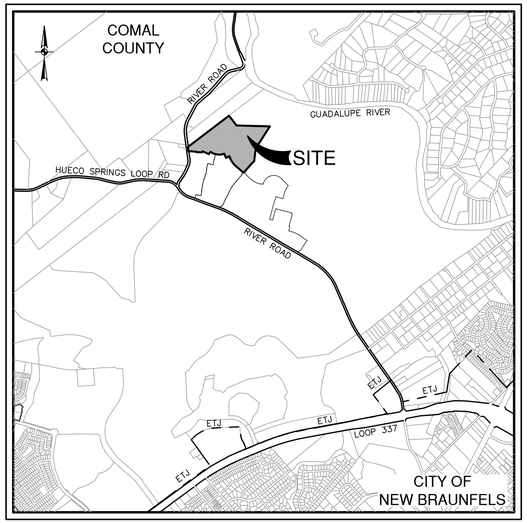
VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

CIVIL CONSTRUCTION PLANS

NBU NO. W-246120 / WW-246124



LOCATION MAP
NOT-TO-SCALE

PREPARED FOR:

VERAMENDI PE - FREMANTLE, LLC
2168 OAK RUN PKWY, SUITE 101
NEW BRAUNFELS, TX 78132

JULY 2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS I SAN ANTONIO I AUSTIN I HOUSTON I FT WORTH I DALLAS
1672 INDEPENDENCE DR, STE 102 I NEW BRAUNFELS, TX 78132 I 830.632.5633
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

6-25-2025
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

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 THE IT'S 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 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.

NBU AS-BUILT REQUIREMENTS:

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 EDGES OF STEEL CASINGS (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 FLANGE).
6. VALVES.
7. METERS (TOP CENTER OF BOX).
8. BLOW OFF ASSEMBLIES.
9. CORNER SLAB OF ALL WATER TANKS AND 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 STATIONS.

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

NOTES:

- TYPE 3 DEVELOPMENT.
- 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 RECORD.
- IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
- THIS PROJECT IS WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
- NO PORTION OF ANY LOT ON THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HAZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0435F EFFECTIVE DATE 9/2/2009.
- GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE CITY FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
- FOLLOWING PERMITS ARE REQUIRED PRIOR TO START OF CONSTRUCTION:
  1. CITY OF NEW BRAUNFELS PUBLIC INFRASTRUCTURE PERMIT
  2. NEW BRAUNFELS UTILITY APPROVAL
  3. TCEQ WATER POLLUTION ABATEMENT PLAN APPROVAL
  4. TCEQ SEWAGE COLLECTION SYSTEM APPROVAL

LEGAL DESCRIPTION:

BEING 38.774 ACRES OF LAND, OUT OF THE 193.732 ACRE TRACT DESCRIBED IN DOCUMENT NUMBER 202206035177 IN THE OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS, IN THE JUAN MARTIN VERAMENDI SURVEY NO. 2, ABSTRACT 3, COMAL COUNTY, TEXAS.

SHEET INDEX

Sheet Title		Sheet No.
COVER SHEET		C0.00
CONSTRUCTION NOTES		C0.01
PLAT		C0.02
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OVERALL DRAINAGE PLAN - EXISTING CONDITIONS		C1.00
OVERALL DRAINAGE PLAN - PROPOSED CONDITIONS		C1.01
OVERALL DRAINAGE PLAN - ULTIMATE CONDITIONS		C1.02
STORM DRAIN A-1 - PLAN & PROFILE	STA. 1+10.00 TO 3+73.63	C1.03
STORM DRAIN A-2 - PLAN & PROFILE	STA. 1+00.00 TO 4+60.00	C1.04
STORM DRAIN A-2 - PLAN & PROFILE	STA. 4+60.00 TO 8+28.38	C1.05
STORM DRAIN A-3 - PLAN & PROFILE	STA. 1+00.00 TO 3+18.77	C1.06
STORM DRAIN A-4 - PLAN & PROFILE	STA. 1+00.00 TO 1+11.83	C1.07
STORM DRAIN B - PLAN & PROFILE	STA. 1+10.00 TO 4+00.00	C1.08
STORM DRAIN B - PLAN & PROFILE	STA. 4+00.00 TO 6+15.69	C1.09
STORM DRAIN C - PLAN & PROFILE	STA. 1+45.56 TO 2+80.65	C1.10
NORTH WATER QUALITY BASIN PLAN		C1.11
EAST WATER QUALITY BASIN		C1.12
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BASIN DETAILS		C1.20
DRAINAGE DETAILS		C1.21
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SALT CEDAR VW - PLAN & PROFILE	STA. 12+75.70 TO 20+23.00	C2.00
LEADTREE DR - PLAN & PROFILE	STA. 1+37.59 TO 3+91.63	C2.01
CALIZA LN - PLAN & PROFILE	STA. 1+95.07 TO 10+95.61	C2.02
GREY WOLF TRL - PLAN & PROFILE	STA. 10+72.95 TO 19+50.00	C2.03
GREY WOLF TRL - PLAN & PROFILE	STA. 19+50.00 TO 27+37.59	C2.04
APRENDER DR - PLAN & PROFILE	STA. 1+00.00 TO 5+29.00	C2.05
PLUMBAGO ST - PLAN & PROFILE	STA. 1+00.00 TO 11+41.05	C2.06
STREET DETAILS		C2.10
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OVERALL SIGNAGE PLAN		C3.00
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OVERALL WATER DISTRIBUTION PLAN		C4.00
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WATER DISTRIBUTION DETAILS		C4.10
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OVERALL SANITARY SEWER PLAN		C5.00
OVERALL SANITARY SEWER PLAN		C5.01
OVERALL SANITARY SEWER PLAN		C5.02
SANITARY SEWER LINE T- PLAN & PROFILE	STA. 1+00.00 TO 2+02.70	C5.03
SANITARY SEWER LINE A - PLAN & PROFILE	STA. 10+40.00 TO 20+00.00	C5.04
SANITARY SEWER LINE A - PLAN & PROFILE	STA. 20+00.00 TO 27+00.00	C5.05
SANITARY SEWER LINE A - PLAN & PROFILE	STA. 27+00.00 TO 30+60.24	C5.06
SANITARY SEWER LINE B - PLAN & PROFILE	STA. 1+00.00 TO 6+50.00	C5.07
SANITARY SEWER LINE B - PLAN & PROFILE	STA. 6+50.00 TO 10+59.98	C5.08
SANITARY SEWER LINE C - PLAN & PROFILE	STA. 1+00.00 TO 7+78.90	C5.09
SANITARY SEWER LINE D - PLAN & PROFILE	STA. 1+00.00 TO 2+52.21	C5.10
SANITARY SEWER LINE E - PLAN & PROFILE	STA. 1+00.00 TO 8+35.86	C5.11
SANITARY SEWER LINE I - PLAN & PROFILE	STA. 1+00.00 TO 3+94.02	C5.12
SANITARY SEWER LINE J - PLAN & PROFILE	STA. 1+00.00 TO 2+61.50	C5.13
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FM PLAN AND PROFILE 3+34.68 - 6+00.00		C5.15
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FM PLAN AND PROFILE 13+00 - END		C5.17
SANITARY SEWER DETAILS		C5.20
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OVERALL GRADING PLAN		C7.02
STORM WATER POLLUTION PREVENTION PLAN		C8.00
STORM WATER POLLUTION PREVENTION DETAILS		C8.10

SHEET C0.00

FOR PERMIT

PD JOB NO. 30001-73 VERAMENDI PRECINCT 30 - UNIT 3

Date: Jun 25, 2025, 5:31pm User ID: Robert.Everts
File: P:\300\01\73\Design\Civil\CV-30001-73.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE© UNLESS OTHERWISE NOTED. Imagery © 2015,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.

CONSTRUCTION PLAN NOTES

Revised 03/2020

These notes must appear on the cover and/or "notes" sheet of all subdivision construction plans and on commercial plans where applicable:

If construction has not commenced within one-year of City approval for construction inspection, that approval is no longer valid.

The most current editions of the City of San Antonio Standard Specifications and the Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges shall be followed for all construction except as amended by the City of New Braunfels Standard Details.

All responsibility for the adequacy of these plans remains with the engineer of record. In accepting these plans, the City of New Braunfels must rely upon the adequacy of the work of the engineer of record.

