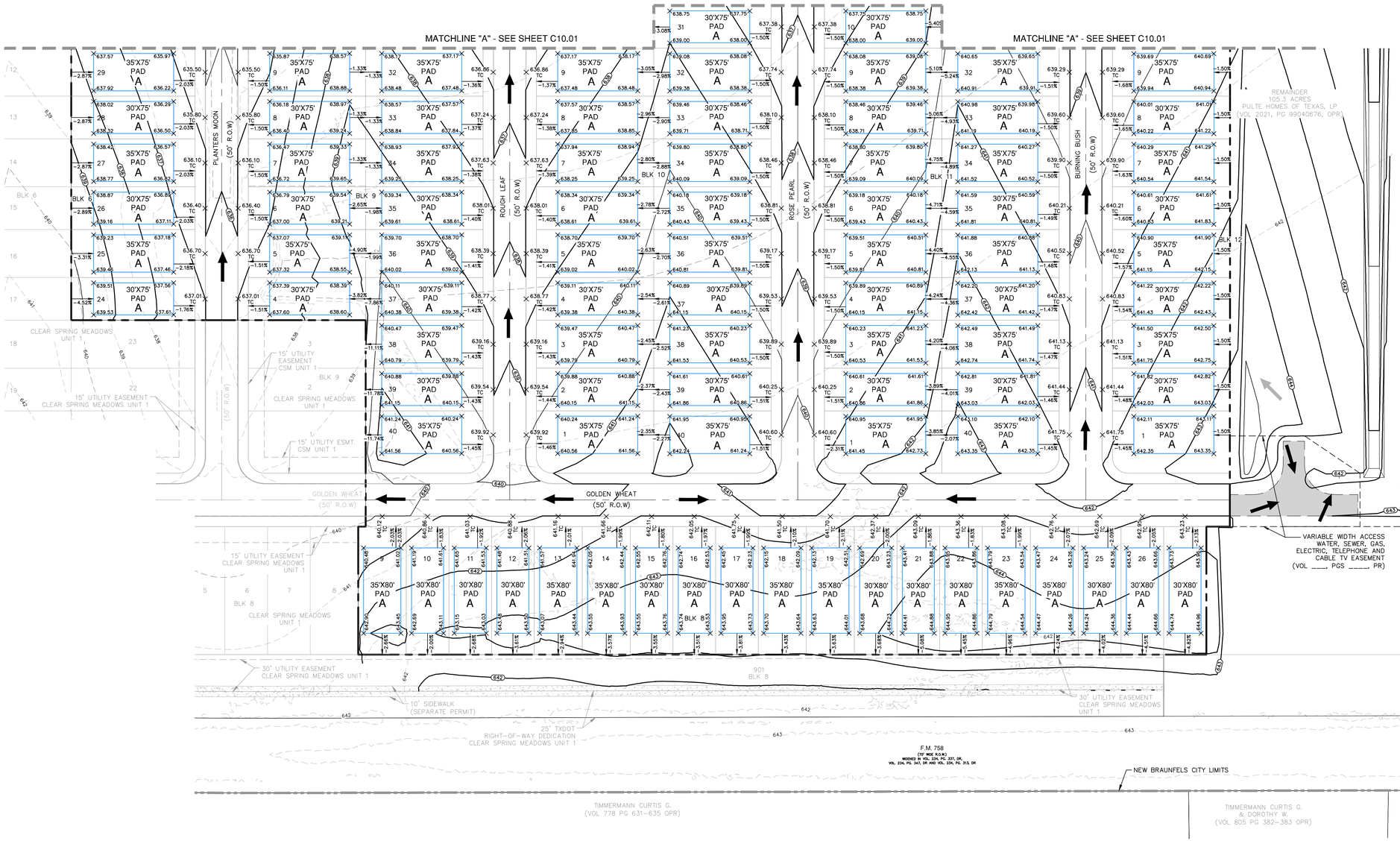
LOCATION MAP
MAPSCO MAP GRID: 123X1
NOT-TO-SCALE



SCALE: 1"= 50'

LEGEND

610.00 +	PROPOSED SPOT ELEVATIONS
611.00 TC	PROPOSED TOP OF CURB ELEVATIONS
———	PROPOSED 1' CONTOUR
— — — —	EXISTING 1' CONTOUR
—1000—	EXISTING 5' CONTOUR
A, B, C	TYPE OF LOT GRADING
	BUILDING PAD
618.0	FINISHED FLOOR ELEVATION



NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
9-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

OVERALL GRADING PLAN
SHEET 1 OF 2

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C10.00

Date: Mar 08, 2024, 2:00pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\GR0A-124353.dwg

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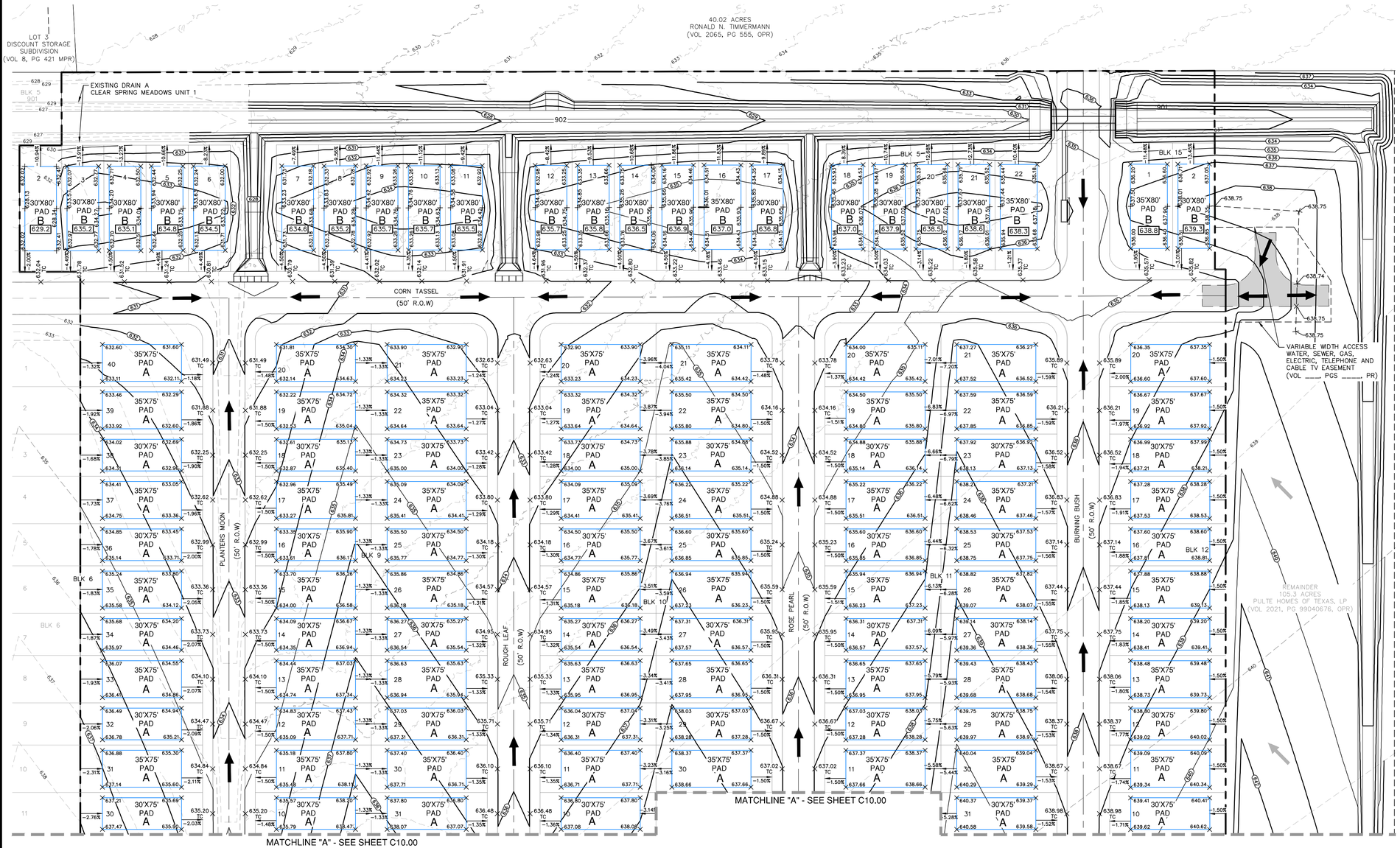

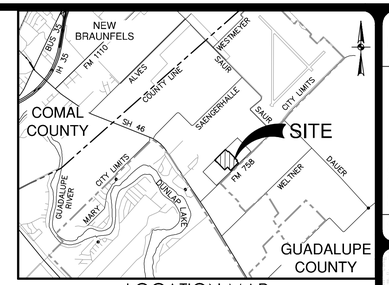

LOCATION MAP

MAPSCO MAP GRID: 123X1
NOT-TO-SCALE

0' 50' 100' 150'

SCALE: 1"= 50'

LEGEND

610.00 +	PROPOSED SPOT ELEVATIONS
611.00 TC	PROPOSED TOP OF CURB ELEVATIONS
———	PROPOSED 1' CONTOUR
- - - - -	EXISTING 1' CONTOUR
—1000—	EXISTING 5' CONTOUR
A, B, C	TYPE OF LOT GRADING
	BUILDING PAD
618.0	FINISHED FLOOR ELEVATION

GENERAL GRADING NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
3. ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
4. ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

OVERALL GRADING PLAN
SHEET 2 OF 2

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C10.01

Date: Mar 08, 2024, 2:01pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\GR0A-124350.dwg

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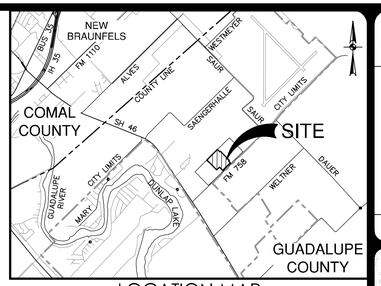
CITY OF NEW BRAUNFELS UTILITY NOTES

1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH. 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.



LOCATION MAP
MAPSCO MAP GRID: 123X1
NOT-TO-SCALE

0' 50' 100' 150'
SCALE: 1"= 50'

MATCHLINE "A" - SEE SHEET C11.01

MATCHLINE "A" - SEE SHEET C11.01

PLANTERS MOON (50' R.O.W)
ROUGH LEAF (50' R.O.W)
ROSE PEARL (50' R.O.W)
BURNING BUSH (50' R.O.W)
GOLDEN WHEAT (50' R.O.W)

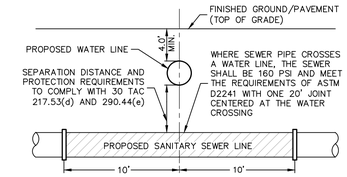
BLK 6 | BLK 9 | BLK 10 | BLK 11 | BLK 12 | BLK 8

15' UTILITY EASEMENT
8" SS
8"W
EX. 8"SS
EX. 8"W
CAUTION!! WATER/SANITARY SEWER CROSSING (SEE DETAIL THIS SHEET)
VARIABLE WIDTH DRAINAGE EASEMENT (VOL ____ PGS ____ PR)
DRAIN F SEE SHEET C9.10-C9.12
REMAINDER 105.3 ACRES PULTE HOMES OF TEXAS, LP (VOL 2021, PG 99040676, OPR)
VARIABLE WIDTH ACCESS WATER, SEWER, GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT (VOL ____, PGS ____, PR)

15' UTILITY EASEMENT CLEAR SPRING MEADOWS UNIT 1
15' UTILITY EASEMENT CSM UNIT 1
15' UTILITY ESMT. CSM UNIT 1
CLEAR SPRING MEADOWS UNIT 1
1' VNAE CLEAR SPRING MEADOWS UNIT 1
30' UTILITY EASEMENT CLEAR SPRING MEADOWS UNIT 1
10' SIDEWALK (SEPARATE PERMIT)
EX. 12" WATER
25' TXDOT RIGHT-OF-WAY DEDICATION CLEAR SPRING MEADOWS UNIT 1
F.M. 758 (70' WIDE R.O.W.) WIDENED PL VOL. 234, PG. 227, DR, VOL. 234, PG. 341, DR AND VOL. 234, PG. 313, DR
NEW BRAUNFELS CITY LIMITS
TIMMERMANN CURTIS G. (VOL 778 PG 631-635 OPR)
TIMMERMANN CURTIS G. & DOROTHY W. (VOL 805 PG 382-383 OPR)

LEGEND:

- UNIT BOUNDARY
- PROPOSED EASEMENT
- 610 EXISTING 5' CONTOUR
- 609 EXISTING 1' CONTOUR
- MANHOLE EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING POTABLE WATER
- FIRE HYDRANT PROPOSED POTABLE WATER
- PROPOSED SANITARY SEWER LATERAL
- PROPOSED SANITARY SEWER LATERAL TO BE CAPPED FOR FUTURE LOTS
- DOMESTIC WATER SERVICE w/ 5/8" METER
- DOMESTIC WATER SERVICE w/ 5/8" METER TO BE CAPPED FOR FUTURE LOTS
- VNAE VEHICULAR NON-ACCESS EASEMENT
- SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)
- SIDEWALK (HOMEBUILDER RESPONSIBILITY)



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
NOT-TO-SCALE

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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.

TRENCH EXCAVATION SAFETY PROTECTION:

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

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS
OVERALL UTILITY PLAN
(SHEET 1 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.00

Date: Mar 08, 2024, 2:03pm User ID: erodriguez
File: P:\124\35\03\Design\Civil\UTOA-124503.dwg

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CITY OF NEW BRAUNFELS UTILITY NOTES

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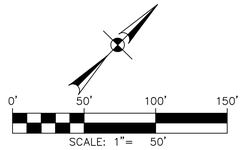
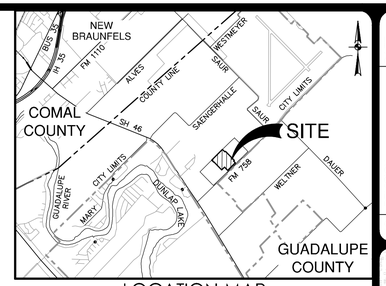




LOCATION MAP
MAPSCO MAP GRID: 123X1
NOT-TO-SCALE

LOT 3
DISCOUNT STORAGE SUBDIVISION
(VOL 8, PG 421 MPR)

40.02 ACRES
RONALD N. TIMMERMANN
(VOL 2065, PG 555, OPR)

EXISTING DRAIN A
CLEAR SPRING MEADOWS UNIT 1

DRAIN A
SEE SHEET C9.03-C9.05

DRAIN B
SEE SHEET C9.06

DRAIN C
SEE SHEET C9.07

DRAIN D
SEE SHEET C9.08

DRAIN E
SEE SHEET C9.09

DRAIN F
SEE SHEET C9.10-C9.12

CLEAR SPRING MEADOWS UNIT 1

BLK 5

BLK 6

BLK 9

BLK 10

BLK 11

BLK 12

VARIABLE WIDTH DRAINAGE ESMT

20' UTILITY EASEMENT

15' UTILITY EASEMENT

CAUTION!!! WATER/SANITARY SEWER CROSSING (SEE DETAIL THIS SHEET)

CAUTION!!! SEWER/STORM DRAIN CROSSING (SEE DETAIL THIS SHEET)

CAUTION!!! WATER/STORM DRAIN CROSSING (SEE DETAIL THIS SHEET)

36'x22' TURNAROUND & ACCESS EASEMENT

CORN TASSEL (50' R.O.W)

PLANTERS MOON (50' R.O.W)

ROUGH LEAF (50' R.O.W)

ROSE PEARL (50' R.O.W)

BURNING BUSH (50' R.O.W)

8"W

8" SS

VARIABLE WIDTH ACCESS WATER, SEWER, GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT (VOL ____, PGS ____, PR)

VARIABLE WIDTH DRAINAGE EASEMENT (VOL ____, PGS ____, PR)

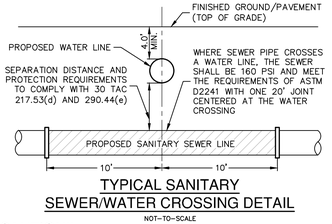
REMAINDER
105.3 ACRES
PULTE HOMES OF TEXAS, LP
(VOL 2021, PG 99040676, OPR)

MATCHLINE "A" - SEE SHEET C11.00

MATCHLINE "A" - SEE SHEET C11.00

LEGEND:

- UNIT BOUNDARY
- PROPOSED EASEMENT
- 610 EXISTING 5' CONTOUR
- 609 EXISTING 1' CONTOUR
- EXISTING SANITARY SEWER
- MANHOLE — PROPOSED SANITARY SEWER
- EXISTING POTABLE WATER
- FIRE HYDRANT — PROPOSED POTABLE WATER
- PROPOSED SANITARY SEWER LATERAL
- PROPOSED SANITARY SEWER LATERAL TO BE CAPPED FOR FUTURE LOTS
- DOMESTIC WATER SERVICE w/ 5/8" METER
- DOMESTIC WATER SERVICE w/ 5/8" METER TO BE CAPPED FOR FUTURE LOTS
- VNAE — VEHICULAR NON-ACCESS EASEMENT
- SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)
- SIDEWALK (HOMEBUILDER RESPONSIBILITY)



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
NOT-TO-SCALE

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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.

TRENCH EXCAVATION SAFETY PROTECTION:

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

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS
OVERALL UTILITY PLAN
(SHEET 2 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.01

Date: Mar 08, 2024, 2:04pm User ID: srodriguez
File: P:\124\35\03\Design\Civil\UT0A-124350.dwg

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CITY OF NEW BRAUNFELS UTILITY NOTES

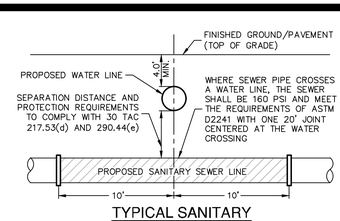
1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS 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.

WATER QUANTITIES

ITEM	TOTAL
8" WATER MAIN	5,734 LF
DOMESTIC WATER SERVICES	194
IRRIGATION SERVICES	2
8" GATE VALVES	18
FIRE HYDRANTS	11
AIR RELEASE VALVES	0
5/8" METER	194
1" METER	2

CONSTRUCTION GENERAL NOTES

1. ALL WATER MAINS SHALL BE AWWA C900 CLASS 235.
2. WATER SERVICES SHALL BE SINGLE 1" COPPER TUBING.
3. WATER LINE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE NBU STANDARD DRAWINGS AND SPECIFICATIONS.
4. WATER MAIN SHALL HAVE A MINIMUM OF 42 INCHES OF COVER, OTHERWISE CONCRETE ENCASEMENT WILL BE REQUIRED.
5. CONTRACTOR WILL KEEP THE AREA ON TOP OF AND AROUND THE WATER METER BOX FREE OF ALL OBJECTS AND DEBRIS.
6. WATER MAINS SHALL BE TESTED AS A WHOLE OR IN SECTIONS BETWEEN VALVES. THE TOTAL LENGTH OF PIPE FOR ANY SINGLE TEST SHALL NOT EXCEED 2,000 FEET.
7. NO METER BOXES TO BE SET IN DRIVEWAYS. ANY METER BOXES SET IN DRIVEWAYS WILL BE RELOCATED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
8. METER BOXES MUST BE SET SQUARE AND LEVEL 1" ABOVE THE FINISHED GRADE OF THE SURROUNDING AREA IN ORDER TO AVOID RUN-OFF WATER.
9. SEE SHEET C11.05 FOR NBU GENERAL NOTES.
10. CONTRACTOR SHALL ENSURE THAT WATER/SANITARY SEWER CROSSINGS MEET THE SEPARATION DISTANCE AND CONSTRUCTION REQUIREMENTS OF 30 TAC 217.53(D) AND 290.44(E).

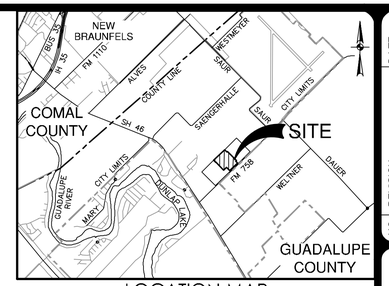


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

CAUTION!!

EXISTING UTILITIES ARE LOCATED WITHIN THE LIMITS OF THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL EXERCISE EXTRA CARE IN DIGGING ANY TRENCH FOR PROPOSED UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, VERIFYING THE EXACT LOCATION AND IDENTIFYING ANY AREAS OF CONFLICTS WITH EXISTING UTILITIES AND WILL NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS ARE FOUND.