Prior to the start of construction, the contractor shall contact the City of New Braunfels to schedule a preconstruction meeting.

For Public Infrastructure Permit or Grading Permit Projects:

- For inspections, you must call before 12:00 p.m., 48 hours prior to your inspection request.
- Each inspection will be allotted 1 hour unless you request for more time.
- Once your request has been accepted, you will receive a call from the City of New Braunfels Inspector.

For Commercial Permit **(CP)** Projects:

- All inspections are to be called in at 830-221-4068 or,
- Faxed in at 830-608-2117 or,
- E-mailed at inspections@nbtexas.org.

It is the Contractor's responsibility to see that all temporary and permanent traffic control devices are properly installed and maintained in accordance with the plans and latest edition of the Texas Manual on Uniform Traffic Control Devices. If, in the opinion of the engineering representative and the construction inspector, the barricades and signs do not conform to established standards or are incorrectly placed or are insufficient in quantity to protect the general public, the construction inspector shall have the option to stop operations until such time as the conditions are corrected. If the need arises, additional temporary traffic control devices may be ordered by the Engineering representative at the Contractor's expense.

A TxDOT Type II B-B blue reflective raised pavement marker shall be installed in the center of the roadway adjacent to all fire hydrants. In locations where hydrants are situated on corners, blue reflective raised pavement markers shall be installed on both approaches which front the hydrant. The raised pavement marker shall meet TxDOT material, epoxy and adhesive specifications.

Groundwater
It shall be the responsibility of the developer, contractor, subcontractors, builders, Geo-technical engineer, and project engineer to immediately notify the Office of the City Engineer and project engineer if the presence of groundwater within the site is evident. Upon notification the project engineer shall respond with plan revisions for the mitigation of the groundwater issue. The City Engineer shall respond within two (2) business days upon receipt of the mitigation plan. All construction activity, impacted by the discovery of groundwater, shall be suspended until the City Engineer grants a written approval of the groundwater mitigation plan.

Record Drawings
As per Platting Ordinance Section 118-38m.: When all of the improvements are found to be constructed and completed in accordance with the approved plans and specifications and with the City's standards, and upon receipt of one set of "Record Drawing" plans, and a digital copy of all plans (PDF copy) the City Engineer shall accept such improvements for the City of New Braunfels, subject to the guaranty of material and workmanship provisions in this Section.

Construction Note
Engineer of Record is responsible to ensure that erosion control measures and stormwater control sufficient to mitigate off site impacts are in place at all stages of construction.

Drainage Note
Drainage improvements sufficient to mitigate the impact of construction shall be installed prior to adding impervious cover.

Finished Floor Elevations
The elevation of the lowest floor shall be at least 10 inches above the finished grade of the surrounding ground, which shall be sloped in a fashion so as to direct stormwater away from the structure. Properties adjacent to stormwater conveyance structures must have floor slab elevation or bottom of floor joists a minimum of one foot above the 100-year water flow elevation in the structure. Driveways serving houses on the downhill side of the street shall have a properly sized cross swale preventing runoff from entering the garage.

Soils Testing
Proctors shall be sampled from on-site material (on-site is defined as limits of construction for this -plan set) and a copy of the proctor results shall be delivered to the City of New Braunfels Street Inspector prior to any density tests.

Roadway
All roadway compaction tests shall be the responsibility of the developer's Geotechnical Engineer. Flexible base or fill/embankment material shall be placed in uniform layers not to exceed eight inches (8") loose. The required density for the fill/embankment material shall meet the requirements of TxDOT's Specification Item 132. The required density for the flexible base material shall meet the requirements of TxDOT's Specification Item 247. Each layer of material, inclusive of subgrade, shall be compacted as specified and tested for density and moisture in accordance with Test Methods TEX-113-E, TEX-114-E, TEX-115-E. The number and location of required tests shall be determined by the Geotechnical Engineer and approved by the City of New Braunfels Street Inspector. At a minimum, tests shall be taken every 200 LF for each lift. Upon completion of testing, the Geotechnical Engineer will provide the City of New Braunfels Street Inspector with all testing documentation and a certification stating that the placement of flexible base, and fill material, and subgrade, has been completed in accordance with the plans. Additional density tests may be requested by the City of New Braunfels Inspector.

Item 340
Asphaltic concrete pavement shall be the type of hot mix asphalt as defined in TxDOT's standard specifications for current TxDOT Standard Specifications for Construction of Highways, Street and Bridges.

The City of New Braunfels will not accept the use of Recycled Asphalt Pavement (RAP) or Recycled Asphalt Shingles (RAS) in asphalt mixtures for new roadways. Any debris inclusions within new asphalt pavements will result in asphalt removal and replacement from curb to curb for limits to be determined by the City of New Braunfels.

The asphaltic concrete pavement surface course shall be plant mixed, hot laid type "D" meeting the specification requirements of TxDOT Item 340. The asphaltic concrete pavement sub-surface courses shall be plant mixed, hot laid type "B" meeting the specification requirements of TxDOT Item 340. The mixture shall be designed per the design requirements specified in TxDOT Item 340 and shall be compacted to between 91 and 95 percent of the maximum theoretical density as determined by TxDOT test method TEX-227-F. Place the mixture when the roadway surface temperature is at or above 60°F. Complete all compaction operations before the pavement temperature drops below 160°F. The asphalt cement content by percent of total mixture weight shall fall within a tolerance of ±0.5 percent from a specific mix design.

Utility Trench Compaction (added to the construction plans on All Utility Plan Sheets).
All utility trench compaction tests within the street pavement/sidewalk section shall be the responsibility of the developer's Geotechnical Engineer. Fill material shall be placed in uniform layers not to exceed twelve inches (12") loose. Determine the maximum lift thickness based on the ability of the compacting operation and equipment used to meet the required density. Each layer of material shall be compacted to a minimum 95% density and tested for density and moisture in accordance with Test Methods TEX-113-E, TEX-114-E, TEX-115-E. The number and location of required tests shall be determined by the Geotechnical Engineer and approved by the City of New Braunfels Street Inspector. At a minimum, tests shall be taken every 200 LF for each lift and every other service line. Upon completion of testing the Geotechnical Engineer shall provide the City of New Braunfels 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.

(Notes to Be Placed on All WW Plan & Detail Sheets)
Ensure all driveway approaches are built in general accordance with A.D.A. specifications.

No valves, hydrants, etc. shall be constructed within curbs, sidewalks, or driveways.

Signing and Pavement Marking Plan Notes
The Contractor shall furnish and install all regulatory and warning signs, streets name signs and sign mounts in accordance with approved engineering plans. The City will inspect all signs at final inspection.

The Contractor shall install all pavement markings in accordance with approved engineering plans. The Contractor shall notify the City at least twenty-four (24 hours prior to the installation of all sealer and final markings. The City will inspect all markings at final application.

Seeding and Establishment of Vegetation within Earthen Channels, Stormwater Basins and Disturbed Areas
Seeding for the purpose of establishing vegetation within constructed earthen channels, basins and disturbed areas shall be conducted in accordance with Item 164 (Seeding for Erosion Control of TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges manual. Only seed types and mixes specified for the San Antonio District (District 15 in Tables 1 and 2 under Item 164 shall be utilized. During the Cool Season (Sept 1-Nov 30, Cereal Rye and seed species specified for the San Antonio District in Table 3 may be used. For Cool Season seeding applications, cool season seed mixes shall be used in conjunction with seed mixes for the San Antonio District as specified in Table 1 and 2 under Item 164.

It may be deemed necessary to incorporate topsoil and soil amendments (i.e. compost/ fertilizer into existing soil in order to facilitate vegetation growth. Topsoil, compost and fertilizer additions shall be conducted according to Items 160, 161 and 166 of TxDOT's Standard Specifications manual, respectively.

Areas requiring permanent vegetation (earthen channels, ponds, etc.) are required to meet TxDOT Specifications for Item 160 Topsoil. Testing per Tex-128-E will be required at the City's request.

Watering may also be necessary to facilitate and expedite the sprouting and growth of vegetation. Item 168 of TxDOT's Standard Specifications manual shall be adhered to for vegetative watering.

If extended drought conditions exist that hinder or prohibit the growth and establishment of vegetation, the contractor/ developer shall provide a plan to the City of New Braunfels describing the measures that will be taken to stabilize earthen drainage infrastructure until a time when growing conditions become more favorable.

PROPOSED CONSTRUCTION SEQUENCE

1. INSTALL TEMPORARY STORMWATER EROSION CONTROL MEASURES IN AFFECTED CONSTRUCTION AREAS AND STABILIZED CONSTRUCTION ENTRANCES/EXITS.
2. INSTALL TREE PRESERVATION MEASURES, IF REQUIRED.
3. EXCAVATE STREETS.
4. CONSTRUCT DRAINAGE.
5. CONSTRUCT WASTEWATER SYSTEM.
6. CONSTRUCT WATER SYSTEM.
7. CONSTRUCT SUBGRADE AND BASE FOR STREETS.
8. CONSTRUCT CURBS FOR STREETS.
9. CONSTRUCT ASPHALT PAVEMENT FOR STREETS.
10. ESTABLISH SITE STABILIZATION.
11. REMOVE ALL TEMPORARY STORMWATER EROSION CONTROL MEASURES.

NOTES

1. SOME ITEMS ABOVE WILL OCCUR SIMULTANEOUSLY OR MAY OCCUR OUT OF SEQUENCE INDICATED.
2. ALL SEQUENCES SUBJECT TO CHANGE.

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.

DRAINAGE MAINTENANCE PLAN

The storm drain pipe shall be checked for accumulation of silt, debris or other obstructions which could block flow. When silt deposits have accumulated to the point of reducing the drain capacity then the pipes can be flushed with a high-pressure water flushing process. Soil accumulations, vegetative overgrowth and other blockages should be cleared from the pipe discharge point. Erosion at the point of discharge shall be monitored. If erosion occurs, the addition of rock rubble to disperse the flow should be accomplished.

INSPECTION AND MAINTENANCE SCHEDULE – BATCH DETENTION BASIN
FOR
PERMANENT POLLUTION ABATEMENT MEASURES

Recommended Frequency	Task to be Performed											
	1	2	3	4	5	6	7	8	9	10	11	12	13
After Rainfall	√							√			√		√
Biannually*	√	√	√	√	√	√	√	√	√	√	√	√	√

At least one biannual inspection must occur during or immediately after a rainfall event.
√ Indicates maintenance procedure that applies to this specific site.

See description of maintenance task to be performed on the following pages. Frequency of maintenance tasks may vary depending on amount of rainfall and other weather related conditions but may not be altered without TCEQ approval.

A *written record should be kept of inspection results and maintenance performed.*

Task No. & Description	*Included in this project*	
1. Mowing	**Yes**	~~**No**~~
2. Litter and Debris Removal	**Yes**	~~**No**~~
3. Erosion Control	**Yes**	~~**No**~~
4. Level Sensor	**Yes**	~~**No**~~
5. Nuisance Control	**Yes**	~~**No**~~
6. Structural Repairs and Replacement	**Yes**	~~**No**~~
7. Discharge Pipe	**Yes**	~~**No**~~
8. Detention and Drawdown Time	**Yes**	~~**No**~~
9. Sediment Removal	**Yes**	~~**No**~~
10. Logic Controller	**Yes**	~~**No**~~
11. Vegetated Filter Strips	~~**Yes**~~	**No**
12. Visually Inspect Security Fencing for Damage or Breach	**Yes**	~~**No**~~
13. Recordkeeping for Inspections, Maintenance, and Repairs	**Yes**	~~**No**~~

Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.
3. If any sensitive feature(s) (caves, solution cavity, sink hole, etc.) is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. Construction activities may not be resumed until the TCEQ has reviewed and approved the appropriate protective measures in order to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality.
4. No temporary or permanent hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the approved plans and manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.
6. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.
7. Sediment must be removed from the sediment traps or sedimentation basins not later than when it occupies 50% of the basin's design capacity.
8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.
10. If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
11. The following records shall be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.
12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
    C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
6-5-2024

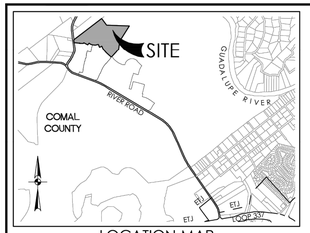
PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
CONSTRUCTION NOTES

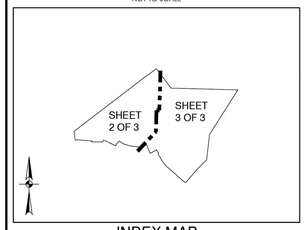
PLAT NO.
JOB NO. 30001-73
DATE 06-05-2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C0.01

FOR PERMIT

Date: Jun 05, 2024, 2:42pm User ID: bhughey
File: P:\300\001\73\Design\Civil\CN-30001-73.dwg
THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE© UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.



LOCATION MAP
NOT-TO-SCALE



INDEX MAP
NOT TO SCALE

CERTIFICATE OF APPROVAL

APPROVED THIS THE _____ DAY OF _____, 20 ____, BY THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT OF THE CITY OF NEW BRAUNFELS, TEXAS.

_____
PLANNING DIRECTOR

APPROVED FOR ACCEPTANCE

_____ _____
DATE DIRECTOR OF PLANNING

_____ _____
DATE CITY ENGINEER

_____ _____
DATE NEW BRAUNFELS UTILITIES

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 (SCALE FACTOR = 0.00014)
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 COMAL

I, THE UNDERSIGNED KEITH W. WOOLEY, 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.

KEITH W. WOOLEY
REGISTERED PROFESSIONAL LAND SURVEYOR #5463
PAPE-DAWSON ENGINEERS, INC.
1672 INDEPENDENCE DR., SUITE 102.
NEW BRAUNFELS, TEXAS 78132

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 LOT MUST HAVE ITS OWN WATER AND SEWER SERVICE AT THE OWNER/DEVELOPERS EXPENSE.
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. NBU IS NOT RESPONSIBLE FOR LANDSCAPING OR IRRIGATION IN UE/LE.
7. A PRIVATE BOOSTER PUMP WILL BE REQUIRED WITH HOME CONSTRUCTION ON THE CUSTOMER SIDE OF THE METER FOR ANY LOT HAVING DOMESTIC WATER PRESSURE LESS THAN 50 PSI AND DESIGNATED WITH AN " * " ON THIS SUBDIVISION PLAT.

FLOOD ZONE NOTE:

NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN ANY SPECIAL FLOOD HAZARD AREA (100 YR. FLOOD), AS DEFINED BY THE COMAL COUNTY, TEXAS, FLOOD INSURANCE RATE MAP NO. 48091C0435F EFFECTIVE DATE 9/2/2009 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

UTILITY PROVIDER NOTE:

THE PROPERTY WILL BE SERVED BY THE FOLLOWING:
NEW BRAUNFELS UTILITIES (WATER, SEWER, ELECTRIC)
AT&T (TELECOMMUNICATIONS)
SPECTRUM (TELECOMMUNICATIONS)

DRAINAGE EASEMENT NOTES:

1. DRAINAGE EASEMENTS SHALL "REMAIN FREE OF ALL OBSTRUCTIONS."
2. MAINTENANCE OF DRAINAGE EASEMENT SHOWN OUTSIDE OF LOT LINES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNERS, OR THE PROPERTY OWNER'S ASSOCIATION, OR ITS SUCCESSORS OR ASSIGNS AND NOT THE RESPONSIBILITY OF THE CITY OF NEW BRAUNFELS OR COMAL COUNTY.
3. 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 COMAL COUNTY SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER GRANTORS 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.