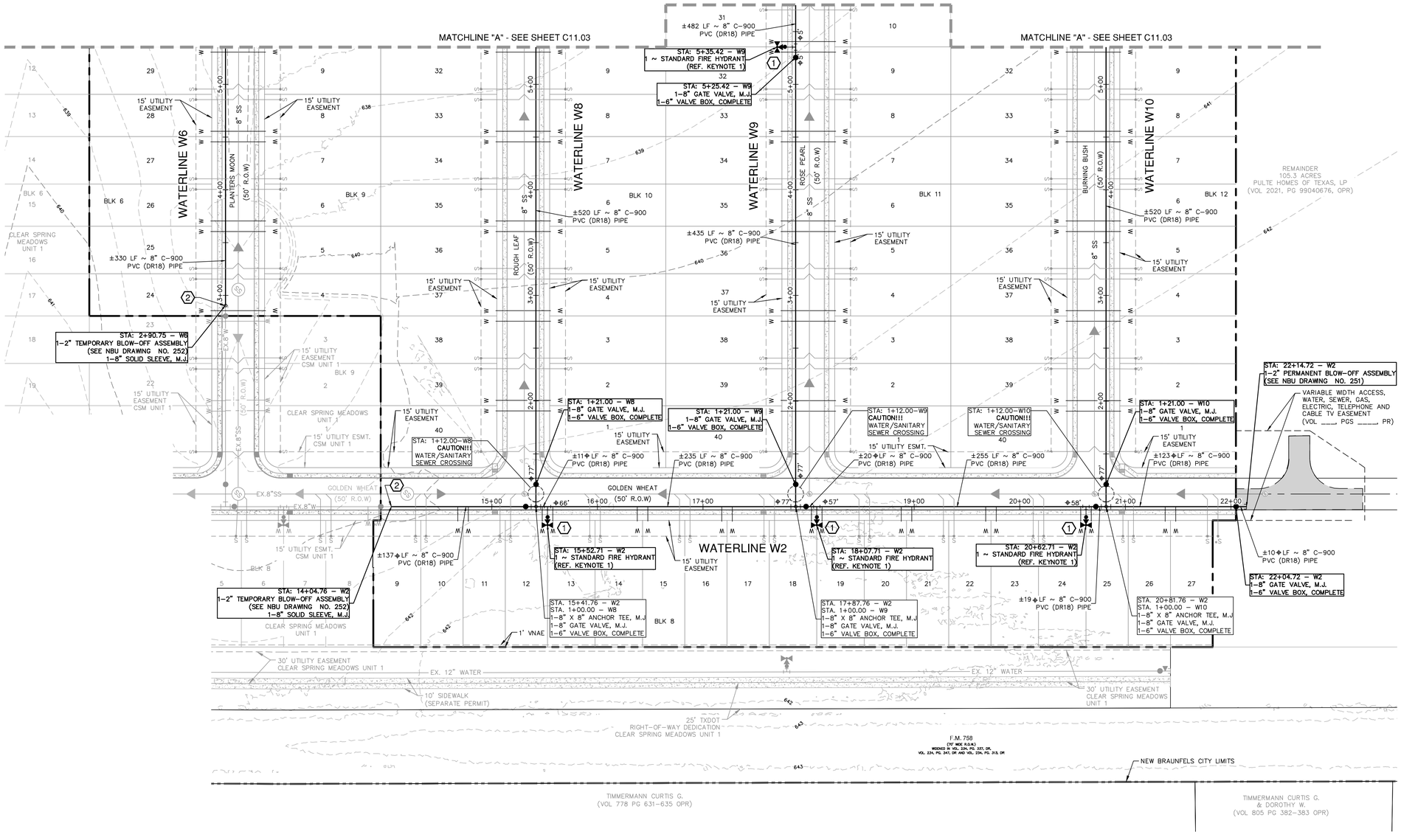


LOCATION MAP

MAPSCO MAP GRID: 123X1
NOT-TO-SCALE

0' 50' 100' 150'

SCALE: 1"= 50'



LEGEND:

	UNIT BOUNDARY
610	EXISTING 5' CONTOUR
609	EXISTING 1' CONTOUR
MANHOLE	EXISTING SANITARY SEWER
MANHOLE	PROPOSED SANITARY SEWER
FIRE HYDRANT	EXISTING POTABLE WATER
FIRE HYDRANT	PROPOSED POTABLE WATER
	PROPOSED EASEMENT
W	DOMESTIC WATER SERVICE w/ 5/8" METER
W*	DOMESTIC WATER SERVICE w/ 5/8" METER FOR FUTURE LOT
IRR	1" IRRIGATION SERVICE W/ 1" METER AND R/P BACKFLOW PREVENTER
VNAE	VEHICULAR NON–ACCESS EASEMENT
⊠	JOINT RESTRAINT

① 1–8"x6" ANCHOR TEE, M.J.
1–STANDARD FIRE HYDRANT ASSEMBLY
1–6" GATE VALVE, M.J
1–6" VALVE BOX, COMPLETE
6" D.I. PIPE, CUT AND RESTRAIN AS REQUIRED
1–STD FIRE HYDRANT
(SEE NBU DRAWING NO. 240)

② UPON SUCCESSFUL HYDROSTATIC TESTING, DISINFECTION OF THE NEW WATER MAIN AND ACCEPTANCE BY NBU, THE CONTRACTOR SHALL REMOVE EXISTING CAP AND TIE TO THE EXISTING 8" WATER MAIN.

② FOR CHLORINATION INJECTION:
2–1" CORPORATION STOP, C.C.XI.P.
1–1" COPPER TUBING, CUT AS REQUIRED
2–1" COMP. X 1 ¾ COUPLING, CORP. STOP
2–1 ¾" THD. SOLID CAPS, THR.
1–2" TEMPORARY BLOWOFF (SEE NBU DWG NO. 252)

TRENCH EXCAVATION SAFETY PROTECTION:

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JOINT RESTRAINT NOTE

CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESSES OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS SHALL BE CALCULATED BY THE DEVELOPER'S ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE JOINT RESTRAINTS WITH THE DEVELOPER'S ENGINEER.

PRESSURE NOTE

IT WILL BE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL A PRV AT EACH LOT WHERE NECESSARY IN ACCORDANCE WITH NBU REGULATIONS AND PLUMBING CODE WHEN THE MAXIMUM STATIC PRESSURE AT THE CUSTOMER SIDE OF THE WATER METER EXCEEDS 90 PSI. PRESSURE REDUCING VALVES (PRV) IF NECESSARY SHALL BE INSTALLED ON THE CUSTOMER'S SIDE OF THE WATER METER. IT IS NOT ANTICIPATED THAT ANY LOTS WITHIN THIS DEVELOPMENT WILL REQUIRE A PRV. NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).

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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS
OVERALL WATER DISTRIBUTION PLAN (SHEET 1 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.02

Date: Apr 15, 2024, 1:19pm User ID: ekospronicz
File: P:\124\35\03\Design\Civil\WTOA-1243503.dwg

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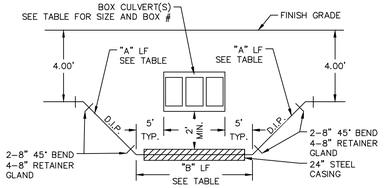

DRAIN CROSSING DETAIL

SCALE: NOT-TO-SCALE

WATER CROSSING TABLE OF PIPE LENGTHS					
LOCATION	STRUCTURE	SIZE	"A"	"B"	24" STEEL CASING
DRAIN "A"	(3) 6'x3' MBC	8"	6.0'	35.0'	30.0'

* ALL RETAINER GLANDS TO BE MEGA LUG TYPE

CONSTRUCTION GENERAL NOTES

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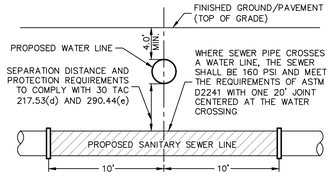

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

LOCATION MAP

MAPSCO MAP GRID: 123X1
NOT-TO-SCALE

0' 50' 100' 150'

SCALE: 1"= 50'

LEGEND:

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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

OVERALL WATER DISTRIBUTION PLAN (SHEET 2 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.03

Date: Apr 15, 2024, 1:19pm User ID: ekasprowicz
File: P:\124\35\03\Design\Civil\WT0A-1243503.dwg

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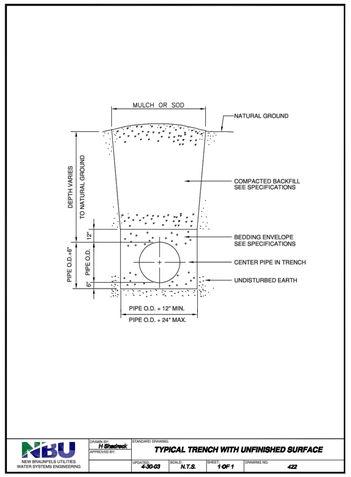
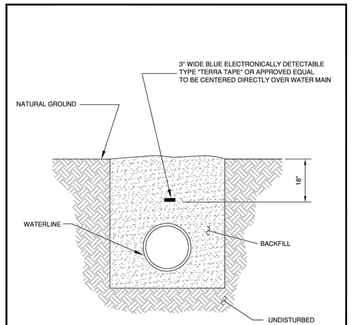


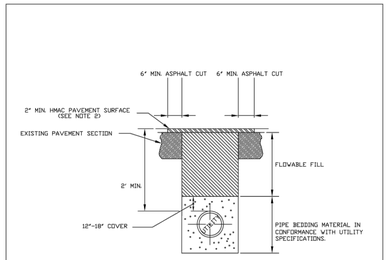
WATER PIPE LAID IN TRENCH
(OUTSIDE OF PAVEMENT)
NOT TO SCALE

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shedrock | APPROVED BY: | STANDARD DRAWING | TYPICAL TRENCH WITH UNFINISHED SURFACE | UPDATED: 4-30-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO: 422



WATERLINE SURFACE IDENTIFICATION DETAIL
NOT TO SCALE

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shedrock | APPROVED BY: | STANDARD DRAWING | PLACEMENT OF INDUCTIVE TRACER DETECTION TAPE | UPDATED: 9-23-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO: 424

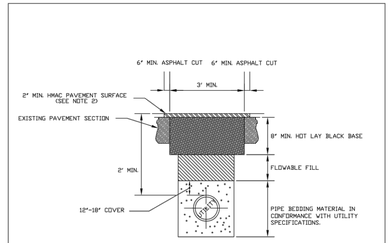


NOTES:
1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE AT A MINIMUM OF 12" WIDER THAN UNDISTURBED SIDES OF THE TRENCH SYMMETRICAL ABOUT THE CENTERLINE OF THE EXCAVATION.
2. REPLACEMENT HMAC SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION.
   a) MIN.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

TRENCH REPAIR DETAIL
FLOWABLE FILL
ISSUE DATE: APRIL 2015 | SCALE: N.T.S.
DRAWN BY: AMF | CONTACT: GF

CITY OF NEW BRAUNFELS ENGINEERING DIVISION
424 S. CASTELL AVE.
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4624
FAX: 830 626 3600

WATER PIPE LAID IN TRENCH
(WITHIN PAVEMENT)
NOT TO SCALE



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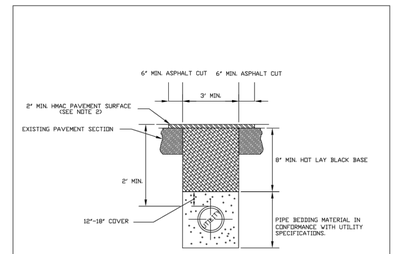
7. CALICHE OR EXISTING MATERIAL SHALL NOT BE USED TO BACKFILL THE UTILITY EXCAVATION.

TRENCH REPAIR DETAIL
ISSUE DATE: APRIL 2015 | SCALE: N.T.S.
DRAWN BY: AMF | CONTACT: GF

CITY OF NEW BRAUNFELS ENGINEERING DIVISION
424 S. CASTELL AVE.
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4624
FAX: 830 626 3600

WATER PIPE LAID IN TRENCH
(WITHIN PAVEMENT)
NOT TO SCALE



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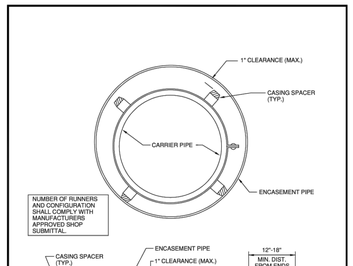
6. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE. THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX AC OR TEMPORARY HMAC.
7. CALICHE OR EXISTING MATERIAL SHALL NOT BE USED TO BACKFILL THE UTILITY EXCAVATION.
8. FOR EXCAVATIONS OF EXCESSIVE DEPTH, WIDTHS GREATER THAN 3' MAY BE REQUIRED TO ACHIEVE PROPER COMPACTION.

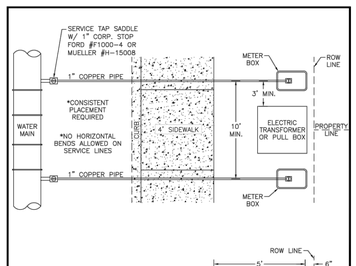
TRENCH REPAIR DETAIL
BLACK BASE
ISSUE DATE: APRIL 2015 | SCALE: N.T.S.
DRAWN BY: AMF | CONTACT: GF

CITY OF NEW BRAUNFELS ENGINEERING DIVISION
424 S. CASTELL AVE.
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4624
FAX: 830 626 3600

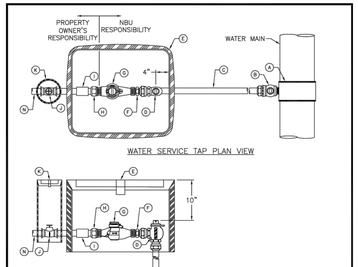
WATER PIPE LAID IN TRENCH
(WITHIN PAVEMENT)
NOT TO SCALE



NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: JD Amaro | APPROVED BY: | STANDARD DRAWING | ENCASEMENT DETAIL WITH CASING SPACERS | UPDATED: 4-26-03 | SCALE: N.T.S. | SHEET: 2 OF 2 | DRAWING NO: 420



NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: A. Willard | APPROVED BY: A. Willard | STANDARD DRAWING | SERVICE TAP: METER BOX PLACEMENT BETWEEN SIDEWALK AND PROPERTY LINE | UPDATED: 8/17/21 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO: 244



NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: A. Willard | APPROVED BY: A. Willard | STANDARD DRAWING | STANDARD INSTALLATION DETAIL FOR 5/8", 3/4" & 1" METER | UPDATED: 8/17/21 | SCALE: N.T.S. | SHEET: 1 OF 2 | DRAWING NO: 202

MATERIALS LIST:

A. 1" SERVICE CLAMP
B. 1" CORPORATION STOP
C. 1" TYPE "K" COPPER WATER SERVICE PIPE
D. 1" X 1" ANGLE METER STOP
E. METER BOX AND LID – DFW PLASTICS #DFW1600X.12.1A2 (STANDARD)
   METER BOX AND LID – DFW PLASTICS #DFW1219-10-3EA (INCIDENTAL TRAFFIC RATED)

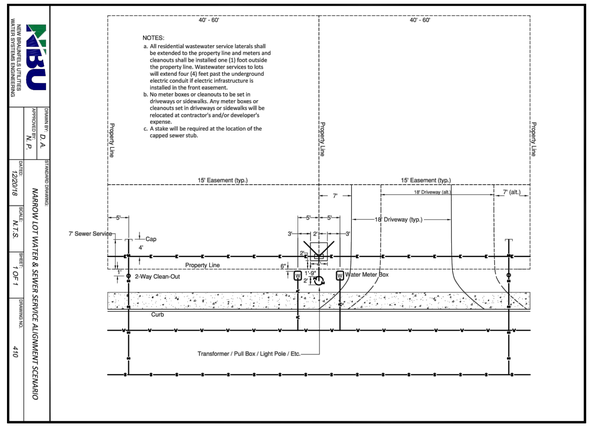
MATERIALS TO BE INSTALLED BY PLUMBER:

F. BRASS METER BUSHING – SIZE AS REQUIRED TO CONNECT ANGLE METER STOP TO METER. A 1" X 3/4" METER BUSHING IS REQUIRED AT THE ANGLE STOP FOR FOR ALL 5/8" AND 3/4" METERS.
G. WATER METER PURCHASED FROM NBU
H. BRASS WATER METER COUPLING MALE IPT x SWIVEL COUPLING NUT
I. SINGLE CHECK BACKFLOW DEVICE
J. PROPERTY OWNER'S CUT OFF VALVE – 1" BRASS GATE VALVE
K. PROPERTY OWNER'S CUT OFF VALVE BOX AND LID – NDS #D109-Q
L. TEMPORARY METER SPACER (REQUIRED TO ASSURE METER WILL FIT APPROPRIATELY)
M. 1" WOODEN DOWEL (SHOW ADDRESS ON DOWEL USING WATERPROOF MARKER)
N. 1" PIPE MEETING CITY OF NEW BRAUNFELS PLUMBING CODE REQUIREMENTS

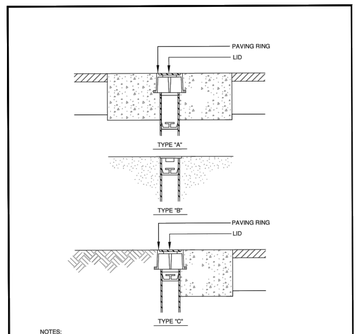
NOTES:

1. SERVICE PIPE SHALL BE COPPER TUBE SIZE. IT SHALL BE ANNEALED SEAMLESS TYPE "K" COPPER TUBING MEETING THE CURRENT ASTM B88 STANDARD WITH NO SWEAT OR SOLDERED JOINTS AND PLACED IN A STRAIGHT HORIZONTAL ALIGNMENT AND ALLOWED TO RELAX AND "SNAKE" LOOSELY IN THE TRENCH.
2. SERVICE SADDLE SHALL BE WRAPPED COMPLETELY WITH 8 MIL POLYETHYLENE FILM.
3. TOP OF BOXES SHOULD BE 2" ABOVE GROUND OR FLUSH WITH PAVEMENT SURFACE.
4. PIPING AND TUBING IN STREET RIGHT–OF–WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY THE SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SPECIFICATIONS.
5. BOX CONSISTENTLY SPACED 6"–12" BEHIND CURB OR 6" FROM PROPERTY LINE AND OUT OF VEHICULAR TRAFFIC AREA.
6. ANGLE STOP PLACED A MAXIMUM OF 4" FROM BACK OF BOX THAT FACES CURB. TOP OF ANGLE STOP SHOULD BE A MINIMUM OF 10" FROM THE TOP OF METER BOX.
7. METER SIZES TO BE SHOWN ON PLANS.
8. METER BOX CUT OUTS SHALL NOT EXCEED TWO TIMES THE PIPE DIAMETER.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: A. Willard | APPROVED BY: A. Willard | STANDARD DRAWING | STANDARD INSTALLATION DETAIL FOR 5/8", 3/4" & 1" METER | UPDATED: 8/17/21 | SCALE: N.T.S. | SHEET: 2 OF 2 | DRAWING NO: 202

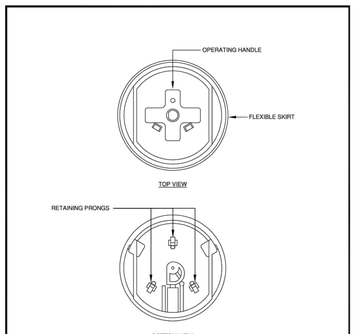


NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: A. Willard | APPROVED BY: | STANDARD DRAWING | NARROW LOT WATER & SEWER SERVICE ALIGNMENT SCENARIO | UPDATED: 4-10-23 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO: 410

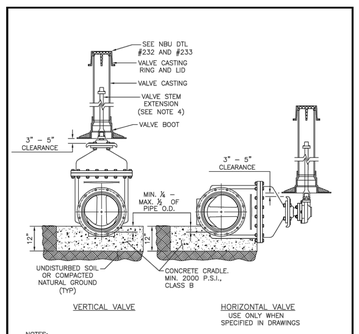


NOTES:
1. DEBRIS CAP SHALL BE INSTALLED AS CLOSE UNDER THE CAST IRON COVER WITHOUT INTERFERING WITH COVER OPERATION.
2. FLEXIBLE SKIRT SHALL BE TRIMMED TO PROVIDE A SMOOTH CONTACT WITH THE INTERIOR DIAMETER OF THE PIPE.
3. THE DEBRIS CAP SHALL BE MANUFACTURED BY SW SERVICES, INC., PHOENIX, ARIZONA OR EQUAL.
4. THE DEBRIS CAP SHALL BE COMPRISED OF A HOLLOW MEMBER HAVING A CYLINDRICAL OUTER SURFACE, A CLOSURE FOR ONE END AND THREE POINT RESILIENT CONTACT PADS PROJECTING FROM THE OUTER SURFACE. THE CAP SHALL HAVE A FLEXIBLE SKIRT PROVIDING AN OUTWARD SEAL PREVENTING DEBRIS FROM GETTING PAST THE CAP. THE CAP SHALL WITHSTAND A LOAD OF 10 KIPS PER SQUARE INCH OF A 10 INCH SQ. SQ. SQ. INCH AT A LOADING RATE OF 1.0 KIPS PER MINUTE. THE CAP SHALL BE MOLDED USING GENERAL ELECTRIC ABS #HM 4500. THE CAP SHALL HAVE RETAINING PRONGS TO RETAIN A STANDRAD LOCATION COIL.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: JD Amaro | APPROVED BY: | STANDARD DRAWING | DEBRIS CAP INSTALLATION | UPDATED: 4-10-03 | SCALE: N.T.S. | SHEET: 1 OF 2 | DRAWING NO: 294

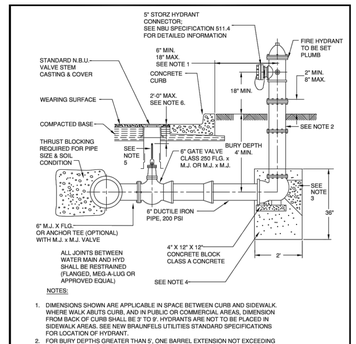


NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: JD Amaro | APPROVED BY: | STANDARD DRAWING | DEBRIS CAP INSTALLATION | UPDATED: 4-10-03 | SCALE: N.T.S. | SHEET: 2 OF 2 | DRAWING NO: 294



NOTES:
1. WELD SOCKET 2⅜" x 2" DEEP TO 1" SCH. 40 CARBON STEEL ROUND STEM EXTENSION, FITTED ON OPERATING NUT, [SCH. 80 FOR LENGTHS OVER 10'.]
2. VALVE CASTING SHALL BE 6" DI PIPE WITH BELL OR COLLAR CENTERED OVER VALVE BOOT.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.
4. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 18" FROM FINISHED GRADE.
5. TRACER WIRE SHALL EXTEND TO TOP OF THE VALVE STEM EXTENSION AND BE CONNECTED WITH WIRE CAPS.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: A. Willard | APPROVED BY: A. Willard | STANDARD DRAWING | TYPICAL GATE VALVE | UPDATED: 8/17/21 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO: 230



NOTES:
1. DIMENSIONS SHOWN ARE APPLICABLE IN SPACE BETWEEN CURB AND SIDEWALK. WHERE WALK ABUTS CURB, AND IN PUBLIC OR COMMERCIAL AREAS, DIMENSION FROM BACK OF CURB SHALL BE 3' TO 9'. HYDRANTS ARE NOT TO BE PLACED IN SIDEWALK AREAS. SEE NEW BRAUNFELS UTILITIES STANDARD SPECIFICATIONS FOR LOCATION OF HYDRANT.
2. FOR BURY DEPTHS GREATER THAN 5', ONE BARREL EXTENSION NOT EXCEEDING 2' LENGTH SHALL BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT.
3. CONCRETE BLOCKING WITH A MIN. 1 1/2 FT² BEARING AREA, CLASS A CONCRETE. DO NOT BLOCK DRAIN HOLES.
4. CRUSHED STONE OR GRAVEL SHALL BE PLACED AROUND THE BOTTOM OF THE HYDRANT FOR A RADIUS OF AT LEAST 12" AND EXTEND AT LEAST 12" ABOVE THE OUTLET. DO NOT BLOCK DRAIN HOLES.
5. WELD SOCKET 2 1/2" X 2" DEEP TO 1" SCH. 40 ROUND STEM EXTENSION, FITTED ON OPERATING NUT. SCH. 80 FOR LENGTHS OVER 10'.
6. VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 18" AND 24" FROM FINISHED GRADE.

SEE DETAIL, SHEET C11.03 FOR FIRE HYDRANT LOCATION.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: JD Amaro | APPROVED BY: | STANDARD DRAWING | STANDARD FIRE HYDRANT INSTALLATION WITH 5" STORZ CONNECTOR | UPDATED: 4-10-23 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO: 240

CITY OF NEW BRAUNFELS UTILITY NOTES

1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5–FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

UTILITY 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.