SIDEWALK NOTES:

1. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED BY THE HOME BUILDER PER CITY STANDARDS AT THE TIME OF BUILDING CONSTRUCTION ALONG:
   a. APRENDER DR
   b. CALIZA LN
   c. GREY WOLF TRL
   d. LEADTREE DR
   e. PLUMBAGO ST
   f. SALT CEDAR VW
2. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION STREET CONSTRUCTION ALONG:
   a. APRENDER DR - LOT 901, BLOCK 141; LOT 900, BLOCK 142; LOT 900, BLOCK 140; LOT 900, BLOCK 139
   b. CALIZA LN - LOT 900, BLOCK 139; LOT 900, BLOCK 140; LOT 900, BLOCK 138
   c. GREY WOLF TRL - LOT 900, BLOCK 142; LOT 900, BLOCK 140; LOT 900, BLOCK 139
   d. PLUMBAGO ST - LOT 900, BLOCK 147; LOT 900, BLOCK 144; LOT 900, BLOCK 145
3. TEN (10) FOOT WIDE SIDEWALK WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION STREET CONSTRUCTION ALONG:
   a. LEADTREE DR - LOT 900, BLOCK 144
   b. SALT CEDAR VW - LOT 900, BLOCK 138

SUBDIVISION PLAT OF
VERAMENDI PRECINCT 30 - UNIT 3

BEING 38.774 ACRES OF LAND, OUT OF THE 193.732 ACRE TRACT DRESCRIBED IN DOCUMENT NUMBER 202206035177 IN THE OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS, IN THE JUAN MARTIN VERAMENDI SURVEY NO. 2, ABSTRACT 3, COMAL COUNTY, TEXAS.

PLAT NOTES:

1. THIS PLAT IS SUBJECT TO THE REQUIREMENTS AND REGULATIONS OF THE VERAMENDI DEVELOPMENT COMPANY DEVELOPMENT AGREEMENT, RECORDED AS DOCUMENT NO. 201506029547 AND AS AMENDED.
2. THIS PLAT IS LOCATED WITHIN THE NEIGHBORHOOD (MIXED DENSITY) RESIDENTIAL PLANNING AREA.
3. STANDARDS FOR PLANT MATERIALS SHALL CONFORM TO THE STANDARDS OF THE LATEST EDITION OF THE *AMERICAN NATIONAL STANDARD A300 PLANTING AND TRANSPLANTING NURSERY STOCK* PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. TREE REPLACEMENT SHALL OCCUR WITHIN 12 MONTHS OF REMOVAL OF THE HIGH VALUE TREE UNLESS DEFERRED TO AN ADJACENT UNIT, WHERE A REPLACEMENT TREE DOES NOT SURVIVE FOR A PERIOD OF AT LEAST 24 MONTHS, THE ORIGINAL APPLICANT OR CURRENT LANDOWNER SHALL REPLACE THE TREE, PREFERABLY DURING OCTOBER - FEBRUARY, UNTIL THE TREE SURVIVES A 12-MONTH PERIOD.
5. SHOULD ANY TREE DESIGNATED FOR RETENTION IN AN APPROVED TREE PROTECTION PLAN DIE PRIOR TO, OR WITHIN 12 MONTHS OF THE COMPLETION OF CONSTRUCTION WORKS, THE APPLICANT SHALL REPLACE THE DEAD TREE WITH A REPLACEMENT TREE/S EQUAL TO THE TOTAL CALIPER INCHES OF THE DEAD TREE. NO GRADING, TRENCHING OR EQUIPMENT SHALL BE CONDUCTED IN THE AREA IDENTIFIED IN THE ROOT PROTECTION ZONE. ALL WORK TO BE PERFORMED BY HAND OR UNDER THE SUPERVISION OF A CERTIFIED ARBORIST.
6. DURING CONSTRUCTION, THE CLEANING OF EQUIPMENT OR MATERIALS AND/OR THE DISPOSAL OF ANY WASTE MATERIAL, INCLUDING, BUT NOT LIMITED TO PAINT, OIL, SOLVENTS, ASPHALT, CONCRETE, MORTAR, ETC., UNDER THE CANOPY OR DRIP LINE OF ANY HIGH VALUE TREE SHALL BE PROHIBITED. NO GRADING, TRENCHING OR EQUIPMENT SHALL BE CONDUCTED OR USED IN THE AREA IDENTIFIED IN THE ROOT PROTECTION ZONE. ALL WORK SHALL BE PERFORMED BY HAND OR UNDER THE SUPERVISION OF A CERTIFIED ARBORIST. NO ATTACHMENTS OR WIRES OF ANY KIND, OTHER THAN THOSE OF A PROTECTIVE NATURE, SHALL BE ATTACHED TO ANY HIGH VALUE TREE.
7. LOTS TO BE HELD IN COMMON PROPERTY BY A HOMEOWNERS' OR PROPERTY OWNERS' ASSOCIATION SHALL BE SHOWN ON THE PLAT AS A SEPARATE LOT.
8. NO BUILDING SHALL BE SITED WITHIN THE EXTENT OF A SENSITIVE FEATURE AND ASSOCIATED BUFFER. FOR ANY LOT WHICH CONTAINS A HIGH VALUE TREE, AND A BUILDING ENVELOPE WAS NOT APPROVED AS PART OF A FINAL PLAT, THE LOCATION OF A BUILDING ENVELOPE SHALL BE APPROVED BY THE PLANNING DIRECTOR PRIOR TO A BUILDING PERMIT BEING ISSUED.
9. FUTURE DEVELOPMENT IS SUBJECT TO CHAPTER 114 (STREETS, SIDEWALKS AND OTHER PUBLIC SPACES) OF THE NEW BRAUNFELS CODE OF ORDINANCES.
10. IMPERVIOUS COVER THE MAXIMUM CUMULATIVE IMPERVIOUS COVER PERCENTAGE FOR THE PROPERTY AS A WHOLE AND FOR EACH SECTOR PLAN SHALL NOT EXCEED SIXTY-FIVE PERCENT (65%).
11. AMENDMENTS TO THE PARK PROGRAMMING SCHEDULE, INCLUDING BUT NOT LIMITED TO THE PROVISION OF ADDITIONAL IMPROVEMENTS OR SUBSTITUTING IMPROVEMENTS, SHALL BE ADMINISTRATIVELY APPROVED BY THE PARKS DIRECTOR.
12. THIS PLAT WILL COMPLY WITH LOCATION AND AMENITY STANDARDS FOR TRAILS AS SHOWN IN THE SECTOR PLAN.
13. 132 RESIDENTIAL LOTS, 8 COMMON SPACE LOTS.

COMMON SPACE NOTE:

LOT 901, BLOCK 141, IS A LANDSCAPE, PEDESTRIAN, & ACCESS EASEMENT.
LOT 900, BLOCK 142, IS A LANDSCAPE, PEDESTRIAN, & ACCESS EASEMENT.
LOT 900, BLOCK 140, IS A LANDSCAPE, PEDESTRIAN, UTILITY, & ACCESS EASEMENT.
LOT 900, BLOCK 139, IS A LANDSCAPE, PEDESTRIAN, UTILITY, & ACCESS EASEMENT.
LOT 900, BLOCK 138, IS A LANDSCAPE, PEDESTRIAN, & ACCESS EASEMENT.
LOT 900, BLOCK 144, IS A LANDSCAPE, PEDESTRIAN, UTILITY, & ACCESS EASEMENT.
LOT 900, BLOCK 145, IS A LANDSCAPE, PEDESTRIAN, & ACCESS EASEMENT.
LOT 900, BLOCK 147, IS A LANDSCAPE, PEDESTRIAN, & ACCESS EASEMENT.
LOT 901, BLOCK 149, IS A SANITARY SEWER EASEMENT.

ALL AFOREMENTIONED LOTS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION OR PROPERTY OWNER AND NOT THE CITY OF NEW BRAUNFELS.

PAPE-DAWSON ENGINEERS
1672 INDEPENDENCE DR, STE 102 I NEW BRAUNFELS, TX 78132 I 830.632.5533
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

DATE OF PREPARATION: June 25, 2025

STATE OF TEXAS
COUNTY OF COMAL

I (WE), THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS THE VERAMENDI PRECINCT 30 - UNIT 3 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: PETER JAMES
VERAMENDI PE - FREMANTLE, LLC
2148 OAK RUN PKWY
NEW BRAUNFELS, TEXAS 78132

STATE OF TEXAS
COUNTY OF COMAL
THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS _____ DAY OF _____, 20_____, BY _____.

_____
NOTARY PUBLIC
STATE OF TEXAS

MY COMMISSION EXPIRES: _____

STATE OF TEXAS
COUNTY OF COMAL

I (WE), THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS VERAMENDI PRECINCT 30 - UNIT 3 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: DATE

COMAL COUNTY WCID 1F
14755 PRESTON ROAD, SUITE 600
DALLAS, TEXAS 75254

STATE OF TEXAS
COUNTY OF COMAL
THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS _____ DAY OF _____, 20_____, BY _____.

_____
NOTARY PUBLIC
STATE OF TEXAS

MY COMMISSION EXPIRES: _____

I, _____, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT WAS FILED FOR RECORD IN THE MAP AND PLAT RECORDS, DOC # _____ OF COMAL COUNTY ON THE _____ DAY OF _____, 20_____, AT_____M.

WITNESS MY HAND OFFICIAL SEAL, THIS THE _____ DAY OF _____, 20_____.

_____
COUNTY CLERK, COMAL COUNTY, TEXAS

_____
DEPUTY

SHEET 1 OF 3

NOTE
THE VERAMENDI PRECINCT 30 – UNIT 3 PLAT WAS APPROVED WITH CONDITIONS AT THE CITY OF NEW BRAUNFELS PLANNING COMMISSION ON XX/XX/20XX.

FOR PERMIT

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
6–25–2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS I SAN ANTONIO I AUSTIN I HOUSTON I FT WORTH I DALLAS
1672 INDEPENDENCE DR, STE 102 I NEW BRAUNFELS, TX 78132 I 830.632.5533
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

Civil Job No. 30001-73; Survey Job No. 9093-21

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
PLAT

PLAT NO. _____
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED DRAWN CA
SHEET C0.02

Date: Jun 25, 2025, 5:32pm User ID: Robert.Everts
File: P:\30001\01\73\Design\Civil\PLAT-30001-73.dwg
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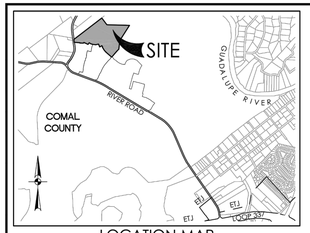
SUBDIVISION PLAT OF
VERAMENDI PRECINCT 30 - UNIT 3

BEING 38.774 ACRES OF LAND, OUT OF THE 193.732 ACRE TRACT DRESCRIBED IN DOCUMENT NUMBER 202206035177 IN THE OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS, IN THE JUAN MARTIN VERAMENDI SURVEY NO. 2, ABSTRACT 3, COMAL COUNTY, TEXAS.

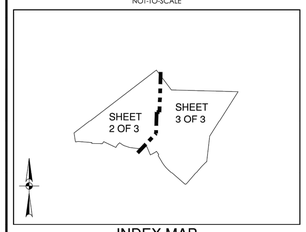
SCALE: 1"= 100'
0' 100' 200' 300'

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | 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: May 28, 2024



LOCATION MAP
NOT-TO-SCALE



INDEX MAP
NOT TO SCALE

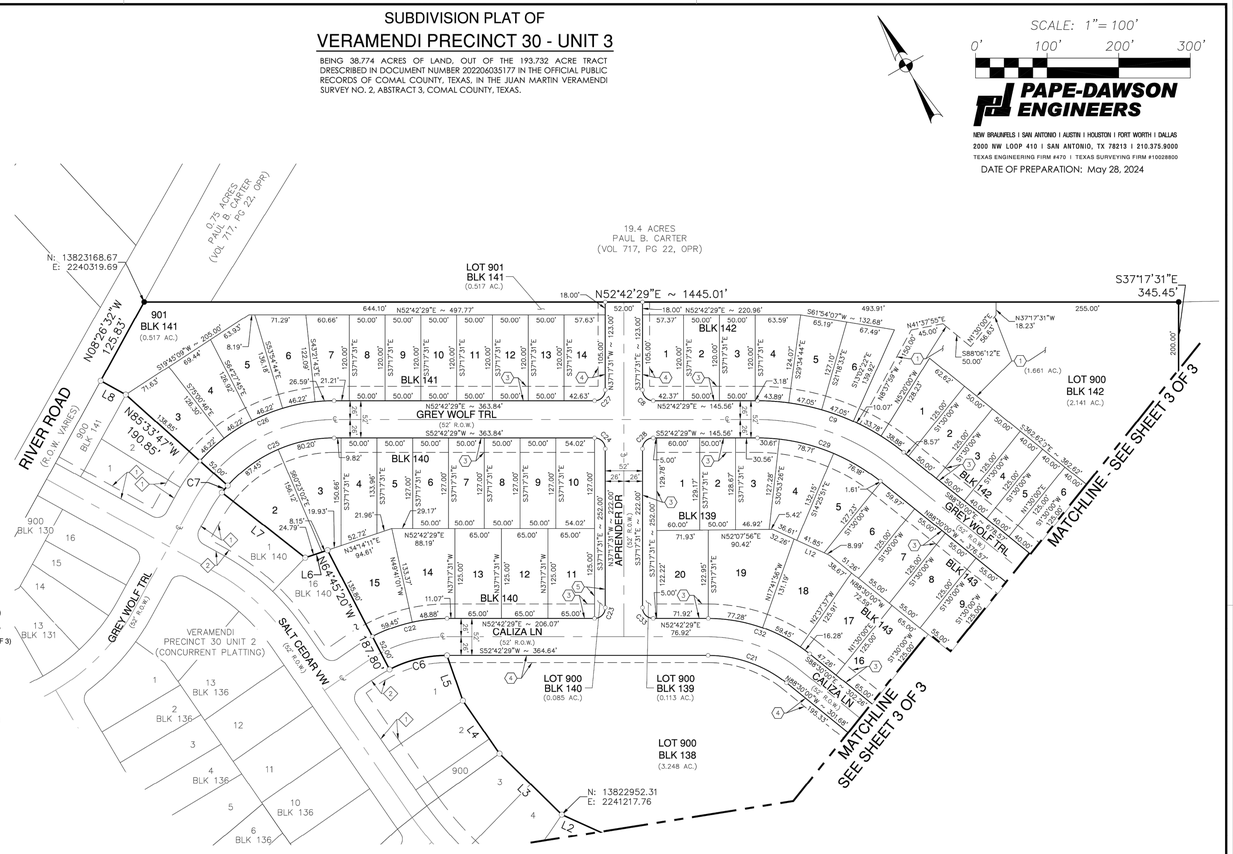
LEGEND

AC	ACRE(S)	VOL	VOLUME
CV	CLEAR VISION	PG	PAGE(S)
DED	DEDICATION	ROW	RIGHT-OF-WAY
DOC	DOCUMENT NUMBER	SS	SANITARY SEWER
ESMT	EASEMENT	VAR WID	VARIABLE WIDTH
ETJ	EXTRATERRITORIAL JURISDICTION	VNAE	VEHICULAR NON-ACCESS EASEMENT (NOT-TO-SCALE)
ML	MATCHLINE (SURVEYOR)		
MPR	MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS	●	FOUND 1/2" IRON ROD (UNLESS NOTED OTHERWISE)
OPR	OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS	○	SET 1/2" IRON ROD (PD)
		○	SET 1/2" IRON ROD (PD)-ROW
TEMP	TEMPORARY	•	SEE NBU NOTE 7 (SHEET 1 OF 3)

CITY OF NEW BRAUNFELS EXTRATERRITORIAL JURISDICTION
CENTERLINE

1. VARIABLE WIDTH DRAINAGE EASEMENT
2. VARIABLE WIDTH SANITARY SEWER EASEMENT
3. 20' UTILITY EASEMENT
4. 10' UTILITY EASEMENT
5. 15' UTILITY EASEMENT
6. VARIABLE WIDTH PEDESTRIAN ACCESS EASEMENT

1. 20' UTILITY EASEMENT (DOC _____, MPR)
2. 10' UTILITY EASEMENT (DOC _____, MPR)
3. 30'X52' TEMP UTILITY, DRAINAGE, & ACCESS ESMT TO EXPIRE UPON FUTURE PLATTING OF LOT & RIGHT-OF-WAY