NO. | REVISION | DATE

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS
WATER DETAILS

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MC DRAWN MGG
SHEET C11.04

Date: Apr 15, 2024, 1:19pm User ID: ekosarowicz
File: P:\124\35\03\Design\Civil\WTD-1243503.dwg

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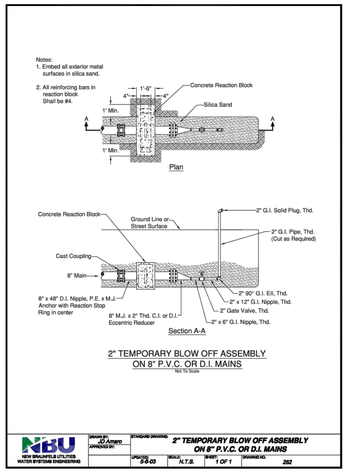
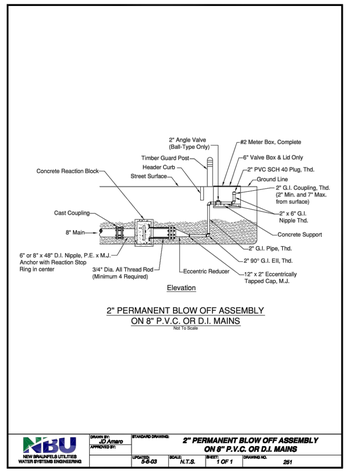
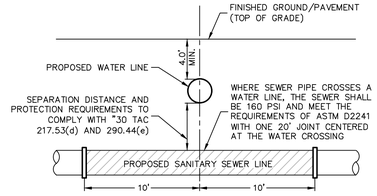


2" TEMPORARY BLOW OFF ASSEMBLY
ON 8" P.V.C. OR D.I. MAINS
Not To Scale

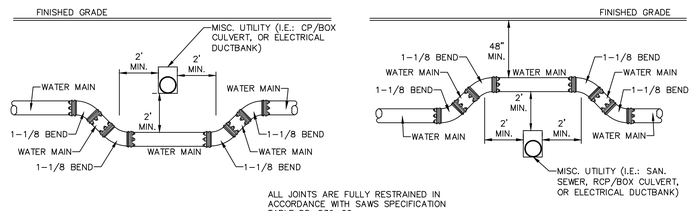


2" PERMANENT BLOW OFF ASSEMBLY
ON 8" P.V.C. OR D.I. MAINS
Not To Scale



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE



ALL JOINTS ARE FULLY RESTRAINED IN ACCORDANCE WITH SAWS SPECIFICATION TABLE DD-839-06.

TYPICAL UTILITY/WATER CROSSING DETAIL

NOT-TO-SCALE

Pipe Restraint Length Calculations

Source: EBAA Iron, Restraint Length Calculator v 7.1.2

Assumptions:

Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure
CH, Gran Fill	1.5 to 1.0	5	4 ft	200 psi

Minimum Restraint Lengths in Feet

	8" Waterline		12" Waterline	
	Main	Branch	Main	Branch
Horizontal Bends				
11.25 Degrees	3		4	
22.5 Degrees	6		8	
45 Degrees	12		17	
Misc. Fittings				
8"x6" Tee		59 (6" Branch)		
8"x8" Tee		78 (8" Branch)		
12"x6" Tee				59 (6" Branch)
12"x8" Tee				78 (8" Branch)
12"x8" Reducer			58 (12" to 8")	
Dead End/ Gate Valve	78		110	

Vertical Bends (assumes low side depth of 10)

	High Side	Low Side	High Side	Low Side
11.25 Degrees	8	2	11	2
22.5 Degrees	16	3	22	4
45 Degrees	32	5	46	7

CITY OF NEW BRAUNFELS UTILITY NOTES

1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

UTILITY 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.

COMPLIANCE NOTES

1. THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER OR WASTEWATER IMPROVEMENTS MUST COMPLY WITH TCEQ, THE CITY OF NEW BRAUNFELS, NEW BRAUNFELS UTILITIES W&WW DESIGN CRITERIA, SOUND ENGINEERING JUDGMENT, AND ANY OTHER APPLICABLE GOVERNING ENTITY ORDINANCES OR CODES.
2. THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR THE NBU WATER SYSTEM IS THE MAIN SIDE OF THE SERVICE/LATERAL/LEAD FROM THE CUSTOMER'S METER/BACKFLOW/EASEMENT EDGE. THE CUSTOMER IS RESPONSIBLE FOR DESIGN, CONSTRUCTION, OPERATION, AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER THE CUSTOMER'S INSTALLATION INCLUDING REVIEW, PERMITTING, AND COMPLIANCE WITH ALL CITY PLUMBING CODES OR OTHER APPLICABLE CODES.
3. ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR THE NBU WASTEWATER SYSTEM IS THE MAIN SIDE OF THE SERVICE LATERAL FROM THE CUSTOMER'S CLEAN OUT OR PROPERTY LINE WHICHEVER IS NEARER. THE CUSTOMER IS RESPONSIBLE FOR DESIGN, CONSTRUCTION, OPERATION, AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER THE CUSTOMER'S INSTALLATION INCLUDING REVIEW, PERMITTING, AND COMPLIANCE WITH ALL CITY PLUMBING CODES AND OTHER CODES AS APPLICABLE.

WATER NOTES:

1. All water mains shall be AWWA C900 (class 150 or greater).
2. Water services shall be single 1" copper tubing.
3. Water line is to be constructed in accordance with the NBU Systems Connection & Construction Policy.
4. Water main shall have a minimum of 42 inches of cover, otherwise concrete encasement will be required.
5. Each unit in a duplex, triplex, fourplex, or condominium shall be provided with an individual water meter. A master meter can be considered for separate buildings, however, those buildings must be plumbed to allow separate meters for future consideration.
6. Contractor will keep the area on top of and around the water meter box free of all objects and debris.
7. Initial backfill of water lines shall be manufactured sand or pea gravel as per NBU Systems Connection & Construction Policy.
8. Secondary backfill of water lines shall generally consist of material removed from the trench and shall be free from brush, debris and trash or stones having any dimension larger than 6" inches at the largest dimension.
9. Hydrostatic testing is done from valve to valve.
10. No meter boxes to be set in driveways or sidewalks. Any meter boxes set in driveways or sidewalks will be relocated at contractor's and/or developer's expense.
11. Meter boxes must be set at the proposed grade. Any meter boxes that are not set at the final grade will be adjusted at contractor's and/or developer's expense.
12. Acceptable meter boxes are D13-BAMR and D15-BAMR. New residential lots are required to use the D15-BAMR meter boxes (double AMR). Commercial lots should choose which box applies to the domestic and/or irrigation meter layout.
13. Thrust blocks will not be allowed on the system without special approval. Joints will be restrained with restraining systems approved by NBU and restraint length shall be submitted to NBU at the time of plan submittal.
14. Contractor shall place tracer wire on top of the water mains. Tracer wire should run from valve to valve and exit at the valve box. The tracer wire should be attached to the top of the pipe using tape. Excess wire should be left within valve boxes to be placed within lid of cover.
15. Water quality shall be protected with appropriate backflow prevention assemblies installed on all irrigation systems, fire suppression systems and multi-unit complexes along with multi-level properties on the domestic meter containment. NBU can assist with the decision on appropriate backflow assemblies on a case by case basis. Contact NBU backflow prevention specialist for more details. Email questions to crossconnection@nbutexas.com
16. All backflow prevention assemblies shall be tested upon installation and report sent to NBU via the online tracking system, contact NBU backflow prevention specialist for more details. Email questions to crossconnection@nbutexas.com
17. All residential and commercial properties shall have a Customer Service Inspection certificate (CSI Inspection) completed upon completion of the building or home structure. Contact NBU backflow prevention specialist for more details. Email questions to crossconnection@nbutexas.com

General Notes:

1. All materials and construction procedures within the scope of the project shall be approved by New Braunfels Utilities and comply with the current "New Braunfels Utilities Water Systems Connection/Construction Policy".
2. Contractor shall not proceed with any pipe installation work until they obtain a copy of the plans from the Consultant or Engineer and notify NBU Water Systems Engineering at 830-608-8971 with at least two (2) working days (48 hours) notice. WORK COMPLETED BY THE CONTRACTOR, WHICH HAS NOT RECEIVED A NOTICE TO PROCEED FROM NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.
3. The Developer dedicates the water / wastewater mains upon completion by the Contractor and acceptance by the New Braunfels Utilities Water System. NBU will own and maintain said water / wastewater mains which are located within platted utility easements or public ROW of proposed developments. (As applicable).
4. Contractor agrees to assume sole and complete responsibility for job site conditions during the construction of the project, including safety of all persons and property. This requirement shall apply continuously and not be limited to normal working hours. The contractor shall defend, indemnify and hold the owners and the engineer and his employees, partners officers, directors, or consultants harmless from any and all liability, real or alleged, in connection with the performance of the work on this project, excepting from liability arising from sole negligence of the owner or engineer, engineer's directors, officers, employees, or consultants.
5. Contractor to contact the engineer-of-record (EOR) for any field changes. Any revisions or changes to the approved construction plans will require additional approval by NBU in writing.
6. Contractor and / or contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.
7. Contractor shall be responsible for restoring to its original or better condition, any damages done to existing fences, curbs, streets, driveways, landscaping and structures, and existing utilities (not adjusted on plans). Cost of Restorations, if any, shall be the contractor's entire expense.
8. The Contractor shall avoid cutting roots larger than one inch in diameter when excavating near existing trees. Excavation in vicinity of trees shall proceed with caution.
9. Contractor shall procure all permits and licenses, pay all charges, fees and taxes and give all notices necessary and incidental to the due and lawful prosecution of the work.
10. No extra payment shall be allowed for work called for on the plans but not included on the bid schedule. This incidental work will be required and shall be included under the pay item to which it relates.
11. Contractor is responsible for removal of all waste materials upon project completion. The contractor shall not permanently place any waste materials in the 100-year flood plain without first obtaining an approved flood plain development permit.
12. The contractor shall not place any materials on the recharge zone of the Edwards aquifer without an approved water pollution abatement plan from the TCEQ 31 TAC 313.4 and 31 TAC 313.9.
13. Barricades and warning signs shall conform to the "Texas manual on uniform traffic control devices" and shall be located to provide maximum protection to the public as well as construction personnel and equipment while providing continuous traffic flow at all times during construction. The contractor is responsible for maintaining all devices during construction.
14. Contractor is required to verify project elevations. The term "match existing" shall be understood to signify both horizontal and vertical alignment.
15. The location of utilities, either underground or overhead, shown within the right of way are approximate and shall be verified by the contractor before beginning construction operations.
16. OSHA regulations prohibit operations that will bring persons or equipment within 10 feet of an energized line. Where workmen and/or equipment have to work close to an energized electrical line, the contractor shall notify the electrical power company involved and make whatever adjustments necessary to ensure the safety of those workmen.
17. It shall be the contractor's responsibility to locate utility service lines as required for construction. Contractors shall call the One Call System for water/wastewater location.
18. Due to federal regulations Title 49, part 192 (8), Gas companies must maintain access to gas valves at all times. The contractor must protect and work around any gas valves that are in the project area.
19. The contractor is fully responsible for the traffic control and will be responsible for furnishing all traffic control devices, and flaggers. The construction methods shall be conducted to provide the least possible interference to traffic so as to permit the continuous movement of the traffic in one direction at all times. The contractor shall clean up and remove from the work area any loose material resulting from contract operations at the end of each workday.
20. Prior to ordering materials to be used in construction, contractor shall provide the engineer with four (4) copies of the source, type, gradation, material specification data and / or shop drawings, as applicable, to satisfy the requirements of the following items and all material items referred to in these listed items:
    a. Water mains and services
    b. Wastewater mains and services
21. Thrust blocks will not be allowed on the system without special approval. Joints will be restrained with restraining systems approved by NBU and restraint length shall be submitted to NBU at the time of plan submittal.
22. Water jetting the backfill within a street will not be permitted. Wastewater trenches subject to traffic shall conform to NBU Connection and Construction Policy Manual.
23. Where the minimum 9 foot separation distance between wastewater lines and water lines / mains cannot be maintained, the installation of wastewater lines shall be in strict accordance with 30 TAC 217.
24. Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation safety protection that complies with as a minimum, OSHA Standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA Standards governing the presence and activities of individuals working in and around trench excavation.
25. Utility Trench Compaction with street R.O.W.
    a. All utility trench compaction test within the street pavement section shall be the responsibility of the developer's Geo-technical engineer.
    b. Fill material shall be placed in uniform layers not to exceed twelve inches (12") loose.
    c. Each layer of material shall be compacted as specified and tested for density and moisture in accordance with Text Methods TEX-113-E, TEX-114-E, TEX-115-E.
    d. The number and location of required tests shall be determined by the Geo-technical Engineer and approved by the City of New Braunfels Street Inspector.
    e. Upon completion of testing the Geo-technical 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.

NBU	DRAWN BY: JO ARBO	STANDARD DRAWING: 2" TEMPORARY BLOW OFF ASSEMBLY ON 8" P.V.C. OR D.I. MAINS				
NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	APPROVED BY:	UPDATED: 2-2-23	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 252	

NBU	DRAWN BY: JO ARBO	STANDARD DRAWING: 2" PERMANENT BLOW OFF ASSEMBLY ON 8" P.V.C. OR D.I. MAINS				
NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	APPROVED BY:	UPDATED: 2-2-23	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 251	

DATE | NO. | REVISION

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS
WATER DETAILS AND NOTES

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.05

Date: Apr 15, 2024, 1:19pm User ID: ekrasprowicz
File: P:\124\35\03\Design\Civil\WNT-1243503.dwg

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NOTES

1. ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND SHALL BE EXTENDED ACCORDING TO NBU STANDARD DETAIL 410. CONTRACTOR SHALL INSTALL A 2" X 4" STAKE, FOUR (4) FEET LONG, TWO (2) FEET DEEP INTO THE GROUND AT THE END OF EACH SERVICE. NO SEPARATE PAY ITEM.
2. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 P.S.I. AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT WATER MAIN.
3. NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
4. ALL 6" SEWER LATERALS WILL BE SET AT 2% GRADE FROM THE MAIN TO THE PROPERTY LINE.
5. WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH NBU CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS. (SEE SEWER NOTES SHEET C11.20)
6. CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 2" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT. CONTRACTOR SHALL ENSURE THAT MANHOLES IN PAVED AREAS ARE SET TO MATCH TOP OF FINISHED GRADE.
7. ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
8. CONTRACTOR IS TO VERIFY EXISTING INVERT OF SANITARY SEWER MAIN AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
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11. SEE DETAIL SHEET FOR TYPICAL SANITARY SEWER/WATER CROSSING DETAIL.
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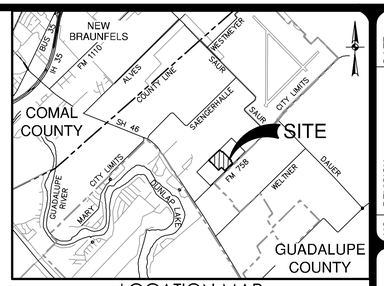
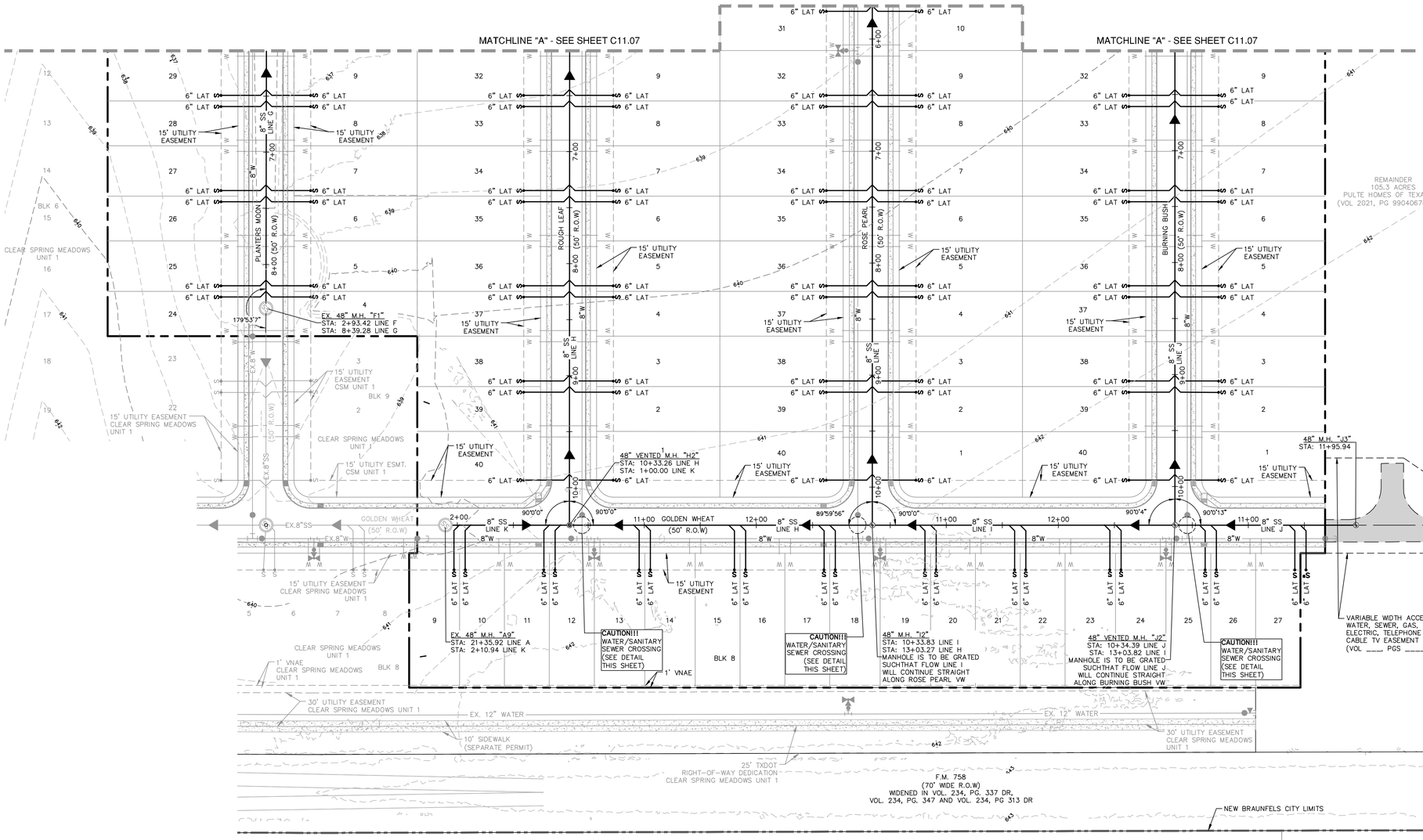
15. ALL WASTEWATER LINES AND MANHOLES WITH A DEPTH GREATER THAN 15-FEET MUST HAVE AN NBU INSPECTOR PRESENT DURING INSTALLATION. IF AN INSPECTOR IS NOT PRESENT, THE LINE AND OR MANHOLE IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S SOLE EXPENSE.



LOCATION MAP

MAPSCO MAP GRID: 123X1
NOT-TO-SCALE



0' 50' 100' 150'

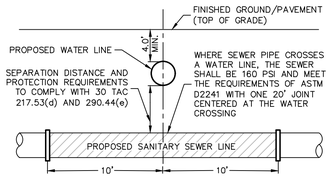
SCALE: 1"= 50'

SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER (W)
- EXISTING SEWER (SS, MANHOLE)
- PROPOSED SEWER (SS, MANHOLE)
- PROPOSED WATER (FIRE HYDRANT, W)
- PROPOSED SEWER LATERAL (S)
- PROPOSED SEWER LATERAL FOR FUTURE LOT (S)
- FINISHED FLOOR ELEVATION FOR SEWER — FF = XXXX.XX
- PROPOSED STORM DRAIN
- VEHICULAR NON ACCESS EASEMENT — VNAE

SEWER QUANTITIES

ITEM	TOTAL
WASTEWATER MAIN	5,644 LF
48" MANHOLES	14
LUES	196
WASTEWATER SERVICES	196



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

CITY OF NEW BRAUNFELS UTILITY NOTES

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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS
OVERALL SANITARY SEWER PLAN (SHEET 1 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.06

Date: Apr 15, 2024, 1:20pm User ID: akasprowicz
File: P:\124\35\03\Design\Civil\SSOA-1243503.dwg

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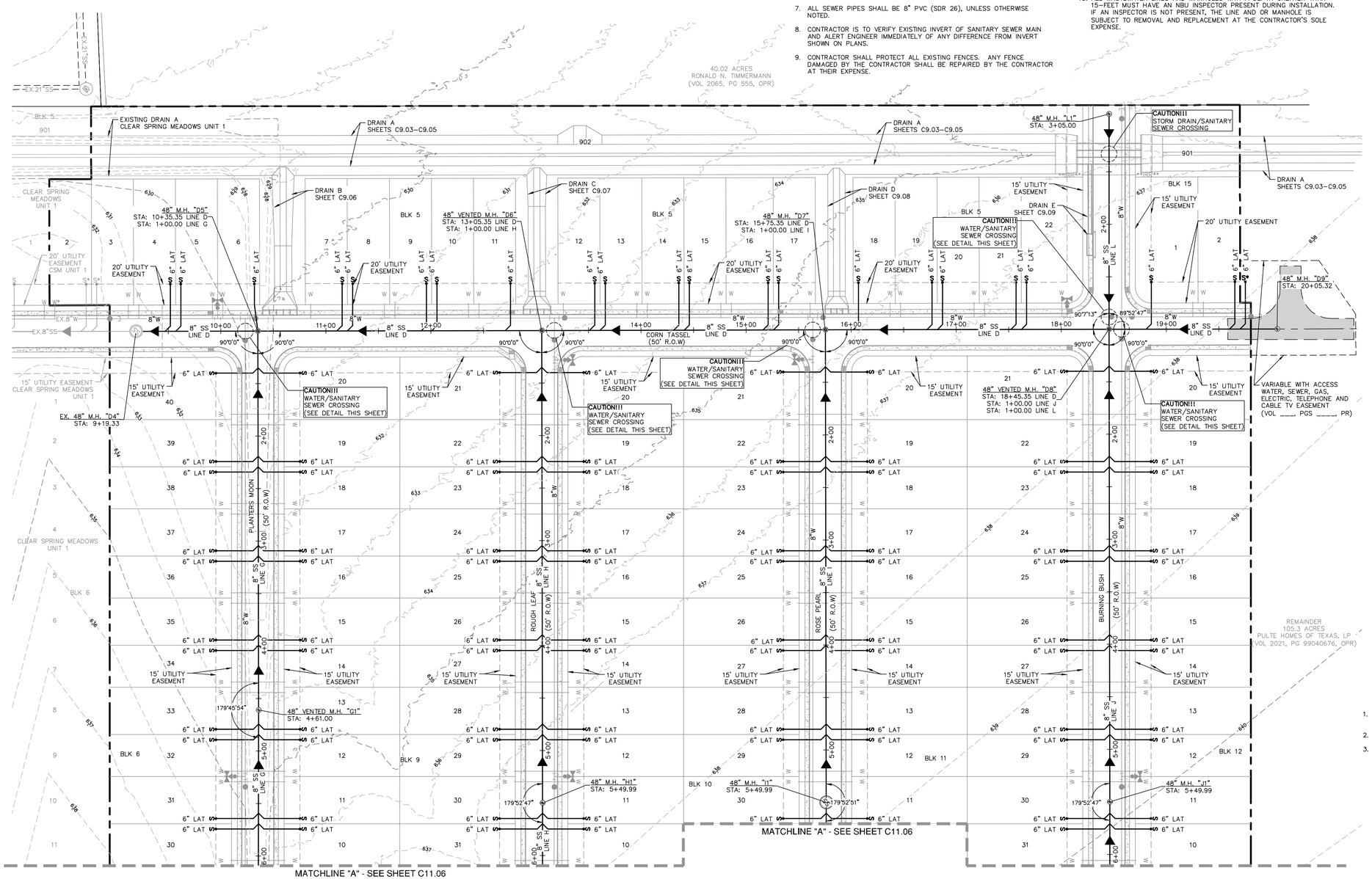


LOCATION MAP

MAPSCO MAP GRID: 123X1
NOT-TO-SCALE

0' 50' 100' 150'

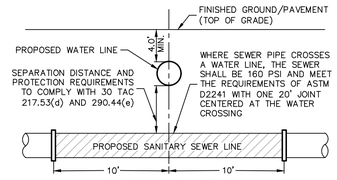
SCALE: 1"= 50'

SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER
- EXISTING SEWER
- PROPOSED SEWER
- PROPOSED WATER
- PROPOSED SEWER LATERAL
- PROPOSED SEWER LATERAL FOR FUTURE LOT
- FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
- PROPOSED STORM DRAIN
- VEHICULAR NON ACCESS EASEMENT (VNAE)
- SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)
- SIDEWALK (HOMEBUILDER RESPONSIBILITY)

SEWER QUANTITIES

ITEM	TOTAL
WASTEWATER MAIN	5,644 LF
48" MANHOLES	14
LUES	196
WASTEWATER SERVICES	196



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

CITY OF NEW BRAUNFELS UTILITY NOTES

1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

UTILITY 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.