CURVE TABLE

CURVE #	RADIUS	DELTA	CHORD BEARING	CHORD	LENGTH
C1	843.00'	8°09'09"	S45°04'34"W	119.85'	119.95'
C2	15.00'	90°00'00"	S86°00'00"W	21.21'	23.56'
C3	471.00'	18°36'38"	N39°41'41"W	152.32'	152.99'
C4	15.00'	85°20'06"	N12°16'41"E	20.33'	22.34'
C5	474.00'	11°58'36"	S60°56'02"W	98.90'	99.08'
C6	174.00'	27°27'49"	S38°58'35"W	82.61'	83.40'
C7	199.00'	3°39'20"	N2°36'33"E	12.69'	12.70'
C8	15.00'	90°00'00"	S82°17'31"E	21.21'	23.56'
C9	326.00'	38°47'31"	N72°06'15"E	216.53'	220.72'
C10	15.00'	90°00'00"	N46°30'00"E	21.21'	23.56'
C11	276.00'	28°06'28"	S15°33'14"W	134.04'	135.40'
C12	65.00'	268°34'03"	N16°06'30"W	93.07'	304.68'
C13	15.00'	88°34'03"	N73°53'30"E	20.95'	23.19'
C14	224.00'	28°06'28"	N15°33'14"E	108.79'	109.89'
C15	15.00'	90°00'00"	N43°30'00"W	21.21'	23.56'
C16	201.00'	16°28'53"	N80°15'33"W	57.62'	57.82'
C17	15.00'	85°39'13"	S65°09'17"W	20.39'	22.42'
C18	526.00'	32°37'03"	S38°38'12"W	295.42'	299.44'
C19	474.00'	50°33'36"	N29°39'56"E	404.84'	418.28'
C20	15.00'	92°53'08"	N42°03'26"W	21.74'	24.32'

CURVE TABLE

CURVE #	RADIUS	DELTA	CHORD BEARING	CHORD	LENGTH
C21	175.00'	38°47'31"	S72°06'15"W	116.23'	118.48'
C22	226.00'	27°27'49"	N38°58'35"E	107.29'	108.33'
C23	15.00'	90°00'00"	N7°42'29"E	21.21'	23.56'
C24	15.00'	90°00'00"	N82°17'31"W	21.21'	23.56'
C25	199.00'	48°16'16"	S28°34'21"W	162.74'	167.66'
C26	251.00'	48°16'16"	N28°34'21"E	205.27'	211.47'
C27	15.00'	90°00'00"	N7°42'29"E	21.21'	23.56'
C28	15.00'	90°00'00"	S7°42'29"W	21.21'	23.56'
C29	274.00'	38°47'31"	S72°06'15"W	181.99'	185.51'
C30	15.00'	90°00'00"	N43°30'00"W	21.21'	23.56'
C31	15.00'	90°00'00"	N46°30'00"E	21.21'	23.56'
C32	226.00'	38°47'31"	N72°06'15"E	150.11'	153.01'
C33	15.00'	90°00'00"	S82°17'31"E	21.21'	23.56'
C34	15.00'	90°00'00"	S46°30'00"W	21.21'	23.56'
C35	15.00'	90°00'00"	N43°30'00"W	21.21'	23.56'
C36	15.00'	90°00'00"	N46°30'00"E	21.21'	23.56'
C37	149.00'	16°28'53"	S80°15'33"E	42.71'	42.86'
C38	15.00'	85°39'13"	S29°11'30"E	20.39'	22.42'
C39	526.00'	12°08'06"	S7°34'03"W	111.20'	111.41'
C40	129.00'	16°28'53"	S80°15'33"E	36.98'	37.11'

LINE TABLE

LINE #	BEARING	LENGTH
L1	N35°03'16"W	52.00'
L2	S76°57'18"W	121.60'
L3	N83°00'09"W	121.61'
L4	N71°58'46"W	89.89'
L5	N56°32'22"W	67.17'
L6	S34°14'11"W	32.94'
L7	N89°13'06"W	147.78'
L8	S81°33'28"W	40.00'
L9	N1°30'00"E	59.43'
L10	N88°30'00"W	59.31'
L11	S88°30'00"E	59.31'
L12	N77°09'03"E	55.19'
L13	S88°30'00"E	74.31'
L14	S72°01'07"E	14.70'
L15	N72°38'38"W	50.39'

LINE TABLE

LINE #	BEARING	LENGTH
L16	S89°27'58"W	53.59'
L17	S1°00'03"W	23.03'
L18	S32°36'36"W	19.88'
L19	S57°23'24"E	5.63'
L20	N56°12'09"W	3.76'
L21	S32°36'36"W	28.29'
L22	S83°13'59"E	46.94'
L23	S52°42'29"W	25.00'

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT

CURVE AND LINE DATA ON THIS SHEET

SHEET 2 OF 3

NOTE
THE VERAMENDI PRECINCT 30 – UNIT 3 PLAT WAS APPROVED WITH CONDITIONS AT THE CITY OF NEW BRAUNFELS PLANNING COMMISSION ON XX/XX/20XX.

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
6-6-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
PLAT

PLAT NO. _____
JOB NO. 30001-73
DATE 06-05-2024
DESIGNER GDL
CHECKED _____ DRAWN CA
SHEET C0.03

FOR PERMIT

VERAMENDI PRECINCT 30 - UNIT 3
Civil Job No. 30001-73; Survey Job No. 9093-21

Date: Jun 06, 2024, 4:45pm User ID: gtolmer
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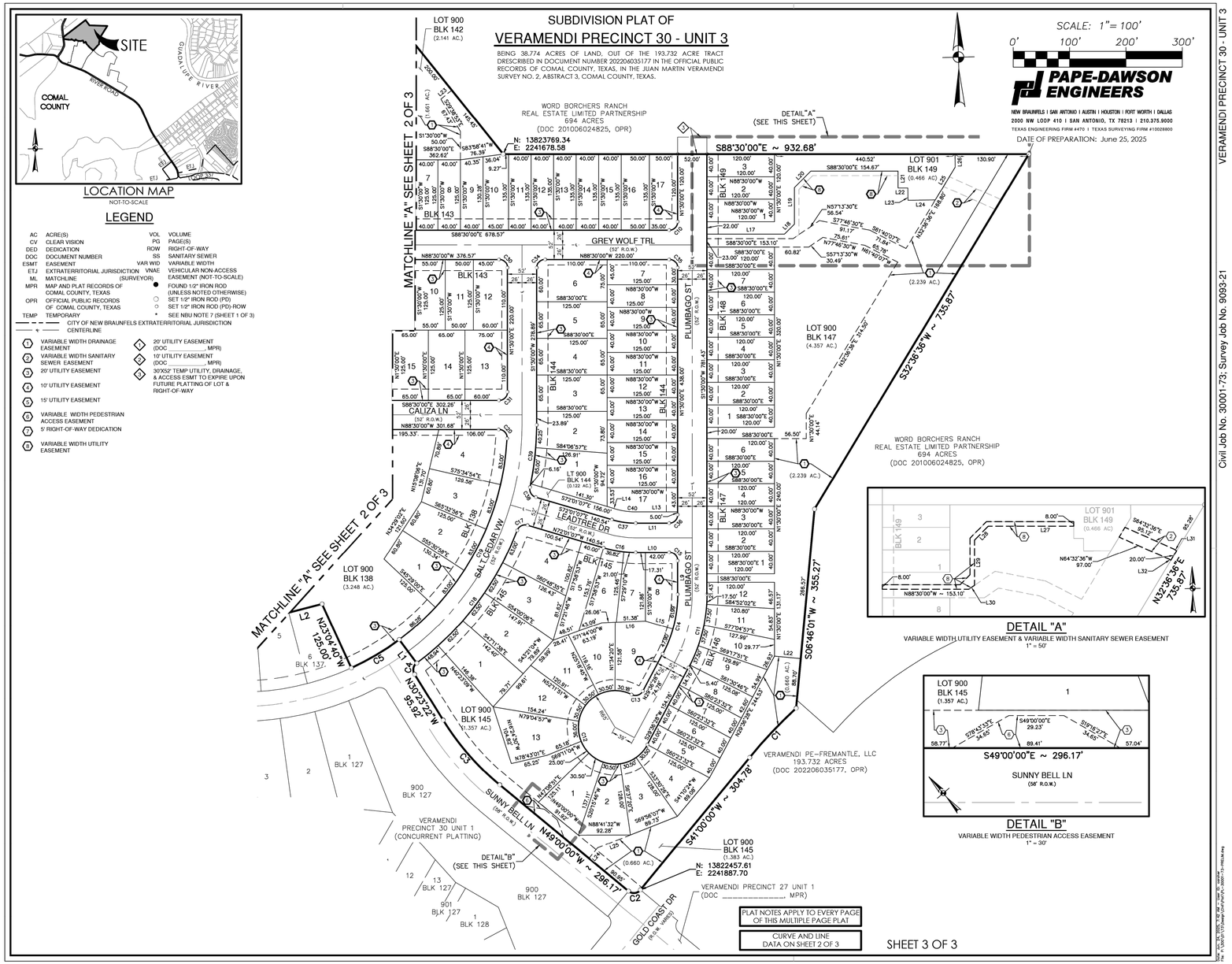

NOTE
THE VERAMENDI PRECINCT 30 – UNIT 3 PLAT WAS APPROVED WITH CONDITIONS AT THE CITY OF NEW BRAUNFELS PLANNING COMMISSION ON XX/XX/20XX.

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
6-25-2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
PLAT

PLAT NO. _____
JOB NO. 30001-73
DATE JULY 2024
DESIGNED GDL
CHECKED JP DRAWN CA
SHEET C0.04

Civil Job No. 30001-73; Survey Job No. 9093-21

VERAMENDI PRECINCT 30 - UNIT 3

Date: Jun 25, 2025, 5:32pm User ID: Robert Everts
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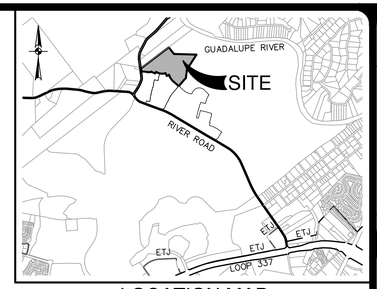
FOR PERMIT

Calc Pt	Description	Drainage Area		Time of Conc.	Intensity		Discharge Q	Frequency
		Area ID	Acres	(minutes)	(in/hr)	C	(cfs)	(year)
11	SITE OUTFALL	EA	32.47	16.00	4.10	0.38	51	2
					6.03	0.44	86	10
					7.26	0.48	113	25
					9.29	0.55	167	100
12	SITE OUTFALL	ED	5.01	18.00	3.86	0.33	6	2
					5.66	0.38	11	10
					6.81	0.42	14	25
					8.71	0.49	21	100
20	SITE OUTFALL	EC	31.48	14.00	4.39	0.36	50	2
					6.47	0.41	84	10
					7.82	0.46	112	25
					10.03	0.53	166	100
21	SITE OUTFALL	EB	5.09	10.00	5.05	0.33	8	2
					7.50	0.38	15	10
					9.12	0.42	19	25
					11.70	0.49	29	100
22	SITE OUTFALL	EE	4.51	11.00	4.87	0.33	7	2
					7.23	0.38	12	10
					8.78	0.42	17	25
					11.26	0.49	25	100



LOCATION MAP

SCALE: 1"= 200'
0' 200' 400' 600'

MASTER DRAINAGE LEGEND

PROJECT LIMITS	
EXISTING CONTOUR	690
100 YR FLOODPLAIN	
RUNOFF FLOW PATH	
DRAINAGE AREA BOUNDARY	
FHA LOT GRADING TYPE	A,B,C
PROPOSED DIRECTION OF FLOW	
DRAINAGE CALCULATION POINT	11
DRAINAGE AREA	A

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
7-3-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

OVERALL DRAINAGE PLAN - EXISTING CONDITIONS

PLAT NO. _____
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C1.00

FOR PERMIT

Date: Jul 03, 2024, 3:48pm User ID: dlynch
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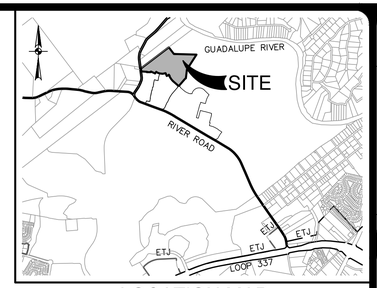
Calc Pt	Description	Drainage Area Area ID	Acres	Time of Conc. (minutes)	Intensity (in/hr)	C	Discharge Q (cfs)	Frequency (year)	Total Q (cfs)	Inlets on Grade Intercept	Inlets on Grade Bypass
1	ON-GRADE INLETS (DRAIN A-3)	PA	11.02	12.00	4.70	0.60	31	2		27	4
					6.97	0.67	51	10		38	13
					8.45	0.71	66	25		44	22
					9.61	0.75	79	50		46	33
					10.83	0.80	95	100		55	40
2	PIPE FLOW (DRAIN A-3)	PA(C)	1.00	10.00	5.05	0.60	3	2	27		
					7.5	0.67	5	10	38		
					9.12	0.71	7	25	44		
					10.38	0.75	8	50	46		
					11.7	0.80	9	100	55		
3	PRIVATE INTECEPTOR CHANNEL	PAA	1.71	10.00	5.05	0.50	4	2			
					7.50	0.56	7	10			
					9.12	0.61	9	25			
					10.38	0.64	12	50			
					11.70	0.68	14	100			
4	ON-GRADE INLET (DRAIN A-5)	PB	9.50	13.00	4.54	0.57	25	2		21	4
					6.72	0.64	41	10		29	12
					8.13	0.68	53	25		34	19
					9.25	0.72	63	50		38	25
					10.42	0.77	76	100		42	34
5	ON-GRADE INLET (DRAIN A-3)	PA(B)+PB(B)+PAA+PAB	0.85	10.00	5.05	0.38	2	2	10	9	1
					7.50	0.43	3	10	28	18	10
					9.12	0.48	4	25	45	24	21
					10.38	0.51	4	50	62	29	33
					11.70	0.55	5	100	79	33	46
6	PIPE FLOW	PA(C)+PB(C)+PAA(C)+PAB(C)	1.00	10.00	5.05	0.60	3	2	56		
					7.5	0.67	5	10	85		
					9.12	0.71	7	25	102		
					10.38	0.75	8	50	114		
					11.7	0.80	9	100	130		
7	SUMP INLETS	PA(B)+PB(B)+PAA+PAB+PC	2.39	10.00	5.05	0.58	7	2	8		
					7.50	0.64	12	10	22		
					9.12	0.69	15	25	36		
					10.38	0.73	18	50	51		
					11.70	0.77	22	100	68	57	11
8	PIPE FLOW	PA+PB+PAA+PAB+PC	25.47	14.00	4.39	0.58	65	2			
					6.47	0.65	107	10			
					7.82	0.69	138	25			
					8.9	0.73	165	50			
					10.03	0.77	198	100	187		
9	SUMP INLETS	PD	9.00	12.00	4.70	0.54	23	2			
					6.97	0.60	38	10			
					8.45	0.65	49	25			
					9.61	0.68	59	50			
					10.83	0.73	71	100	82		
10	PIPE FLOW	PA+PB+PAA+PAB+PC+PD	34.47	16.00	4.1	0.57	80	2			
					6.03	0.64	132	10			
					7.26	0.68	170	25			
					8.25	0.72	204	50			
					9.29	0.76	244	100			
11	POND OUTFALL	PA+PB+PAA+PAB+PC+PD+PF	38.80	17.00	3.97	0.56	86	2			
					5.83	0.62	141	10			
					7.02	0.67	182	25			
					7.98	0.71	218	50			
					8.98	0.75	262	100			
12	SITE OUTFALL	PE	2.18	11.00	4.87	0.53	6	2			
					7.23	0.59	9	10			
					8.78	0.64	12	25			
					9.99	0.67	15	50			
					11.26	0.72	18	100			