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

OVERALL SANITARY SEWER PLAN
(SHEET 2 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MC DRAWN MGG
SHEET C11.07

Date: Apr 15, 2024, 1:20pm User ID: ekosprowicz
File: P:\124\35\03\Design\Civil\SSOA-1243503.dwg

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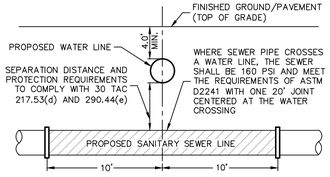

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TRENCH EXCAVATION SAFETY PROTECTION:

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

CAUTION!!

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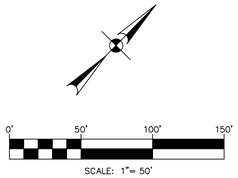
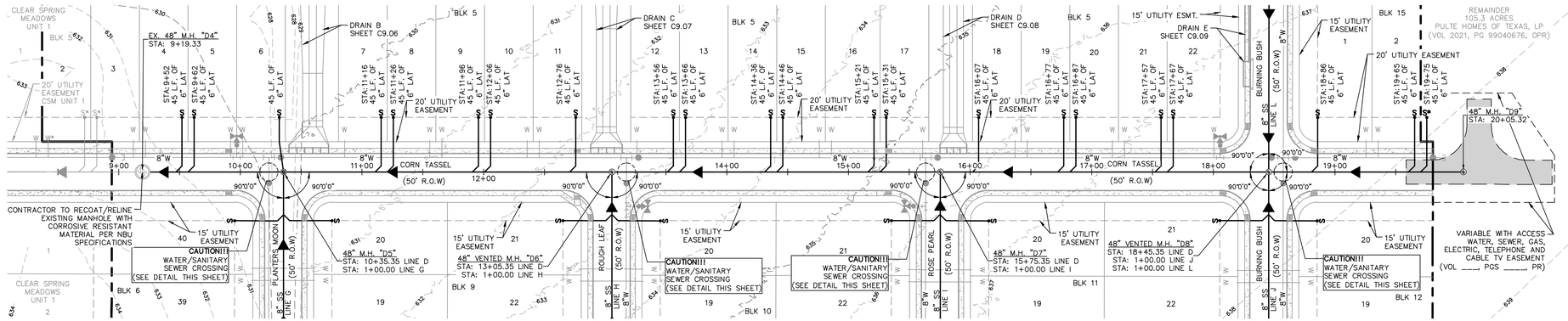
NOTE:

FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.



SCALE: 1"= 50'



SANITARY SEWER LINE D
PLAN AND PROFILE (STA. 9+19.33 TO STA. 20+05.32)

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

SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER
- EXISTING SEWER
- PROPOSED SEWER
- PROPOSED WATER
- PROPOSED SEWER LATERAL
- PROPOSED SEWER LATERAL FOR FUTURE LOT
- FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
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- SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)
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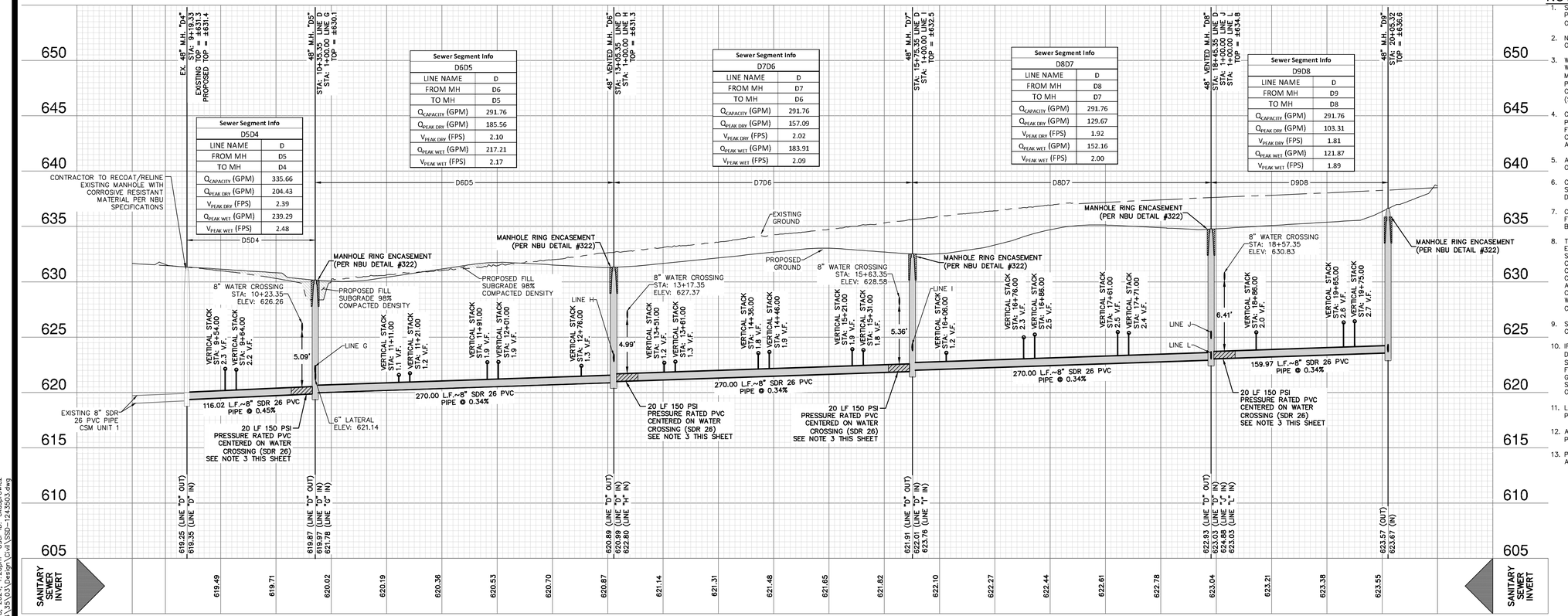
Sewer Segment Info	
D5D4	
LINE NAME	D
FROM MH	D5
TO MH	D4
$Q_{CAPACITY}$ (GPM)	335.66
$Q_{PEAK\ DRY}$ (GPM)	204.43
$V_{PEAK\ DRY}$ (FPS)	2.39
$Q_{PEAK\ WET}$ (GPM)	239.29
$V_{PEAK\ WET}$ (FPS)	2.48

Sewer Segment Info	
D6D5	
LINE NAME	D
FROM MH	D6
TO MH	D5
$Q_{CAPACITY}$ (GPM)	291.76
$Q_{PEAK\ DRY}$ (GPM)	185.56
$V_{PEAK\ DRY}$ (FPS)	2.10
$Q_{PEAK\ WET}$ (GPM)	217.21
$V_{PEAK\ WET}$ (FPS)	2.17

Sewer Segment Info	
D7D6	
LINE NAME	D
FROM MH	D7
TO MH	D6
$Q_{CAPACITY}$ (GPM)	291.76
$Q_{PEAK\ DRY}$ (GPM)	157.09
$V_{PEAK\ DRY}$ (FPS)	2.02
$Q_{PEAK\ WET}$ (GPM)	183.91
$V_{PEAK\ WET}$ (FPS)	2.09

Sewer Segment Info	
D8D7	
LINE NAME	D
FROM MH	D8
TO MH	D7
$Q_{CAPACITY}$ (GPM)	291.76
$Q_{PEAK\ DRY}$ (GPM)	129.67
$V_{PEAK\ DRY}$ (FPS)	1.92
$Q_{PEAK\ WET}$ (GPM)	152.16
$V_{PEAK\ WET}$ (FPS)	2.00

Sewer Segment Info	
D9D8	
LINE NAME	D
FROM MH	D9
TO MH	D8
$Q_{CAPACITY}$ (GPM)	291.76
$Q_{PEAK\ DRY}$ (GPM)	103.31
$V_{PEAK\ DRY}$ (FPS)	1.81
$Q_{PEAK\ WET}$ (GPM)	121.87
$V_{PEAK\ WET}$ (FPS)	1.89



NOTES

1. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 P.S.I. AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT WATER MAIN.
2. NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH NBU'S WATER CONNECTION POLICY IN THE VICINITY OF WATER MAINS. (SEE SEWER NOTES SHEET C11.20)
4. CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 2" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT. CONTRACTOR SHALL ENSURE THAT MANHOLES IN PAVED AREAS ARE SET TO MATCH TOP OF FINISHED GRADE.
5. ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
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11. LAST 20 L.F. OF 8" STUB-OUT SHALL BE CONSTRUCTED OF P.V.C. SDR 26 (160 P.S.I.) PRESSURE PIPE.
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NO.	REVISION	DATE

STATE OF TEXAS — MATTHEW GEISTWEIDT — 118861 — LICENSED — PROFESSIONAL ENGINEER

4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE D
PLAN AND PROFILE (STA. 9+19.33 TO STA. 20+05.32)

PLAT NO.	PLAT #
JOB NO.	12435-03
DATE	OCTOBER 2022
DESIGNER	EDK
CHECKED	MG
DRAWN	MGG
SHEET	C11.08

Date: Apr 15, 2024, 1:20pm User ID: ekrzeszowitz
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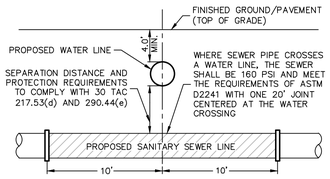

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

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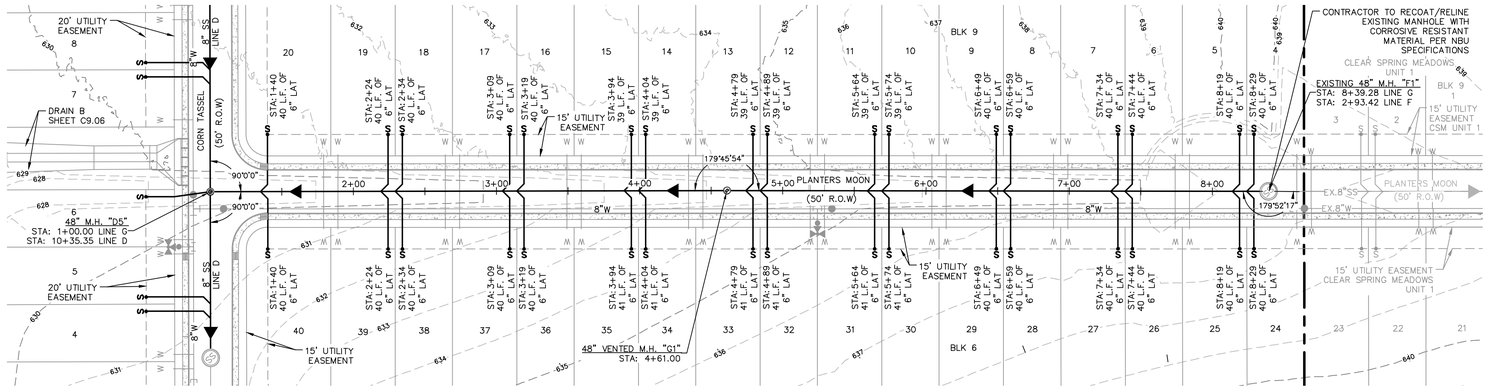

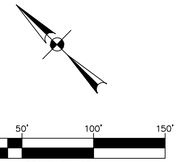

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SANITARY SEWER LINE G
PLAN AND PROFILE (STA. 1+00.00 TO END)

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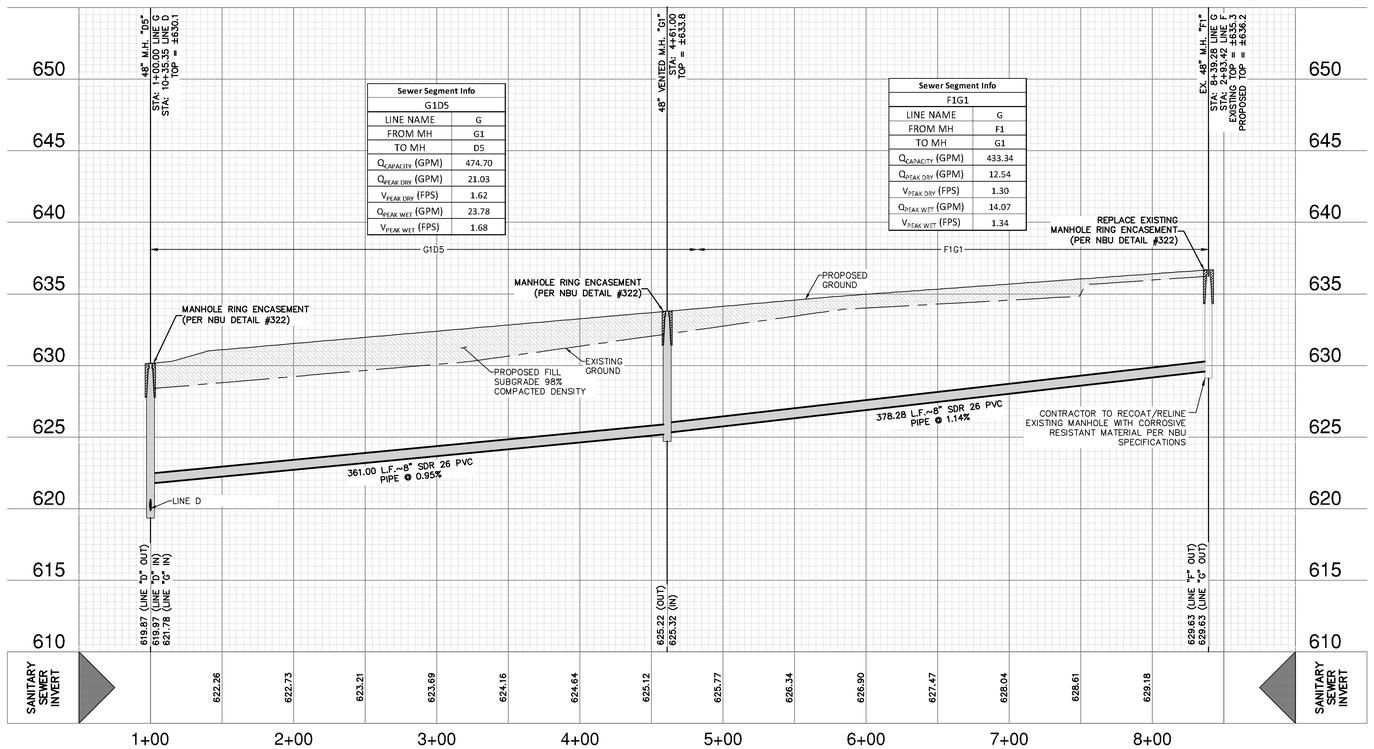

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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
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STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

NO.	REVISION	DATE

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE G
PLAN AND PROFILE (STA. 1+00.00 TO END)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.09

Date: Apr 15, 2024, 1:21pm User ID: ekasprowicz
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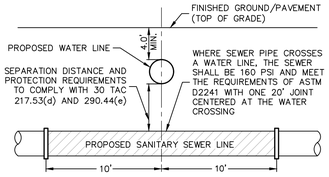
SEWER QUANTITIES	
ITEM	TOTAL
WASTEWATER MAIN	5,644 LF
48" MANHOLES	14
LUES	196
WASTEWATER SERVICES	196



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

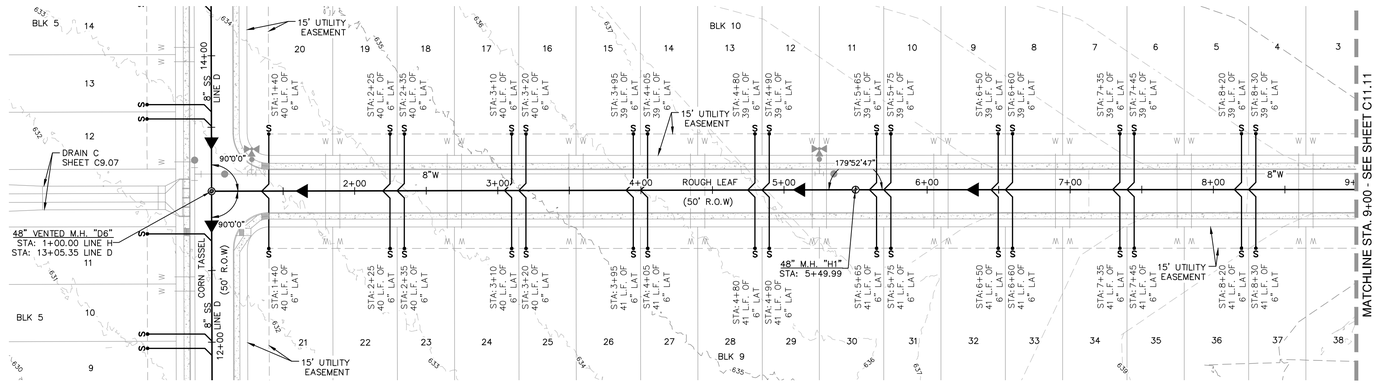
NOT-TO-SCALE

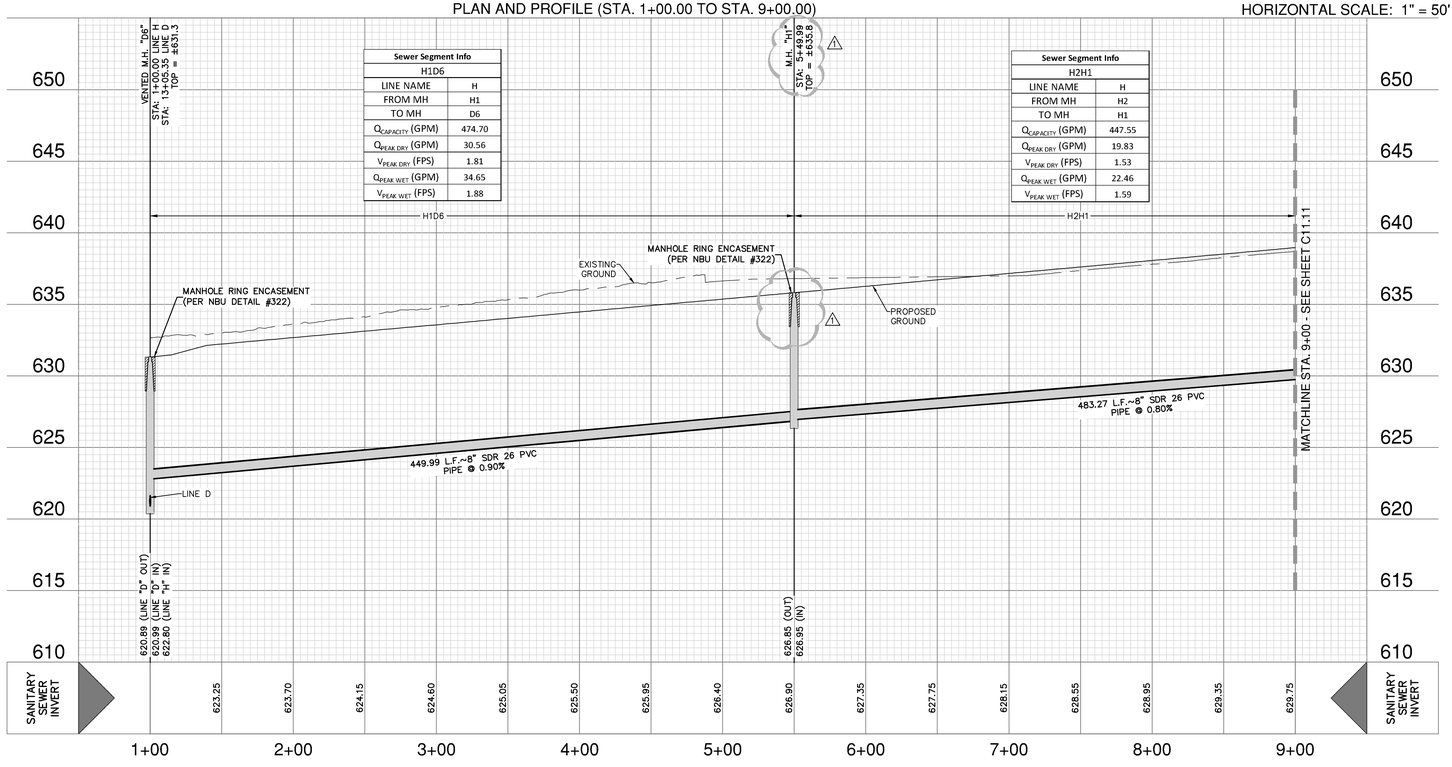
TRENCH EXCAVATION SAFETY PROTECTION:

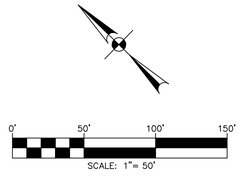
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.







SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER (W)
- EXISTING SEWER (SS)
- PROPOSED SEWER (SS) — MANHOLE
- PROPOSED WATER (W) — FIRE HYDRANT
- PROPOSED SEWER LATERAL (S)
- PROPOSED SEWER LATERAL FOR FUTURE LOT (S)
- FINISHED FLOOR ELEVATION FOR SEWER — FF = XXXX.XX
- PROPOSED STORM DRAIN
- SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)
- SIDEWALK (HOMEBUILDER RESPONSIBILITY)

NOTES

1. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 P.S.I. AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT WATER MAIN.
2. NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH NBU'S WATER CONNECTION POLICY IN THE VICINITY OF WATER MAINS. (SEE SEWER NOTES SHEET C11.20)
4. CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 2" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT. CONTRACTOR SHALL ENSURE THAT MANHOLES IN PAVED AREAS ARE SET TO MATCH TOP OF FINISHED GRADE.
5. ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
6. CONTRACTOR IS TO VERIFY EXISTING INVERT OF SANITARY SEWER MAIN AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
7. CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
9. SEE THIS SHEET FOR TYPICAL SANITARY SEWER/WATER CROSSING DETAIL.
10. IF A CONFLICT EXISTS BETWEEN THE VARIOUS SUBMITTED DOCUMENTS (ENGINEERING CALCULATIONS, PROJECTED SPECIFICATIONS, PROJECTED PLANS, ADDENDUMS, ETC.), THE FOLLOWING DOCUMENTS TAKE PRECEDENT: SPECIFICATIONS GOVERN OVER PLANS, SPECIAL CONDITIONS GOVERN OVER SPECIFICATIONS AND PLANS. ADDENDUMS TAKE PRECEDENCE OVER ALL.
11. LAST 20 L.F. OF 8" STUB-OUT SHALL BE CONSTRUCTED OF P.V.C. SDR 26 (160 P.S.I.) PRESSURE PIPE.
12. ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE AND BE LAID WITH MIN. 36" OF COVER.
13. PIPE INVERTS AND MANHOLES SHALL BE CONSTRUCTED TO ALLOW TV INSPECTION EQUIPMENT ACCESS.

NOTE:

FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

CITY OF NEW BRAUNFELS UTILITY NOTES

1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH, DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

UTILITY 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.

NO.	REVISION	DATE
1	ADJUST MANHOLE TOP ELEVATION	06/06/24

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
06/06/2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE H
PLAN AND PROFILE (STA. 1+00.00 TO STA. 9+00.00)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.10

Date: Jun 06, 2024, 10:45am User ID: MGarrett
File: P:\124\35\03\Design\Civil\SSH-124303.dwg

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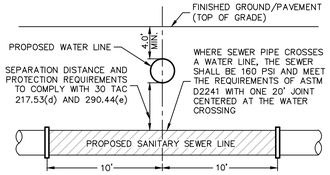

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

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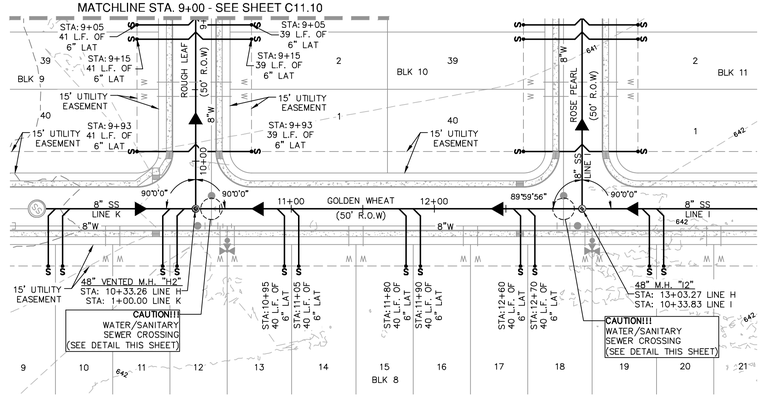
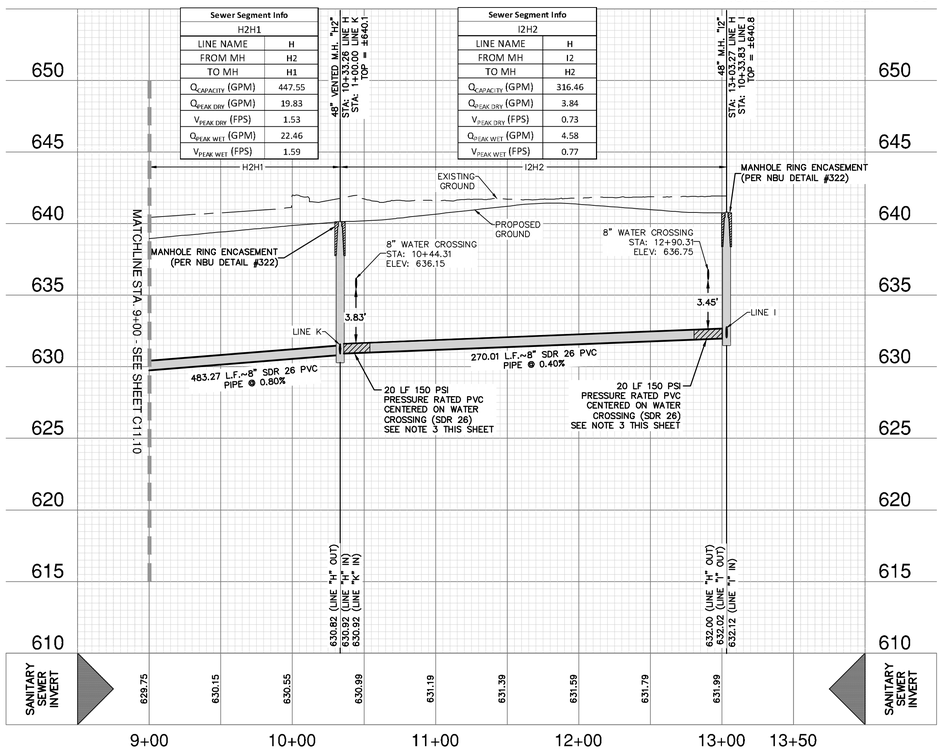
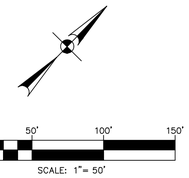


SANITARY SEWER LINE H
PLAN AND PROFILE (STA. 9+00.00 TO END)

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





SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER (W)
- EXISTING SEWER (SS, MANHOLE)
- PROPOSED SEWER (SS, MANHOLE)
- PROPOSED WATER (FIRE HYDRANT, W)
- PROPOSED SEWER LATERAL (S)
- PROPOSED SEWER LATERAL FOR FUTURE LOT (S)
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NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-19-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE H
PLAN AND PROFILE (STA. 9+00.00 TO END)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
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CHECKED MG DRAWN MGG
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Date: Apr 15, 2024, 1:22pm User ID: ecaprowicz
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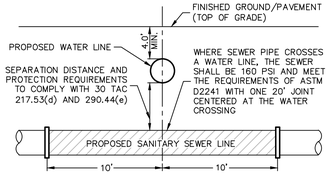

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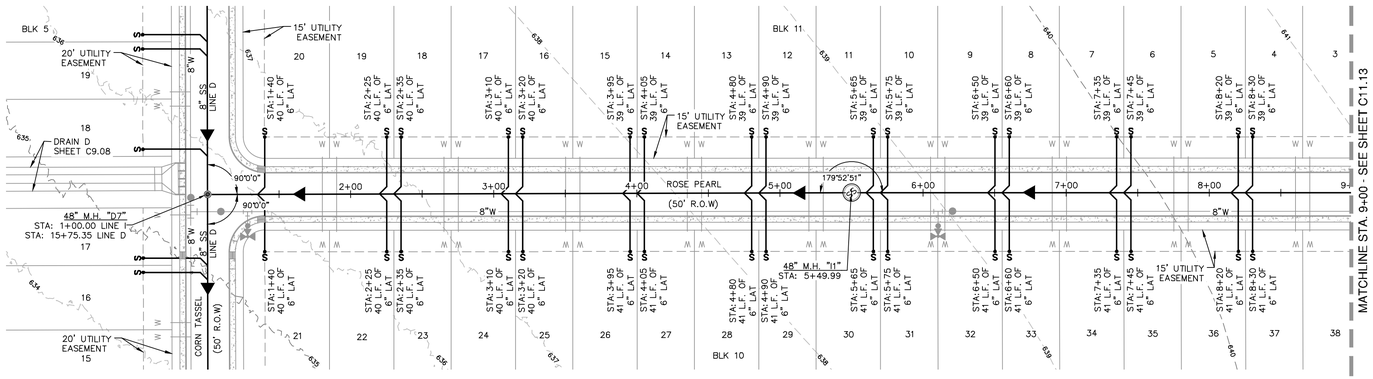

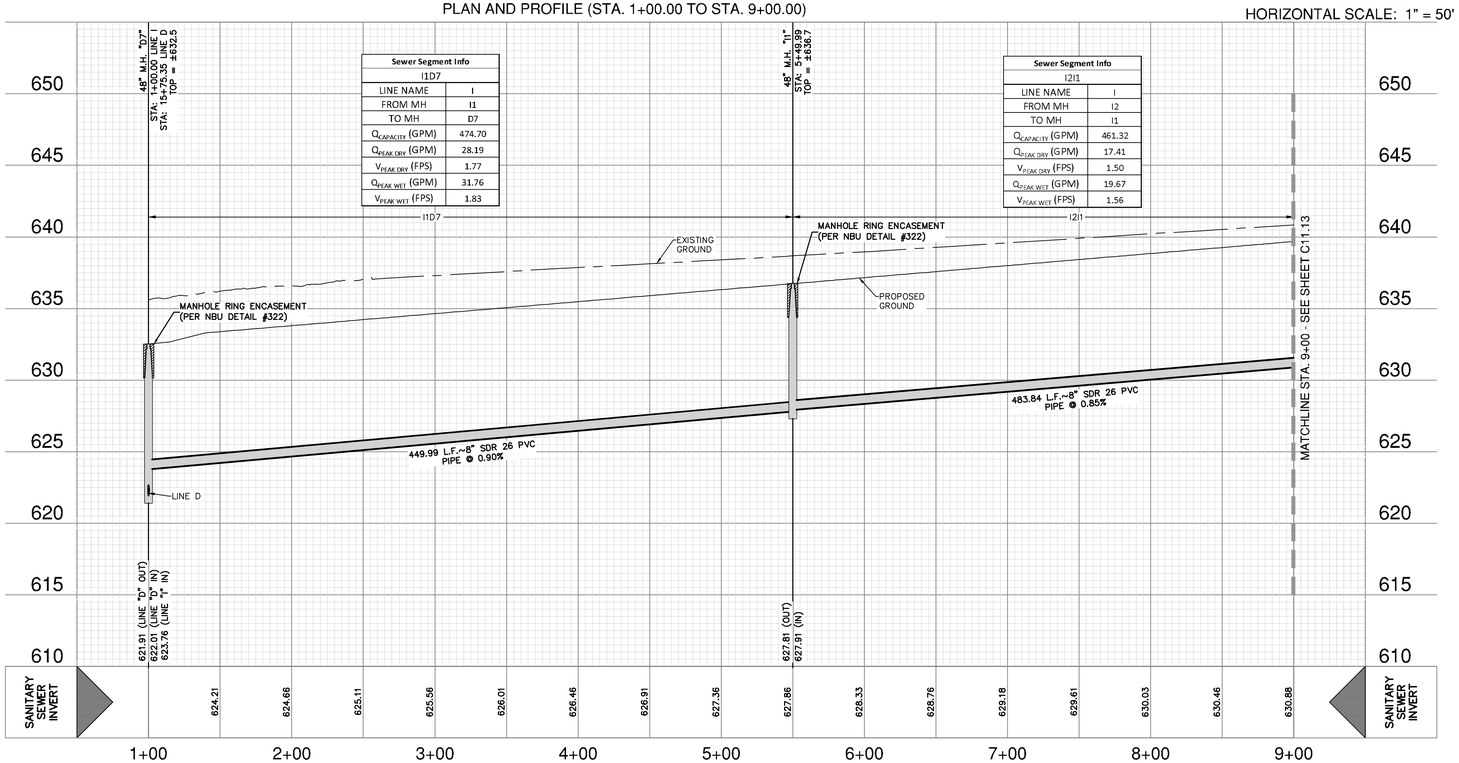

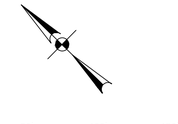

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- PROJECT LIMITS
- EXISTING WATER (W)
- EXISTING SEWER (SS)
- PROPOSED SEWER (SS, MANHOLE)
- PROPOSED WATER (W, FIRE HYDRANT)
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NOTES

1. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 P.S.I. AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT WATER MAIN.
2. NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH NBU'S WATER CONNECTION POLICY IN THE VICINITY OF WATER MAINS. (SEE SEWER NOTES SHEET C11.20)
4. CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 2" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT. CONTRACTOR SHALL ENSURE THAT MANHOLES IN PAVED AREAS ARE SET TO MATCH TOP OF FINISHED GRADE.
5. ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
6. CONTRACTOR IS TO VERIFY EXISTING INVERT OF SANITARY SEWER MAIN AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
7. CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
9. SEE THIS SHEET FOR TYPICAL SANITARY SEWER/WATER CROSSING DETAIL.
10. IF A CONFLICT EXISTS BETWEEN THE VARIOUS SUBMITTED DOCUMENTS (ENGINEERING CALCULATIONS, PROJECTED SPECIFICATIONS, PROJECTED PLANS, ADDENDUMS, ETC.), THE FOLLOWING DOCUMENTS TAKE PRECEDENT: SPECIFICATIONS GOVERN OVER PLANS, SPECIAL CONDITIONS GOVERN OVER SPECIFICATIONS AND PLANS. ADDENDUMS TAKE PRECEDENCE OVER ALL.
11. LAST 20 L.F. OF 8" STUB-OUT SHALL BE CONSTRUCTED OF P.V.C. SDR 26 (160 P.S.I.) PRESSURE PIPE.
12. ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.
13. PIPE INVERTS AND MANHOLES SHALL BE CONSTRUCTED TO ALLOW TV INSPECTION EQUIPMENT ACCESS.

NOTE:

FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

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

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE I
PLAN AND PROFILE (STA. 1+00.00 TO STA. 9+00.00)

PLAT NO.	PLAT #
JOB NO.	12435-03
DATE	OCTOBER 2022
DESIGNER	EDK
CHECKED	MG DRAWN MGG
SHEET	C11.12

Date: Apr 15, 2024, 1:22pm User ID: akasprowicz
File: P:\124\35\03\Design\Civil\SSI-1243503.dwg

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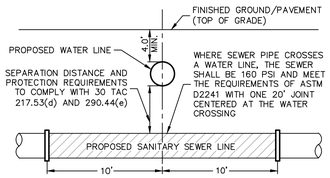


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

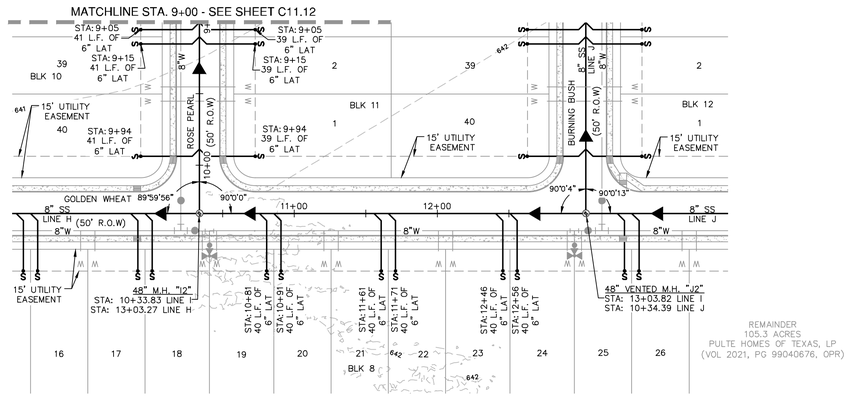
NOT-TO-SCALE

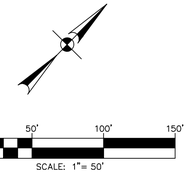
TRENCH EXCAVATION SAFETY PROTECTION:

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

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.





SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER
- EXISTING SEWER
- PROPOSED SEWER
- PROPOSED WATER
- PROPOSED SEWER LATERAL
- PROPOSED SEWER LATERAL FOR FUTURE LOT
- FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
- PROPOSED STORM DRAIN
- SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)
- SIDEWALK (HOMEBUILDER RESPONSIBILITY)

NOTES

1. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 P.S.I. AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT WATER MAIN.
2. NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
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4. CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 2" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT. CONTRACTOR SHALL ENSURE THAT MANHOLES IN PAVED AREAS ARE SET TO MATCH TOP OF FINISHED GRADE.
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NOTE:

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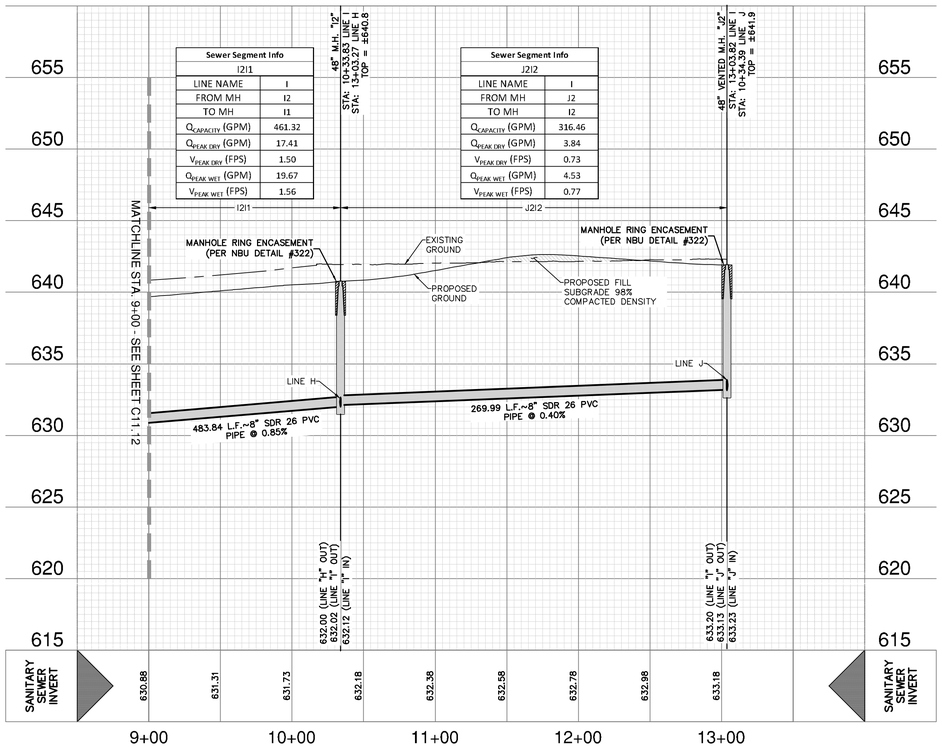
SANITARY SEWER LINE I
PLAN AND PROFILE (STA. 9+00.00 TO END)

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



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STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

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TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE I
PLAN AND PROFILE (STA. 9+00.00 TO END)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.13

Date: Apr 15, 2024, 1:22pm User ID: akasprowicz
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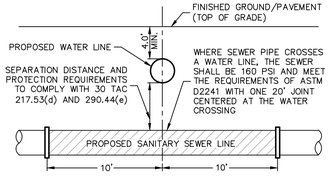
LUES	196
WASTEWATER SERVICES	196



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

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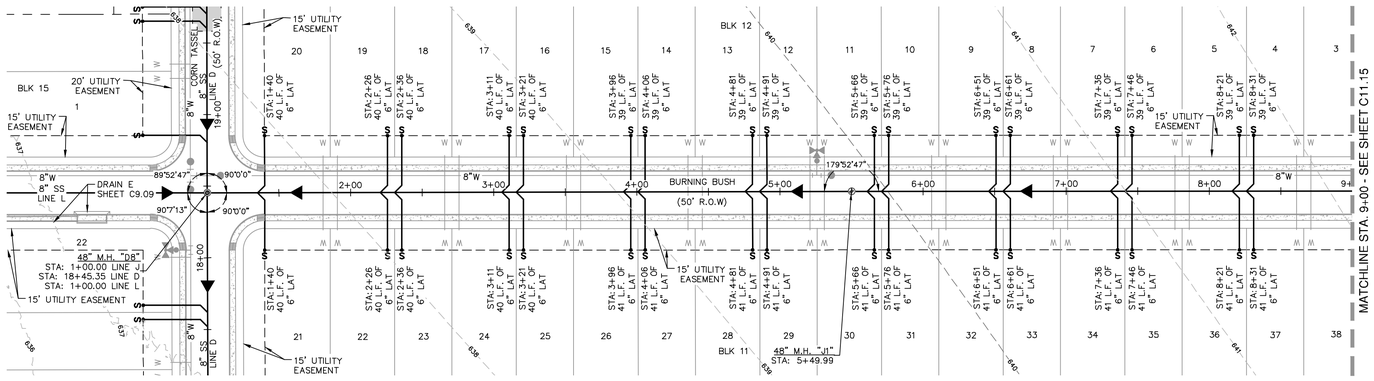

SANITARY SEWER LINE J
PLAN AND PROFILE (STA. 1+00.00 TO STA. 9+00.00)

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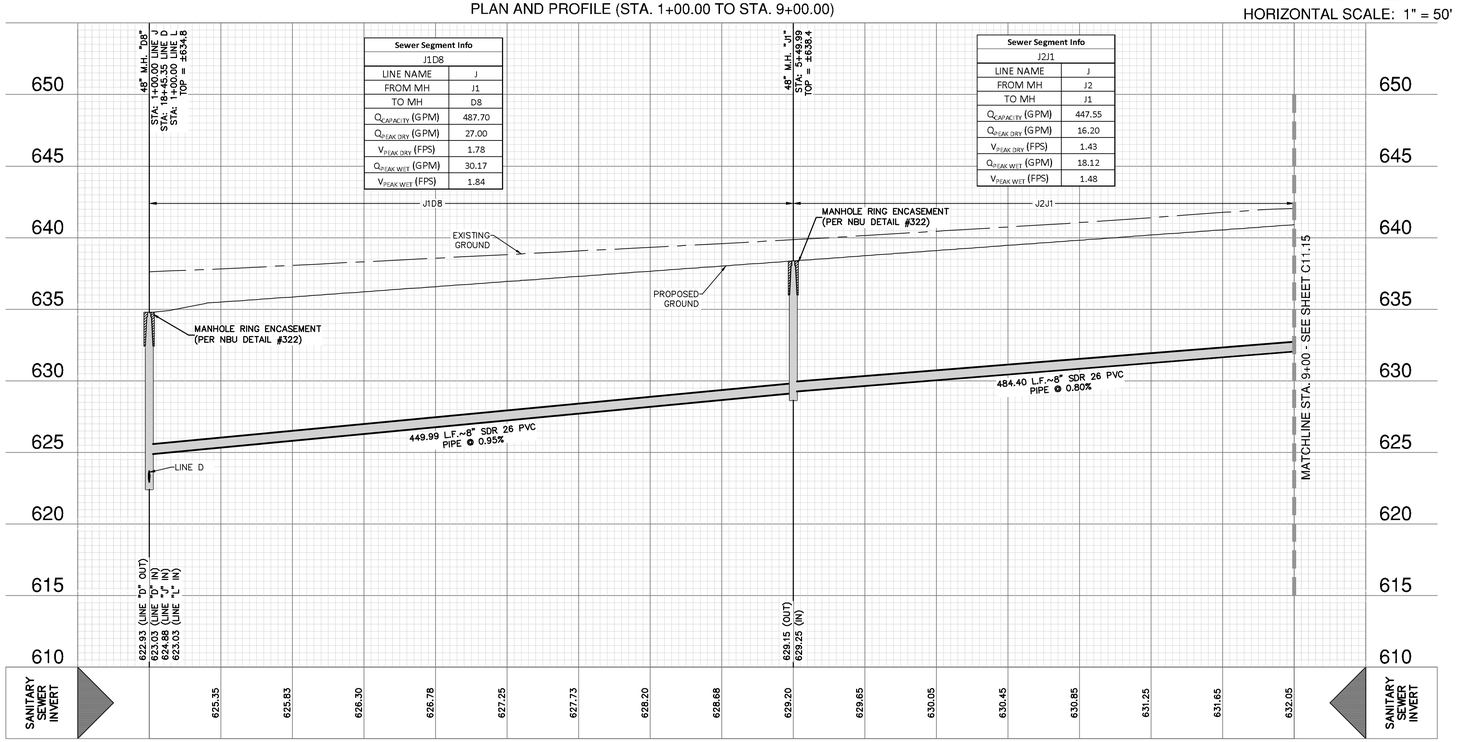

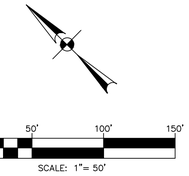

SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER (W)
- EXISTING SEWER (SS, MANHOLE)
- PROPOSED SEWER (SS, MANHOLE)
- PROPOSED WATER (W, FIRE HYDRANT)
- PROPOSED SEWER LATERAL (S)
- PROPOSED SEWER LATERAL FOR FUTURE LOT (S)
- FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
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CLEAR SPRING MEADOWS UNIT 2
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SANITARY SEWER LINE J
PLAN AND PROFILE (STA. 1+00.00 TO STA. 9+00.00)

PLAT NO. PLAT #
JOB NO. 12435-03
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Date: Apr 15, 2024, 1:23pm User ID: akosprowicz
File: P:\124\35\03\Design\Civil\SSJ-1243503.dwg

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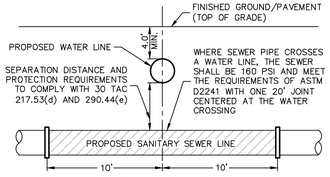
SEWER QUANTITIES	
ITEM	TOTAL
WASTEWATER MAIN	5,644 LF
48" MANHOLES	14
LUES	196
WASTEWATER SERVICES	196



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

TRENCH EXCAVATION SAFETY PROTECTION:

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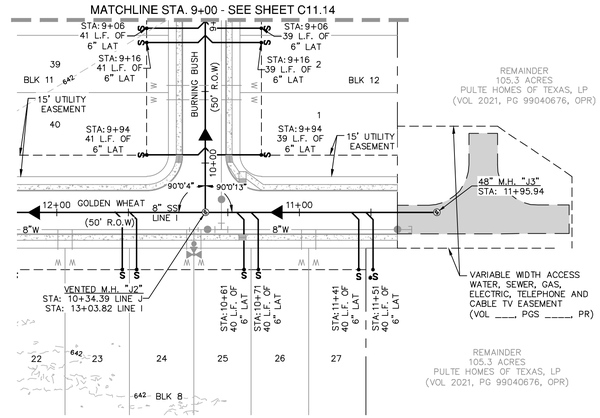
CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.



SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER (W)
- EXISTING SEWER (SS, MANHOLE)
- PROPOSED SEWER (SS, MANHOLE)
- PROPOSED WATER (W, FIRE HYDRANT)
- PROPOSED SEWER LATERAL (S)
- PROPOSED SEWER LATERAL FOR FUTURE LOT (S)
- FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
- PROPOSED STORM DRAIN
- SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)
- SIDEWALK (HOMEBUILDER RESPONSIBILITY)

NOTES

1. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 P.S.I. AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT WATER MAIN.
2. NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH NBU'S WATER CONNECTION POLICY IN THE VICINITY OF WATER MAINS. (SEE SEWER NOTES SHEET C11.20)
4. CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 2" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT. CONTRACTOR SHALL ENSURE THAT MANHOLES IN PAVED AREAS ARE SET TO MATCH TOP OF FINISHED GRADE.
5. ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
6. CONTRACTOR IS TO VERIFY EXISTING INVERT OF SANITARY SEWER MAIN AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
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9. SEE THIS SHEET FOR TYPICAL SANITARY SEWER/WATER CROSSING DETAIL.
10. IF A CONFLICT EXISTS BETWEEN THE VARIOUS SUBMITTED DOCUMENTS (ENGINEERING CALCULATIONS, PROJECTED SPECIFICATIONS, PROJECTED PLANS, ADDENDUMS, ETC.), THE FOLLOWING DOCUMENTS TAKE PRECEDENT: SPECIFICATIONS GOVERN OVER PLANS, SPECIAL CONDITIONS GOVERN OVER SPECIFICATIONS AND PLANS. ADDENDUMS TAKE PRECEDENCE OVER ALL.
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NOTE:
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CITY OF NEW BRAUNFELS UTILITY NOTES

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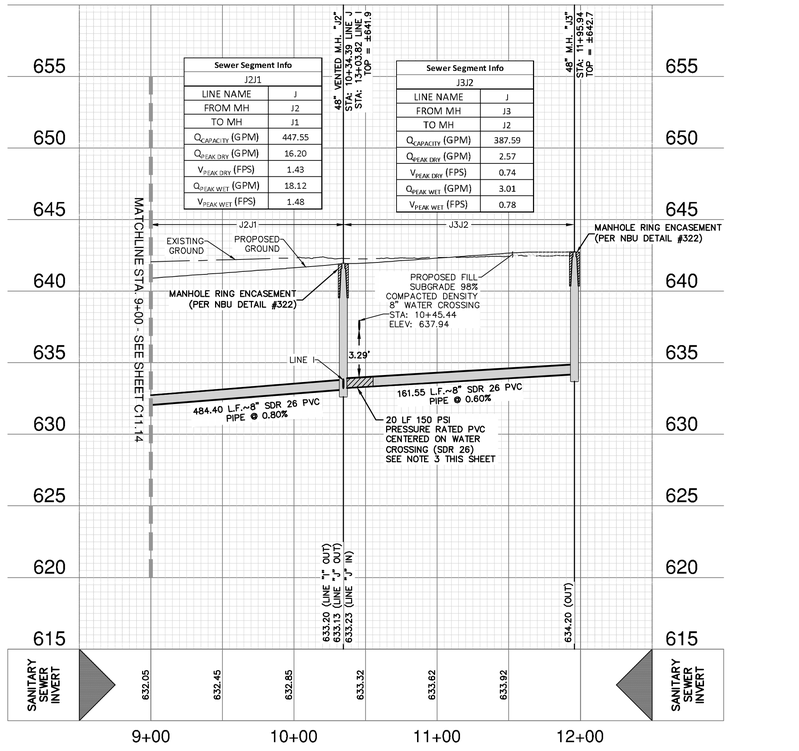
SANITARY SEWER LINE J
PLAN AND PROFILE (STA. 9+00.00 TO END)

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



NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE J
PLAN AND PROFILE (STA. 9+00.00 TO END)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.15

Date: Apr 15, 2024, 1:23pm User ID: ekasprowicz
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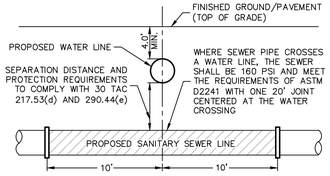

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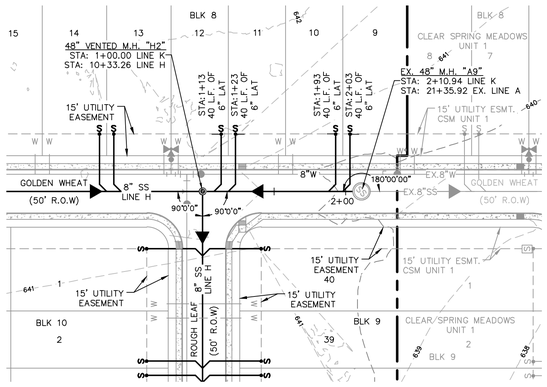

SANITARY SEWER LINE K
PLAN AND PROFILE (STA. 1+00.00 TO END)

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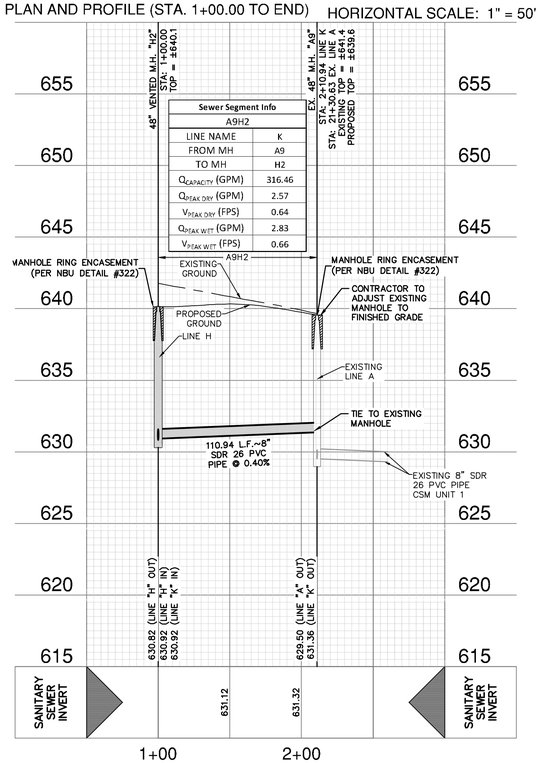

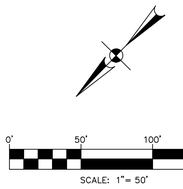

SEWER LEGEND

PROJECT LIMITS

EXISTING WATER

EXISTING SEWER

PROPOSED SEWER

PROPOSED WATER

PROPOSED SEWER LATERAL

PROPOSED SEWER LATERAL FOR FUTURE LOT

FINISHED FLOOR ELEVATION FOR SEWER — FF = XXXX.XX

PROPOSED STORM DRAIN

SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)

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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE K
PLAN AND PROFILE (STA. 1+00.00 TO END)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.16

Date: Apr 15, 2024, 1:23pm User ID: akasprowicz
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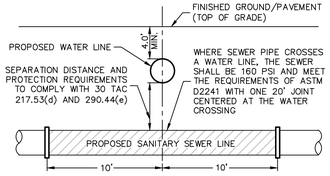

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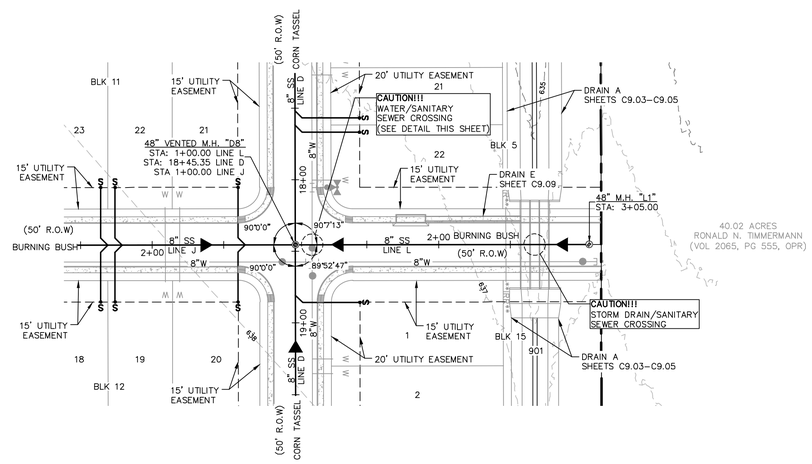

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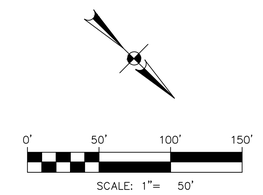

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6. CONTRACTOR IS TO VERIFY EXISTING INVERT OF SANITARY SEWER MAIN AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
7. CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
9. SEE THIS SHEET FOR TYPICAL SANITARY SEWER/WATER CROSSING DETAIL.
10. IF A CONFLICT EXISTS BETWEEN THE VARIOUS SUBMITTED DOCUMENTS (ENGINEERING CALCULATIONS, PROJECTED SPECIFICATIONS, PROJECTED PLANS, ADDENDUMS, ETC.), THE FOLLOWING DOCUMENTS TAKE PRECEDENT: SPECIFICATIONS GOVERN OVER PLANS, SPECIAL CONDITIONS GOVERN OVER SPECIFICATIONS AND PLANS. ADDENDUMS TAKE PRECEDENCE OVER ALL.
11. LAST 20 L.F. OF 8" STUB-OUT SHALL BE CONSTRUCTED OF P.V.C. SDR 26 (160 P.S.I.) PRESSURE PIPE.
12. ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE AND BE LAID WITH MIN. 36" OF COVER.
13. PIPE INVERTS AND MANHOLES SHALL BE CONSTRUCTED TO ALLOW TV INSPECTION EQUIPMENT ACCESS.

NOTE:

FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

CITY OF NEW BRAUNFELS UTILITY NOTES

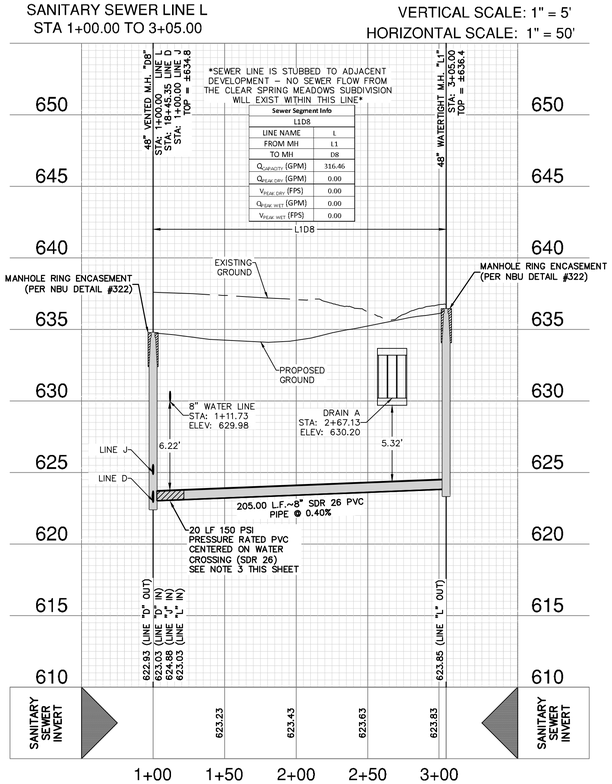
1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

UTILITY 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.

SANITARY SEWER LINE L
STA 1+00.00 TO 3+05.00

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



DATE | NO. | REVISION

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE L
STA 1+00.00 TO 3+05.00

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.17

Date: Apr 15, 2024, 1:24pm User ID: akasprowicz
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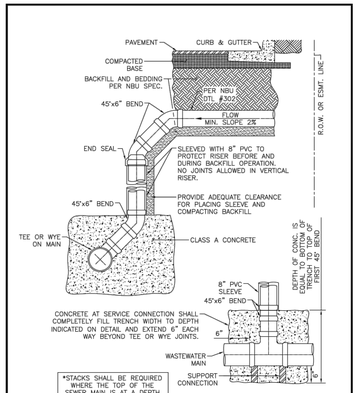
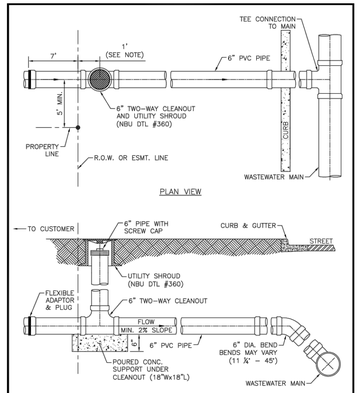
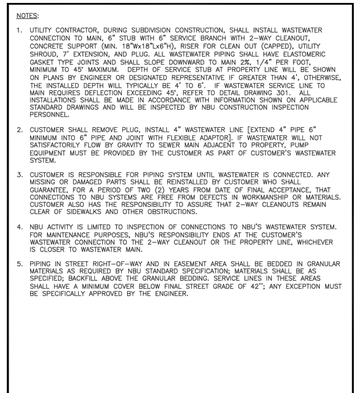
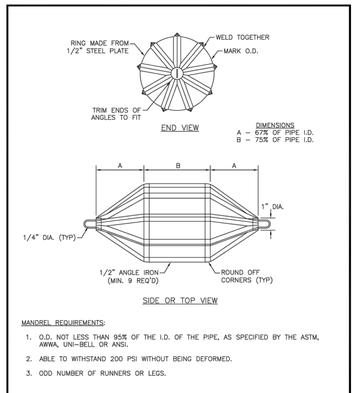
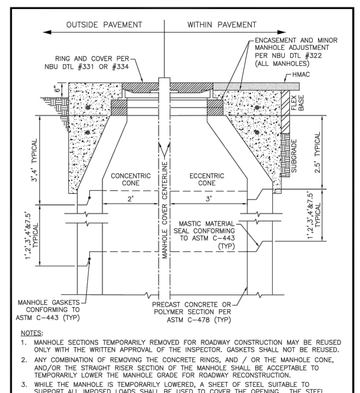


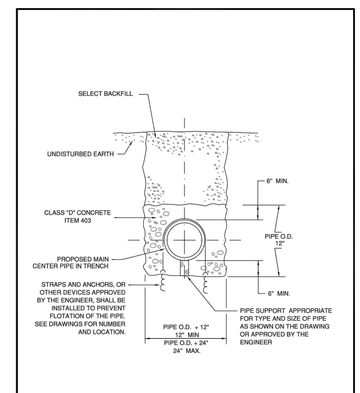


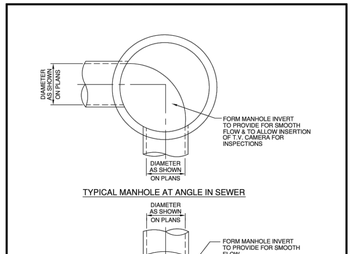

NOTES:

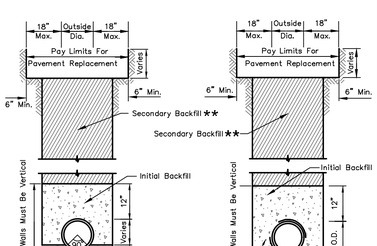
1. UTILITY CONTRACTOR, DURING SUBDIVISION CONSTRUCTION, SHALL INSTALL WASTEWATER CONNECTION TO MAIN, 6" STUB WITH 6" SERVICE BRANCH WITH 2-WAY CLEANOUT, CONCRETE SUPPORT (MIN. 18"Wx18"Lx6"H), RISER FOR CLEAN OUT (CAPPED), UTILITY SHROUD, 7' EXTENSION, AND PLUG. ALL WASTEWATER PIPING SHALL HAVE ELASTOMERIC GASKET TYPE JOINTS AND SHALL SLOPE DOWNWARD TO MAIN 2% OR 1/4" PER FOOT, MINIMUM TO 45° MAXIMUM. DEPTH OF SERVICE STUB AT PROPERTY LINE WILL BE SHOWN ON PLANS BY ENGINEER OR DESIGNATED REPRESENTATIVE IF GREATER THAN 4', OTHERWISE, THE INSTALLED DEPTH WILL TYPICALLY BE 4' TO 6'. IF WASTEWATER SERVICE LINE TO MAIN REQUIRES DEFLECTION EXCEEDING 45°, REFER TO DETAIL DRAWING 301. ALL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH INFORMATION SHOWN ON APPLICABLE STANDARD DRAWINGS AND WILL BE INSPECTED BY NBU CONSTRUCTION INSPECTION PERSONNEL.
2. CUSTOMER SHALL REMOVE PLUG, INSTALL 4" WASTEWATER LINE (EXTEND 4" PIPE 6" MINIMUM INTO 6" PIPE AND JOINT WITH FLEXIBLE ADAPTOR). IF WASTEWATER WILL NOT SATISFACTORILY FLOW BY GRAVITY TO SEWER MAIN ADJACENT TO PROPERTY, PUMP EQUIPMENT MUST BE PROVIDED BY THE CUSTOMER AS PART OF CUSTOMER'S WASTEWATER SYSTEM.
3. CUSTOMER IS RESPONSIBLE FOR PIPING SYSTEM UNTIL WASTEWATER IS CONNECTED. ANY MISSING OR DAMAGED PARTS SHALL BE REINSTALLED BY CUSTOMER WHO SHALL GUARANTEE, FOR A PERIOD OF TWO (2) YEARS FROM DATE OF FINAL ACCEPTANCE, THAT CONNECTIONS TO NBU SYSTEMS ARE FREE FROM DEFECTS IN WORKMANSHIP OR MATERIALS. CUSTOMER ALSO HAS THE RESPONSIBILITY TO ASSURE THAT 2-WAY CLEANOUTS REMAIN CLEAR OF SIDEWALKS AND OTHER OBSTRUCTIONS.
4. NBU ACTIVITY IS LIMITED TO INSPECTION OF CONNECTIONS TO NBU'S WASTEWATER SYSTEM. FOR MAINTENANCE PURPOSES, NBU'S RESPONSIBILITY ENDS AT THE CUSTOMER'S WASTEWATER CONNECTION TO THE 2-WAY CLEANOUT OR THE PROPERTY LINE, WHICHEVER IS CLOSER TO WASTEWATER MAIN.
5. PIPING IN STREET RIGHT-OF-WAY AND IN EASEMENT AREA SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY NBU STANDARD SPECIFICATION; MATERIALS SHALL BE AS SPECIFIED; BACKFILL ABOVE THE GRANULAR BEDDING SERVICE LINES IN THESE AREAS SHALL HAVE A MINIMUM COVER BELOW FINAL STREET GRADE OF 42"; ANY EXCEPTION MUST BE SPECIFICALLY APPROVED BY THE ENGINEER.











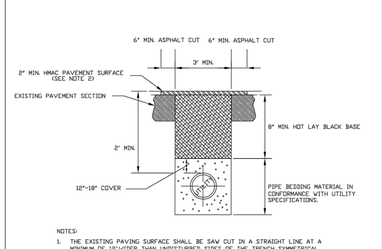
* Sewer Gravel 6" Min. or 1/8 O.D. of the pipe, whichever is greater as directed by the Inspector

Pipe bedding of wastewater lines shall be manufactured sand or pea gravel as per NBU specifications.

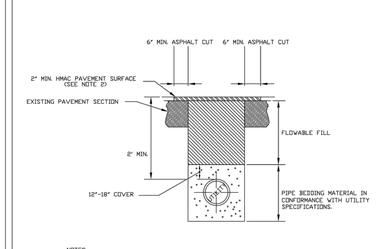
1) RIGID PIPE – UNSTABLE OR UNACCEPTABLE CONDITIONS
FLEXIBLE PIPE – ALL CONDITIONS
2) RIGID PIPE – EXISTING STABLE BEDDING CONDITIONS

** SECONDARY BACKFILL OF WASTEWATER LINES SHALL MEET NBU AND CITY OF NEW BRAUNFELS SPECIFICATIONS AND SHALL GENERALLY CONSIST OF MATERIALS REMOVED FROM THE TRENCH AND SHALL BE FREE FROM BRUSH, DEBRIS AND TRASH, NO ROCKS OR STONES HAVING ANY DIMENSION LARGER THAN 6 INCHES AT THE LARGEST DIMENSION.

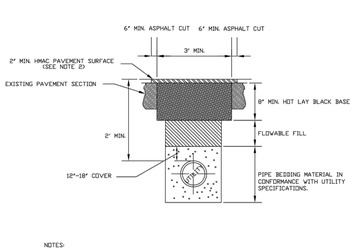
SANITARY SEWER PIPE LAID IN TRENCH
(OUTSIDE OF PAVEMENT)
NOT TO SCALE



TRENCH REPAIR DETAIL BLACK BASE	CITY OF NEW BRAUNFELS ENGINEERING DIVISION 424 S. CASTELL AVE. NEW BRAUNFELS, TEXAS 78130 PH: 830 221-4040 FAX: 830 626-3600
ISSUE DATE: APRIL 2015	SCALE: N.T.S
DRAWN BY: AMF	CONTACT: GF



TRENCH REPAIR DETAIL FLOWABLE FILL	CITY OF NEW BRAUNFELS ENGINEERING DIVISION 424 S. CASTELL AVE. NEW BRAUNFELS, TEXAS 78130 PH: 830 221-4040 FAX: 830 626-3600
ISSUE DATE: APRIL 2015	SCALE: N.T.S
DRAWN BY: AMF	CONTACT: GF



TRENCH REPAIR DETAIL	CITY OF NEW BRAUNFELS ENGINEERING DIVISION 424 S. CASTELL AVE. NEW BRAUNFELS, TEXAS 78130 PH: 830 221-4040 FAX: 830 626-3600
ISSUE DATE: APRIL 2015	SCALE: N.T.S
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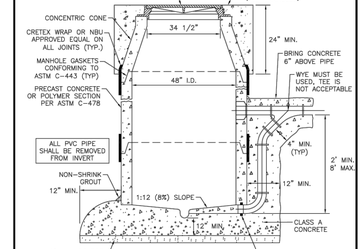

DRAWN BY: A. Willard	STANDARD DRAWING:	WASTEWATER MANHOLE W/ DROP INLET ON CAST IN PLACE BASE	
DESIGNED BY: A. Willard			
UPDATED: 8/7/2021	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO: 324

NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS
SANITARY SEWER DETAILS
(SHEET 1 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.18

Date: Apr 15, 2024, 1:24pm User ID: ekasprovicz
File: P:\124\35\03\Design\Civil\SSD1-1243503.dwg

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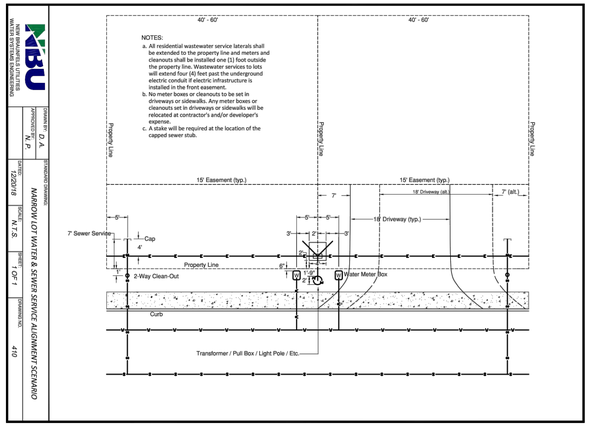
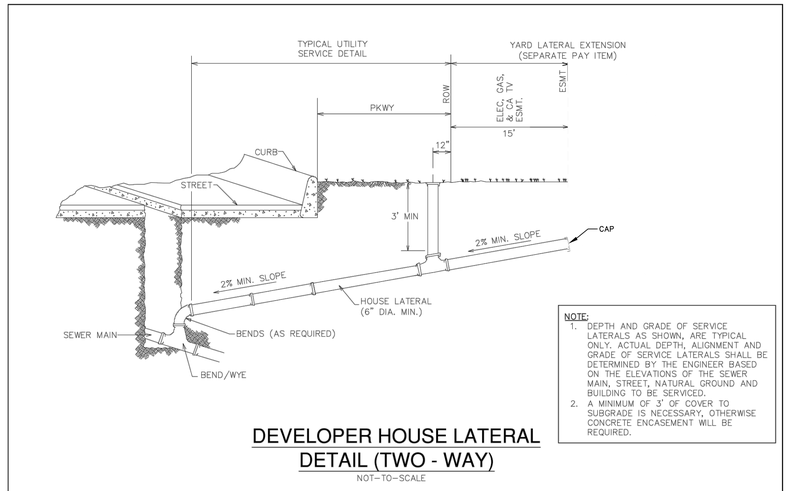


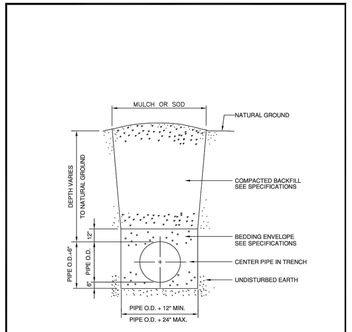


DEVELOPER HOUSE LATERAL DETAIL (TWO - WAY)

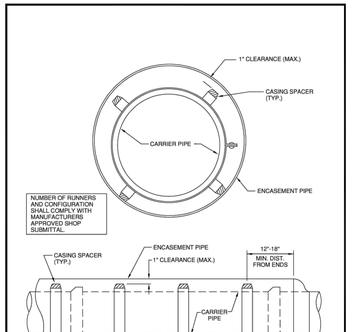
NOT-TO-SCALE

NBU

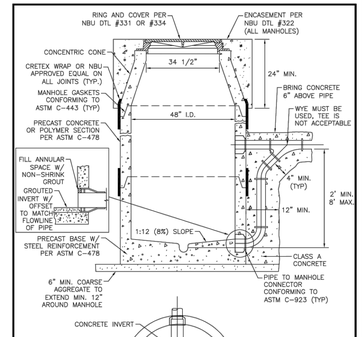
NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: A. Willard | CHECKED BY: A. Willard | APPROVED BY: | STANDARD DRAWING | UTILITY SHROUD FOR SEWER CLEANOUT ASSEMBLY | DATE: 8/17/21 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO.: 360



NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | CHECKED BY: | APPROVED BY: | STANDARD DRAWING | TYPICAL TRENCH WITH UNFINISHED SURFACE | DATE: 4-30-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO.: 422



NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | CHECKED BY: | APPROVED BY: | STANDARD DRAWING | ENCASEMENT DETAIL WITH CASING SPACERS | DATE: 4-30-03 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO.: 420



NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: A. Willard | CHECKED BY: A. Willard | APPROVED BY: | STANDARD DRAWING | WASTEWATER MANHOLE W/ DROP INLET ON PRECAST BASE | DATE: 8/17/21 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO.: 325

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: D.A. | CHECKED BY: N.P. | APPROVED BY: | DATE: 8/2024 | SCALE: N.T.S. | SHEET: 1 OF 1 | DRAWING NO.: 410 | NARROW LOT WATER & SEWER SERVICE ALIGNMENT SCENARIO

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

SANITARY SEWER DETAILS
(SHEET 2 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MC DRAWN MGG
SHEET C11.19

Date: Apr 15, 2024, 1:24pm User ID: ekosprowicz
File: P:\124\35\03\Design\Civil\SSDT-1243503.dwg

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WASTEWATER NOTES:

1. The contractor shall maintain service to existing wastewater system at all times during construction.
2. A minimum of 8" wastewater pipe and fittings (P.V.C. SDR-26, ASTM, D-3034, D-3212, F-477) are required on new installation.
3. All residential wastewater service laterals shall be extended to the property line and a cleanout shall be installed at the property line. Services to lots will extend four (4) feet past the underground electric conduit if electric is installed in the front easement. All sewer cleanouts that lead to NBU mains shall be installed with a protective utility shroud and pivoting marker pole during time of construction.
4. Pipe bedding of wastewater lines shall be manufactured sand or pea gravel as per NBU specifications.
5. Secondary backfill of wastewater lines shall generally consist of materials removed from the trench and shall be free from brush, debris and trash, no rocks or stones having any dimension larger than 6 inches at the largest dimension.
6. All wastewater pipes shall have compression or mechanical joints as per 30 TAC §217.53 (c) (2).
7. For wastewater lines less than 24" in diameter, select initial backfill material shall be placed in two lifts.
   a. The first lift shall be spread uniformly and simultaneously on each side and under the shoulders of the pipe to the mid point or spring line of the pipe.
   b. The second lift shall be placed to a depth as shown on the pipe backfill detail. For pipes larger than 24", 12" maximum lifts shall be used.
8. All manholes must be water tight, either monolithic, cast-in-place concrete structures or prefabricated manholes specifically approved by NBU. The manholes shall have water-tight rings and covers. Wherever they are within the 100 year floodplain, the manhole covers shall be bolted. Every third manhole in sequence shall have an alternate means of venting. 30 TAC §213.5 (c) (3) (A) and 30 TAC §217.55 (o).
9. All manholes shall be constructed so that the top of the ring is two inches (2") above surrounding ground except when located in paved area. In paved areas, the manhole ring shall be flush with pavement.
10. All new manholes, unless approved by NBU Engineering, are to have covers with 32" openings.
11. Wastewater pipe connections to pre-cast manholes will be compression joints or mechanical "boot type" joint as approved by NBU.
12. Wastewater lines shall be tested from manhole to manhole.
13. In areas where a new wastewater manhole is to be constructed over an existing wastewater system, it shall be the contactor's responsibility to test the existing manholes before construction. After the proposed manhole(s) has been built, the contractor shall re-test the existing system to the satisfaction of the construction inspector. (no separate pay item).
14. Where the minimum 9 foot separation distance between wastewater lines and water lines / mains cannot be maintained, the installation of wastewater lines shall be in strict accordance with TCEQ. The wastewater line shall be constructed of cast iron, ductile iron or PVC meeting the ASTM specification for both pipes and joints of 150 psi and shall be in accordance with 30 TAC §217.53 (d) (3) (A) (i).
15. No testing will be performed prior to 30 days from complete installation of the wastewater lines. The following sequence will be strictly adhered to:
   a. Pull mandrel
   b. Perform Air test
   c. Cleaning of any debris
   d. Flushing of system
   e. TV Inspection (within 72 hours of flushing)
16. A minimum of 3 feet of cover is to be maintained over the wastewater main and laterals at subgrade, otherwise concrete encasement will be required.
17. Wastewater main connections made directly to existing manholes will require successful testing of the manhole in accordance with NBU Connection & Construction Policy Manual.
18. TCEQ and EPA require erosion and sedimentation control for construction of wastewater collection systems. Developer or authorized representative shall provide erosion and sedimentation control as notes on the project's plan and profile sheets. All temporary erosion and sedimentation controls shall be removed by the Contractor at final acceptance of the project by NBU Water Systems.
19. All manholes not within paved streets shall have locking concrete collar to secure ring and cover to manhole cone per NBU Detail drawing #329.
20. All manholes over the Edwards Aquifer Recharge Zone shall have locking concrete collar to secure ring and cover to manhole cone per NBU detail drawing #329.

COMPLIANCE NOTES

1. THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER OR WASTEWATER IMPROVEMENTS MUST COMPLY WITH TCEQ, THE CITY OF NEW BRAUNFELS, NEW BRAUNFELS UTILITIES W&WW DESIGN CRITERIA, SOUND ENGINEERING JUDGMENT, AND ANY OTHER APPLICABLE GOVERNING ENTITY ORDINANCES OR CODES.
2. THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR THE NBU WATER SYSTEM IS THE MAIN SIDE OF THE SERVICE/LATERAL/LEAD FROM THE CUSTOMER'S METER/BACKFLOW/EASEMENT EDGE. THE CUSTOMER IS RESPONSBLE FOR DESIGN, CONSTRUCTION, OPERATION, AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER THE CUSTOMER'S INSTALLATION INCLUDING REVIEW, PERMITTING, AND COMPLIANCE WITH ALL CITY PLUMBING CODES OR OTHER APPLICABLE CODES.
3. ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR THE NBU WASTEWATER SYSTEM IS THE MAIN SIDE OF THE SERVICE LATERAL FROM THE CUSTOMER'S CLEAN OUT OR PROPERTY LINE WHICHEVER IS NEARER. THE CUSTOMER IS RESPONSIBLE FOR DESIGN, CONSTRUCTION, OPERATION, AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER THE CUSTOMER'S INSTALLATION INCLUDING REVIEW, PERMITTING, AND COMPLIANCE WITH ALL CITY PLUMBING CODES AND OTHER CODES AS APPLICABLE.

CITY OF NEW BRAUNFELS UTILITY NOTES

1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

UTILITY 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.

General Notes:

1. All materials and construction procedures within the scope of the project shall be approved by New Braunfels Utilities and comply with the current "New Braunfels Utilities Water Systems Connection/Construction Policy".
2. Contractor shall not proceed with any pipe installation work until they obtain a copy of the plans from the Consultant or Engineer and notify NBU Water Systems Engineering at 830-608-8971 with at least two (2) working days (48 hours) notice. WORK COMPLETED BY THE CONTRACTOR, WHICH HAS NOT RECEIVED A NOTICE TO PROCEED FROM NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.
3. The Developer dedicates the water / wastewater mains upon completion by the Contractor and acceptance by the New Braunfels Utilities Water System. NBU will own and maintain said water / wastewater mains which are located within platted utility easements or public ROW of proposed developments. (As applicable).
4. Contractor agrees to assume sole and complete responsibility for job site conditions during the construction of the project, including safety of all persons and property. This requirement shall apply continuously and not be limited to normal working hours. The contractor shall defend, indemnify and hold the owners and the engineer and his employees, partners officers, directors, or consultants harmless from any and all liability, real or alleged, in connection with the performance of the work on this project, excepting from liability arising from sole negligence of the owner or engineer, engineer's directors, officers, employees, or consultants.
5. Contractor to contact the engineer-of-record (EOR) for any field changes. Any revisions or changes to the approved construction plans will require additional approval by NBU in writing.
6. Contractor and / or contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.
7. Contractor shall be responsible for restoring to its original or better condition, any damages done to existing fences, curbs, streets, driveways, landscaping and structures, and existing utilities (not adjusted on plans). Cost of Restorations, if any, shall be the contractor's entire expense.
8. The Contractor shall avoid cutting roots larger than one inch in diameter when excavating near existing trees. Excavation in vicinity of trees shall proceed with caution.
9. Contractor shall procure all permits and licenses, pay all charges, fees and taxes and give all notices necessary and incidental to the due and lawful prosecution of the work.
10. No extra payment shall be allowed for work called for on the plans but not included on the bid schedule. This incidental work will be required and shall be included under the pay item to which it relates.
11. Contractor is responsible for removal of all waste materials upon project completion. The contractor shall not permanently place any waste materials in the 100-year flood plain without first obtaining an approved flood plain development permit.
12. The contractor shall not place any materials on the recharge zone of the Edwards aquifer without an approved water pollution abatement plan from the TCEQ 31 TAC 313.4 and 31 TAC 313.9.
13. Barricades and warning signs shall conform to the "Texas manual on uniform traffic control devices" and shall be located to provide maximum protection to the public as well as construction personnel and equipment while providing continuous traffic flow at all times during construction. The contractor is responsible for maintaining all devices during construction.
14. Contractor is required to verify project elevations. The term "match existing" shall be understood to signify both horizontal and vertical alignment.
15. The location of utilities, either underground or overhead, shown within the right of way are approximate and shall be verified by the contractor before beginning construction operations.
16. OSHA regulations prohibit operations that will bring persons or equipment within 10 feet of an energized line. Where workmen and/or equipment have to work close to an energized electrical line, the contractor shall notify the electrical power company involved and make whatever adjustments necessary to ensure the safety of those workmen.
17. It shall be the contractor's responsibility to locate utility service lines as required for construction. Contractors shall call the One Call System for water/wastewater location.
18. Due to federal regulations Title 49, part 192 (8), Gas companies must maintain access to gas valves at all times. The contractor must protect and work around any gas valves that are in the project area.
19. The contractor is fully responsible for the traffic control and will be responsible for furnishing all traffic control devices, and flaggers. The construction methods shall be conducted to provide the least possible interference to traffic so as to permit the continuous movement of the traffic in one direction at all times. The contractor shall clean up and remove from the work area any loose material resulting from contract operations at the end of each workday.
20. Prior to ordering materials to be used in construction, contractor shall provide the engineer with four (4) copies of the source, type, gradation, material specification data and / or shop drawings, as applicable, to satisfy the requirements of the following items and all material items referred to in these listed items:
   a. Water mains and services
   b. Wastewater mains and services
21. Thrust blocks will not be allowed on the system without special approval. Joints will be restrained with restraining systems approved by NBU and restraint length shall be submitted to NBU at the time of plan submittal.
22. Water jetting the backfill within a street will not be permitted. Wastewater trenches subject to traffic shall conform to NBU Connection and Construction Policy Manual.
23. Where the minimum 9 foot separation distance between wastewater lines and water lines / mains cannot be maintained, the installation of wastewater lines shall be in strict accordance with 30 TAC 217.
24. Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation safety protection that complies with as a minimum, OSHA Standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA Standards governing the presence and activities of individuals working in and around trench excavation.
25. Utility Trench Compaction with street R.O.W.
   a. All utility trench compaction test within the street pavement section shall be the responsibility of the developer's Geo-technical engineer.
   b. Fill material shall be placed in uniform layers not to exceed twelve inches (12") loose.
   c. Each layer of material shall be compacted as specified and tested for density and moisture in accordance with Text Methods TEX-113-E, TEX-114-E, TEX-115-E.
   d. The number and location of required tests shall be determined by the Geo-technical Engineer and approved by the City of New Braunfels Street Inspector.
   e. Upon completion of testing the Geo-technical 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.

Sanitary Sewer Flowrate and Capacity Analysis
Clear Spring Meadows Unit 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
						Flow Calculations										Pipe Segment Properties					Full Pipe Calculations					Partial Flow Calculations										NBU Design Criteria			
Segment Name	Line Name	Line (Upstream to Downstream)		Total Flow Per Segment	Total Area Per Segment	Average Daily Dry Weather Flow	Dry Weather Peaking Factor	Peak Dry Weather Flow	Total Segment Inflow & Infiltration	Peak Wet Weather Flow	Minimum Flow	Average Daily Dry Weather Flow	Peak Dry Weather Flow	Peak Wet Weather Flow	Minimum Flow	Size	Material	Mannings n	Inside Diameter	Segment Slope	FULL Flow Area	FULL Flow Hydraulic Radius	FULL Flow Flowrate	FULL Flow Flowrate	FULL Flow Velocity	Minimum Flow Partial Flow Calcs	Minimum Dry Weather Flow Velocity	Average Daily Dry Weather Flow Partial Flow Calcs	Average Daily Dry Weather Flow Velocity	Peak Dry Weather Flow Partial Flow Calcs	Peak Dry Flow Velocity	Peak Wet Weather Flow Partial Flow Calcs	Peak Wet Flow Velocity	Is Peak Dry Flow < 65% of Full Pipe Flow	Is Peak Wet Flow < 85% of Full Pipe Flow	Is Peak Dry Flow Velocity > 2 ft/sec	Is Peak Wet Flow Velocity < 10 ft/sec
		Upstream MH	Downstream MH	210 GPD / LUE					750 (GPD/AC)																	Flow to Full Flow Ratio		Flow to Full Flow Ratio		Flow to Full Flow Ratio		Flow to Full Flow Ratio		65% Capacity	85% Capacity	2 FPS	10 FPS
				LUE	Acres	GPM		GPM	GPM	GPM	GPM	CFS	CFS	CFS	CFS	INCHES			INCHES	ft/ft	Sq.Ft.	Feet	CFS	GPM	FPS		FPS		FPS		FPS		FPS					
A9H2	K	A9	H2	4	0.5	0.5833333	4.41	2.57	0.2604167	2.83	0.0453	0.0013	0.0057	0.0063	0.0001	8	D3034	0.013	7.754	0.0040	0.328	0.162	0.705	316.46	2.150	0.000	0.0618	0.002	0.3893	0.008	0.6431	0.0089	0.6608	OK	OK	CHECK	OK
J3J2	J	J3	J2	4	0.85	0.5833333	4.41	2.57	0.4427083	3.01	0.0453	0.0013	0.0057	0.0067	0.0001	8	D3034	0.013	7.754	0.0060	0.328	0.162	0.864	387.59	2.633	0.000	0.0618	0.002	0.4454	0.007	0.7406	0.0078	0.7785	OK	OK	CHECK	OK
J2I2	I	J2	I2	6	1.33	0.875	4.39	3.84	0.6927083	4.53	0.0736	0.0019	0.0086	0.0101	0.0002	8	D3034	0.013	7.754	0.0040	0.328	0.162	0.705	316.46	2.150	0.000	0.1005	0.003	0.4593	0.012	0.7291	0.0143	0.7668	OK	OK	CHECK	OK
I2H2	H	I2	H2	6	1.43	0.875	4.39	3.84	0.7447917	4.58	0.0736	0.0019	0.0086	0.0102	0.0002	8	D3034	0.013	7.754	0.0040	0.328	0.162	0.705	316.46	2.150	0.000	0.1005	0.003	0.4593	0.012	0.7291	0.0145	0.7692	OK	OK	CHECK	OK
J2J1	J	J2	J1	26	3.69	3.7916667	4.27	16.20	1.921875	18.12	0.4264	0.0084	0.0361	0.0404	0.0010	8	D3034	0.013	7.754	0.0080	0.328	0.162	0.997	447.55	3.041	0.001	0.4550	0.008	0.9201	0.036	1.4321	0.0405	1.4850	OK	OK	CHECK	OK
J1D8	J	J1	D8	44	6.08	6.4166667	4.21	27.00	3.1666667	30.17	0.8008	0.0143	0.0602	0.0672	0.0018	8	D3034	0.013	7.754	0.0095	0.328	0.162	1.087	487.70	3.314	0.002	0.5764	0.013	1.1559	0.055	1.7831	0.0619	1.8377	OK	OK	CHECK	OK
D9D8	D	D9	D8	179	35.63	26.104167	3.96	103.31	18.557292	121.87	4.3013	0.0582	0.2302	0.2715	0.0096	8	D3034	0.013	7.754	0.0034	0.328	0.162	0.650	291.76	1.982	0.015	0.7127	0.089	1.2255	0.354	1.8107	0.4177	1.8916	OK	OK	CHECK	OK
I2I1	I	I2	I1	28	4.34	4.0833333	4.26	17.41	2.2604167	19.67	0.4660	0.0091	0.0388	0.0438	0.0010	8	D3034	0.013	7.754	0.0085	0.328	0.162	1.028	461.32	3.134	0.001	0.4753	0.009	0.9603	0.038	1.4959	0.0426	1.5567	OK	OK	CHECK	OK
I1D7	I	I1	D7	46	6.85	6.7083333	4.20	28.19	3.5677083	31.76	0.8446	0.0149	0.0628	0.0708	0.0019	8	D3034	0.013	7.754	0.0090	0.328	0.162	1.058	474.70	3.225	0.002	0.5767	0.014	1.1463	0.059	1.7684	0.0669	1.8299	OK	OK	CHECK	OK
L1D8	L	L1	D8	0	0	0	4.50	-	0	-	0.0000	0.0000	0.0000	0.0000	0.0000	8	D3034	0.013	7.754	0.0040	0.328	0.162	0.705	316.46	2.150	0.000	0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.0000	OK	OK	CHECK	OK
D8D7	D	D8	D7	228	43.17	33.25	3.90	129.67	22.484375	152.16	5.7477	0.0741	0.2889	0.3390	0.0128	8	D3034	0.013	7.754	0.0034	0.328	0.162	0.650	291.76	1.982	0.020	0.7787	0.114	1.3149	0.444	1.9223	0.5215	2.0015	OK	OK	CHECK	OK
H2H1	H	H2	H1	32	5.06	4.6666667	4.25	19.83	2.6354167	22.46	0.5468	0.0104	0.0442	0.0500	0.0012	8	D3034	0.013	7.754	0.0080	0.328	0.162	0.997	447.55	3.041	0.001	0.4839	0.010	0.9795	0.044	1.5268	0.0502	1.5855	OK	OK	CHECK	OK
H1D6	H	H1	D6	50	7.86	7.2916667	4.19	30.56	4.09375	34.65	0.9334	0.0162	0.0681	0.0772	0.0021	8	D3034	0.013	7.754	0.0090	0.328	0.162	1.058	474.70	3.225	0.002	0.5980	0.015	1.1729	0.064	1.8092	0.0730	1.8774	OK	OK	CHECK	OK
D7D6	D	D7	D6	280	51.48	40.833333	3.85	157.09	26.8125	183.91	7.3516	0.0910	0.3500	0.4097	0.0164	8	D3034	0.013	7.754	0.0034	0.328	0.162	0.650	291.76	1.982	0.025	0.8362	0.140	1.3957	0.538	2.0173	0.6303	2.0940	OK	OK	OK	OK
F1G1	G	F1	G1	20	2.95	2.9166667	4.30	12.54	1.5364583	14.07	0.3114	0.0065	0.0279	0.0314	0.0007	8	D3034	0.013	7.754	0.0075	0.328	0.162	0.965	433.34	2.944	0.001	0.4162	0.007	0.8328	0.029	1.2954	0.0325	1.3424	OK	OK	CHECK	OK
G1D5	G	G1	D5	34	5.28	4.9583333	4.24	21.03	2.75	23.78	0.5880	0.0110	0.0469	0.0530	0.0013	8	D3034	0.013	7.754	0.0090	0.328	0.162	1.058	474.70	3.225	0.001	0.5151	0.010	1.0395	0.044	1.6194	0.0501	1.6807	OK	OK	CHECK	OK
D6D5	D	D6	D5	335	60.78	48.854167	3.80	185.56	31.65625	217.21	9.1136	0.1088	0.4134	0.4840	0.0203	8	D3034	0.013	7.754	0.0034	0.328	0.162	0.650	291.76	1.982	0.031	0.8939	0.167	1.4700	0.636	2.0984	0.7445	2.1706	OK	OK	OK	OK
D5D4	D	D5	D4	372	66.93	54.25	3.77	204.43	34.859375	239.29	10.3323	0.1209	0.4555	0.5331	0.0230	8	D3034	0.013	7.754	0.0045	0.328	0.162	0.748	335.66	2.281	0.031	1.0240	0.162	1.6737	0.609	2.3902	0.7129	2.4750	OK	OK	OK	OK

Date: Apr 15, 2024, 1:24pm User ID: ekasprowicz
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NO.	REVISION	DATE

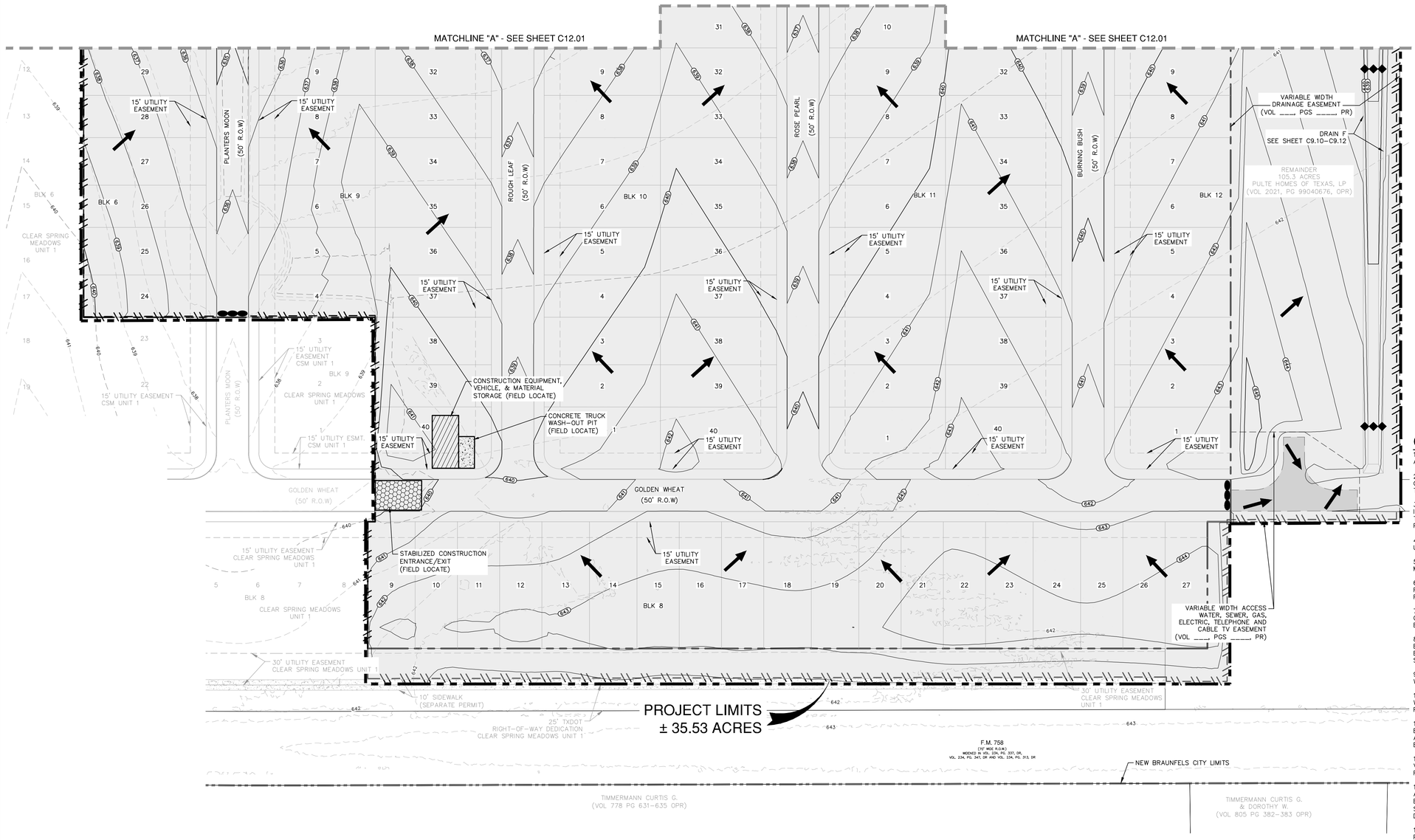
STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

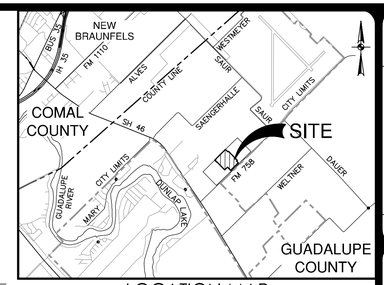
PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS

SANITARY SEWER NOTES

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C11.20





LOCATION MAP

MAPSCO MAP GRID: 123X1

NOT-TO-SCALE

0' 50' 100' 150'

SCALE: 1"= 50'

SWPPP LEGEND

- PROJECT LIMITS
- PLAT LIMITS
- EXISTING CONTOUR (976)
- PROPOSED CONTOUR (970)
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- SILT FENCE OR SEDIMENT CONTROL ROLLS
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- LIMITS OF DISTURBED AREA
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)
- CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)

GENERAL NOTES

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.

2. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.

3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.

4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.

5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.

6. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.

7. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.

8. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

9. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.

10. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.

11. UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.

12. WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.

13. SHADED AREA DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES.

14. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TXDOT RIGHT-OF-WAY WITH TXDOT.

15. NBU WILL FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.

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

SWP3 MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 2

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

STORM WATER POLLUTION PREVENTION PLAN
(SHEET 1 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C12.00

Date: Apr 15, 2024, 4:30pm User ID: ekosterowicz
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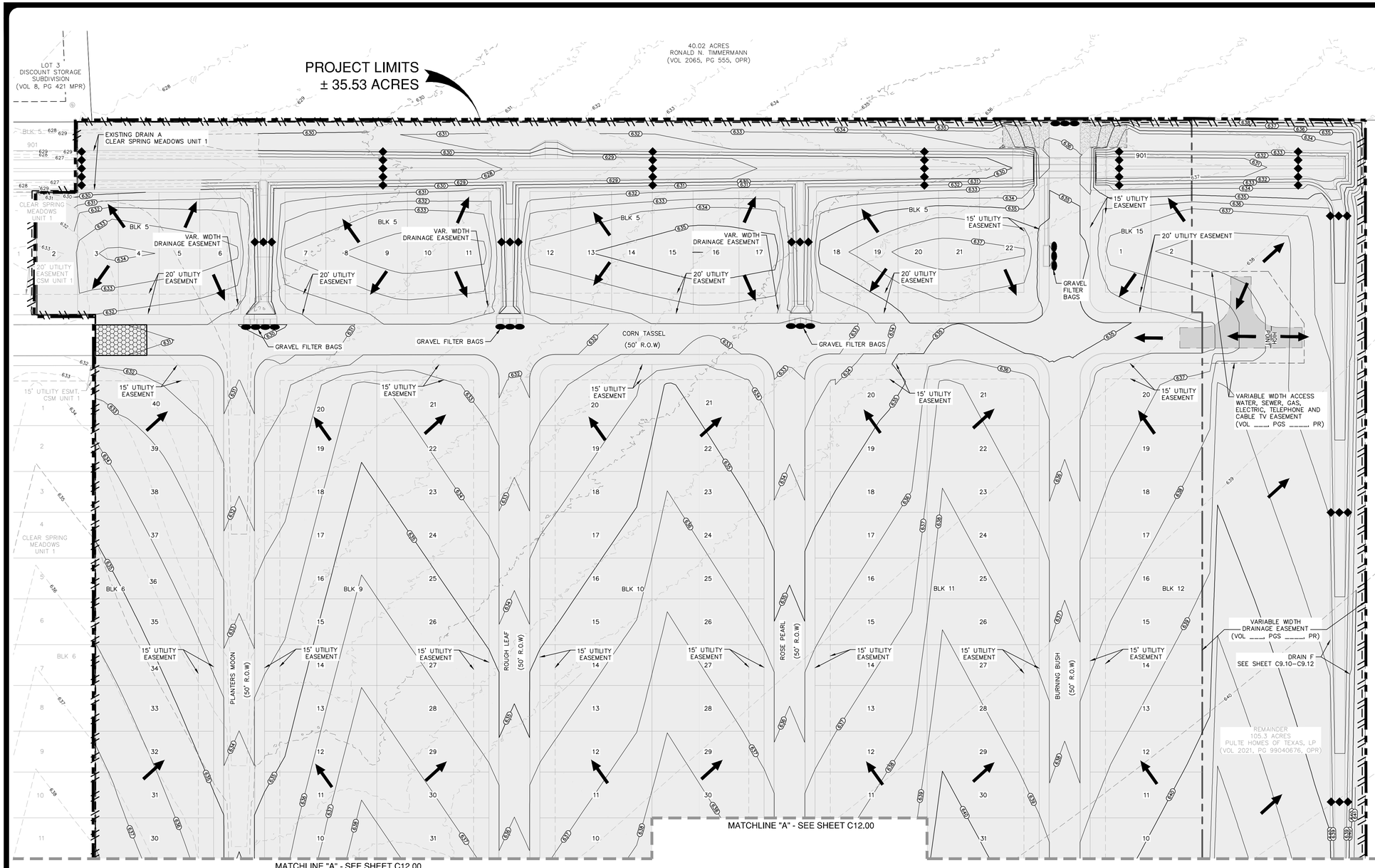

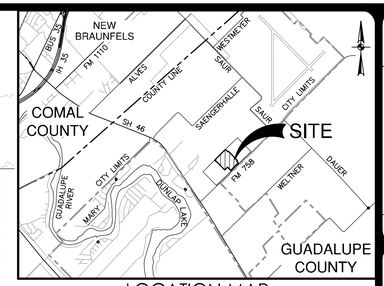

LOCATION MAP

MAPSCO MAP GRID: 123X1
NOT-TO-SCALE

0' 50' 100' 150'

SCALE: 1"= 50'

SWPPP LEGEND

- PROJECT LIMITS
- PLAT LIMITS
- EXISTING CONTOUR (976)
- PROPOSED CONTOUR (970)
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- SILT FENCE OR SEDIMENT CONTROL ROLLS
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- LIMITS OF DISTURBED AREA
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)
- CONCRETE TRUCK WASH–OUT PIT (FIELD LOCATE)

GENERAL NOTES

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.

2. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH–OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.

3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.

4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.

5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.

6. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.

7. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.

8. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

9. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.

10. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.

11. UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.

12. WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.

13. SHADED AREA ▒▒▒ DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES.

14. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TXDOT RIGHT–OF–WAY WITH TXDOT.

15. NBU WILL FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON–SITE CONSTRUCTION AND OFF–SITE FEED TO THE PROJECT.

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

SWP3 MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES–STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 2

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
4-15-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

STORM WATER POLLUTION PREVENTION PLAN
(SHEET 2 OF 2)

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C12.01

Date: Apr 15, 2024, 4:30pm User ID: ekesterovicz
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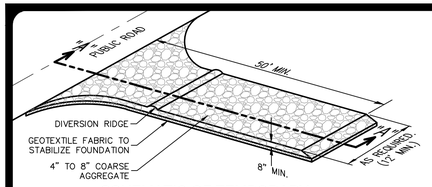
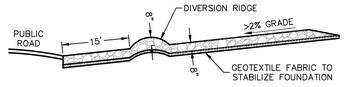


SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT



SECTION "A-A" OF A CONSTRUCTION ENTRANCE/EXIT

MATERIALS
1. THE AGGREGATE SHOULD CONSIST OF 4–INCH TO 8–INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.

2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8–INCHES.

3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.

4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4–INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION
1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.

2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.

3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.

4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6–INCHES TO 8–INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.

5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.

6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.

7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.

8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

COMMON TROUBLE POINTS
1. INADEQUATE RUNOFF CONTROL–SEDIMENT WASHES ONTO PUBLIC ROAD.

2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.

3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC–EXTEND PAD BEYOND THE MINIMUM 50–FOOT LENGTH AS NECESSARY.

4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD.

5. UNSTABLE FOUNDATION – USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES
1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

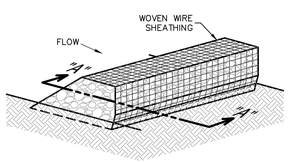
2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.

3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.

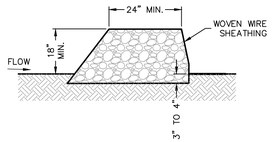
4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL
NOT–TO–SCALE



ISOMETRIC PLAN VIEW



SECTION "A-A"

ROCK BERMS
THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT–LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE. AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES
1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.

2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.

3. REPAIR ANY LOOSE WIRE SHEATHING.

4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.

5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

MATERIALS
1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.

2. CLEAN, OPEN GRADED 3–INCH TO 5–INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5–INCH TO 8–INCH DIAMETER ROCKS MAY BE USED.

INSTALLATION
1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.

2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.

3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18".

4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.

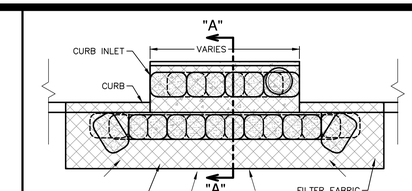
5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.

6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

COMMON TROUBLE POINTS
1. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).

2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

ROCK BERM DETAIL
NOT–TO–SCALE



PLAN VIEW

SECTION "A-A"

GENERAL NOTES
1. CONTRACTOR TO INSTALL 2"x4"–W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SANDBAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE GUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.

2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES
1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.

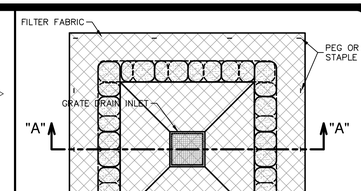
2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF .3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.

4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.

5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL
NOT–TO–SCALE



PLAN VIEW

SECTION "A-A"

GENERAL NOTES
1. THE SANDBAGS SHOULD BE FILLED WITH WASHED PEA GRAVEL AND STACKED TO FORM A CONTINUOUS BARRIER ABOUT 1 FOOT HIGH AROUND INLETS.

2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES
1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.

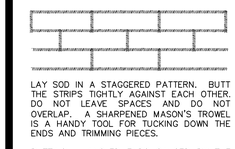
2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MATTER THAT IT WILL NOT ERODE.

3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.

4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.

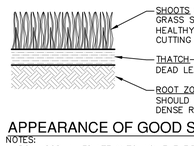
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL GRATE INLET PROTECTION DETAIL
NOT–TO–SCALE



LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

BUTTING – ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

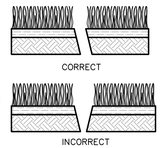


APPEARANCE OF GOOD SOD

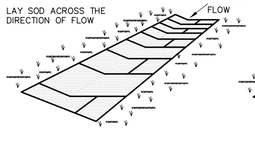
NOTES:
1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

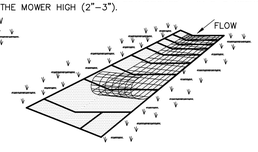
2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

3. MOW WHEN THE SOD IS ESTABLISHED – IN 2–3 WEEKS. SET THE MOWER HIGH (2"–3").

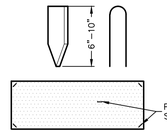


SOD INSTALLATION





IN CRITICAL AREAS, SECURE SOD WITH NETTING. USE STAPLES.



USE PEGS OR STAPLES TO FASTEN SOD FIRMLY – AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3–4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.

MATERIALS
1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.

2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5%. TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.

3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.

4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION
1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS
1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).

2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

GENERAL INSTALLATION (VA. DEPT. OF CONSERVATION, 1992)
1. SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.

2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.

3. THE FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE).

4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OR OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON CONTOUR).

5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.

6. AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS THOROUGHLY WET.

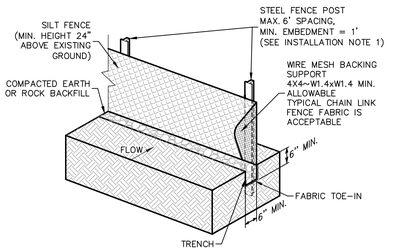
7. UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.

8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2–3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

INSPECTION AND MAINTENANCE GUIDELINES
1. SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.

2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

SOD INSTALLATION DETAIL
NOT–TO–SCALE



ISOMETRIC PLAN VIEW

SILT FENCE
A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE, WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER–BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED AT ANY TIME.

MATERIALS
1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.

2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y–BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINDELL HARDNESS EXCEEDING 140.

3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION
1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1–FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.

2. LAY OUT FENCING DOWN–SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.

3. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN–SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

5. 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. THERE SHOULD BE A 3–FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

6. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

COMMON TROUBLE POINTS
1. FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO CONCENTRATE AND FLOW OVER THE FENCE.

2. FABRIC NOT SEATED SECURELY TO GROUND (RUNOFF PASSING UNDER FENCE).

3. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND SIDES).

4. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE).

INSPECTION AND MAINTENANCE GUIDELINES
1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.

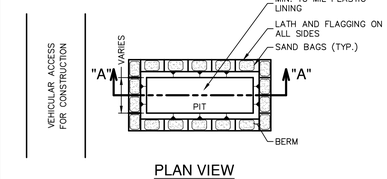
2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

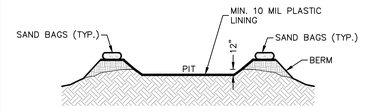
4. REPLACE OR REPAIR SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

5. WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

SILT FENCE DETAIL
NOT–TO–SCALE



PLAN VIEW



SECTION "A-A"

GENERAL NOTES
1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.

2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.

3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.

5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

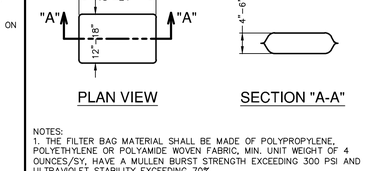
MATERIALS
PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

MAINTENANCE
1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.

2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.

3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT DETAIL
NOT–TO–SCALE



PLAN VIEW

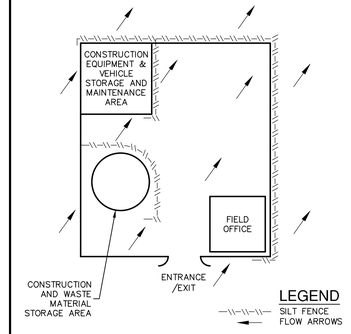
SECTION "A-A"

NOTES:
1. THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WEIGHT OF 4 OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.

2. THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).

3. SAND SHALL NOT BE USED TO FILL THE FILTER BAGS.

GRAVEL FILTER BAG DETAIL
NOT–TO–SCALE



CONSTRUCTION STAGING AREA
NOT–TO–SCALE

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES–STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 3

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
LICENSED
PROFESSIONAL ENGINEER
3-7-2024

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

CLEAR SPRING MEADOWS UNIT 2
NEW BRAUNFELS, TEXAS
STORM WATER POLLUTION PREVENTION DETAILS (SHEET 1 OF 2)

PLAT NO

LOT TYPE-A

LOT TYPE-B

LOT TYPE-C

NOTE: SILT FENCE TO BE INSTALLED PER THESE DETAILS AND LOCATED ON THE DOWNGRADIENT SIDE OF EACH LOT LINE OR LIMITS OF CLEARING AS GENERALLY SHOWN ON THE OVERALL SITE PLAN.

LEGEND
SILT FENCE
DRAINAGE FLOW

TYPICAL HOUSE LOT LAYOUTS

NOT-TO-SCALE

NO.	REVISION	DATE

STATE OF TEXAS
MATTHEW GEISTWEIDT
118861
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CLEAR SPRING MEADOWS UNIT 2

NEW BRAUNFELS, TEXAS

STORM WATER POLLUTION PREVENTION DETAILS
(SHEET 2 OF 2)

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EXHIBIT 3

PLAT NO. PLAT #
JOB NO. 12435-03
DATE OCTOBER 2022
DESIGNER EDK
CHECKED MG DRAWN MGG
SHEET C12.03

Date: Mar 08, 2024, 2:32pm User ID: arodriguez
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