Calc Pt	Description	Drainage Area Area ID	Acres	Time of Conc. (minutes)	Intensity (in/hr)	C	Discharge Q (cfs)	Frequency (year)	Total Q (cfs)	Inlets on Grade Intercept	Inlets on Grade Bypass
13	EARTHEN CHANNEL PRECINCT 30 UNIT 1	PH	3.65	12.00	4.70	0.47	8	2			
					6.97	0.54	14	10			
					8.45	0.58	18	25			
					9.61	0.61	21	50			
					10.83	0.66	26	100			
15	SUMP INLET	PJ	3.80	11.00	4.87	0.56	10	2			
					7.23	0.63	17	10			
					8.78	0.68	23	25			
					9.99	0.71	27	50			
					11.26	0.76	33	100			
16	EARTHEN CHANNEL PRECINCT 30 UNIT 3	PH+PI+PJ	16.35	13.00	4.54	0.48	35	2			
					6.72	0.54	59	10			
					8.13	0.58	77	25			
					9.25	0.62	93	50			
					10.42	0.66	112	100			
17	EARTHEN CHANNEL PRECINCT 30 UNIT 3	PH+PI+PJ+PK	21.24	14.00	4.39	0.45	42	2			
					6.47	0.51	70	10			
					7.82	0.55	92	25			
					8.90	0.58	110	50			
					10.03	0.63	134	100			
18	SUMP INLET	PAC	2.80	11.00	4.87	0.60	8	2			
					7.23	0.67	14	10			
					8.78	0.71	18	25			
					9.99	0.75	21	50			
					11.26	0.80	25	100	25	19	6
19	ON-GRADE INLET	PL	4.39	10.00	5.05	0.60	13	2		12	1
					7.50	0.67	22	10		18	4
					9.12	0.71	29	25		22	7
					10.38	0.75	34	50		24	10
					11.70	0.80	41	100		27	14
20	POND OUTFALL	PH+PI+PJ+PK+PAC+PL(C)+PN	28.57	15.00	4.24	0.43	52	2			
					6.24	0.49	87	10			
					7.52	0.53	113	25			
					8.56	0.56	137	50			
					9.64	0.60	166	100			
21	SITE OUTFALL	PM	1.22	10.00	5.05	0.60	4	2	5		
					7.50	0.67	6	10	10		
					9.12	0.71	8	25	15		
					10.38	0.75	10	50	20		
					11.70	0.80	11	100	31		
22	SITE OUTFALL	PO	2.13	10.00	5.05	0.42	5	2			
					7.50	0.48	8	10			
					9.12	0.52	10	25			
					10.38	0.55	12	50			
					11.70	0.60	15	100			



LOCATION MAP

SCALE: 1"= 200'
0' 200' 400' 600'

MASTER DRAINAGE LEGEND

- PROJECT LIMITS
- EXISTING CONTOUR — 690
- 100 YR FLOODPLAIN
- RUNOFF FLOW PATH
- DRAINAGE AREA BOUNDARY
- FHA LOT GRADING TYPE — A,B,C
- PROPOSED DIRECTION OF FLOW
- DRAINAGE CALCULATION POINT — 11
- DRAINAGE AREA — A

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
6-25-2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

OVERALL DRAINAGE PLAN - PROPOSED CONDITIONS

PLAT NO. _____
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED _____ DRAWN CA
SHEET C1.01

FOR PERMIT

Date: Jun 25, 2025, 5:32pm User ID: Robert.Everts
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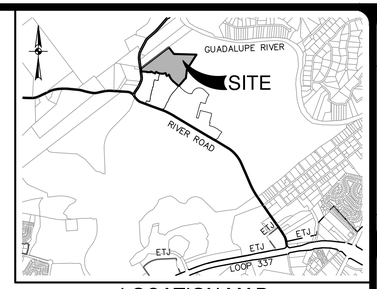
Calc Pt	Description	Drainage Area Area ID	Acres	Time of Conc. (minutes)	Intensity (in/hr)	C	Discharge Q (cfs)	Frequency (year)	Total Q (cfs)	Inlets on Grade Intercept	Inlets on Grade Bypass
1	ON-GRADE INLETS (DRAIN A-3)	UA	11.02	12.00	4.70	0.60	31	2		27	4
					6.97	0.67	51	10		38	13
					8.45	0.71	66	25		44	22
					9.61	0.75	79	50		49	30
					10.83	0.80	95	100		55	40
2	PIPE FLOW (DRAIN A-3)	UA(C)	1.00	10.00	5.05	0.60	3	2	27		
					7.50	0.67	5	10	38		
					9.12	0.71	7	25	44		
					10.38	0.75	8	50	49		
					11.70	0.80	9	100	55		
3	PRIVATE INTECEPTOR CHANNEL	UAA	1.71	10.00	5.05	0.50	4	2			
					7.50	0.56	7	10			
					9.12	0.61	10	25			
					10.38	0.64	12	50			
					11.70	0.68	14	100			
4	ON-GRADE INLET (DRAIN A-5)	UB	9.50	13.00	4.54	0.57	25	2		21	4
					6.72	0.64	41	10		29	12
					8.13	0.68	53	25		34	19
					9.25	0.72	63	50		37	26
					10.42	0.77	76	100		42	34
5	ON-GRADE INLET	UA(B)+UB(B)+UAA+UAB	0.85	10.00	5.05	0.38	2	2	10	9	1
					7.50	0.43	3	10	28	18	10
					9.12	0.48	4	25	45	24	21
					10.38	0.51	4	50	60	28	32
					11.70	0.55	5	100	79	33	46
6	PIPE FLOW	UA(C)+UB(C)+UAA(C)+UAB(C)	1.00	10.00	5.05	0.60	3	2	56		
					7.50	0.67	5	10	85		
					9.12	0.71	7	25	102		
					10.38	0.75	8	50	115		
					11.70	0.80	9	100	130		
7	SUMP INLETS	UA+UB+UAA+UAB+UC	2.39	10.00	5.05	0.58	7	2	8		
					7.50	0.64	12	10	22		
					9.12	0.69	15	25	36		
					10.38	0.73	18	50	50		
					11.70	0.77	22	100	68	57	11
8	PIPE FLOW	UA+UB+UAA+UAB+UC	25.47	14.00	4.39	0.58	65	2			
					6.47	0.65	107	10			
					7.82	0.69	138	25			
					8.90	0.73	165	50			
					10.03	0.77	198	100	187		
9	SUMP INLETS	UD	9.00	12.00	4.70	0.54	23	2			
					6.97	0.60	38	10			
					8.45	0.65	49	25			
					9.61	0.68	59	50			
					10.83	0.73	71	100	82		
10	PIPE FLOW	UA+UB+UAA+UAB+UC+UD	34.47	16.00	4.10	0.57	80	2			
					6.03	0.64	132	10			
					7.26	0.68	170	25			
					8.25	0.72	204	50			
					9.29	0.76	244	100			
11	POND OUTFALL	UA+UB+UAA+UAB+UC+UD+UF	38.80	17.00	3.97	0.56	86	2			
					5.83	0.62	141	10			
					7.02	0.67	182	25			
					7.98	0.71	218	50			
					8.98	0.75	262	100			
12	SITE OUTFALL	UE	2.18	11.00	4.87	0.53	6	2			
					7.23	0.59	9	10			
					8.78	0.64	12	25			
					9.99	0.67	15	50			
					11.26	0.72	18	100			

Calc Pt	Description	Drainage Area Area ID	Acres	Time of Conc. (minutes)	Intensity (in/hr)	C	Discharge Q (cfs)	Frequency (year)	Total Q (cfs)	Inlets on Grade Intercept	Inlets on Grade Bypass
13	EARTHEN CHANNEL PHASE 1	UH	3.65	12.00	4.70	0.47	8	2			
					6.97	0.54	14	10			
					8.45	0.58	18	25			
					9.61	0.61	21	50			
					10.83	0.66	26	100			
14	SUMP INLET	UG	3.46	11.00	4.87	0.61	10	2			
					7.23	0.68	17	10			
					8.78	0.73	22	25			
					9.99	0.76	26	50			
					11.26	0.81	32	100			
15	SUMP INLET	UJ	3.80	11.00	4.87	0.56	10	2			
					7.23	0.63	17	10			
					8.78	0.68	23	25			
					9.99	0.71	27	50			
					11.26	0.76	33	100			
16	EARTHEN CHANNEL PHASE 2	UG+UH+UJ+UJ	13.47	13.00	4.54	0.54	33	2			
					6.72	0.60	54	10			
					8.13	0.65	71	25			
					9.25	0.68	85	50			
					10.42	0.73	102	100			
17	EARTHEN CHANNEL PHASE 3	UG+UH+UI+UJ+UK	16.55	14.00	4.39	0.53	39	2			
					6.47	0.60	64	10			
					7.82	0.64	83	25			
					8.90	0.68	100	50			
					10.03	0.72	120	100			
18	SUMP INLET	UAC	2.80	11.00	4.87	0.60	8	2	8		
					7.23	0.67	14	10	14		
					8.78	0.71	18	25	18		
					9.99	0.75	21	50	21		
					11.26	0.80	25	100	25	19	6
19	ON-GRADE INLET	UL	4.39	10.00	5.05	0.60	13	2		10	3
					7.50	0.67	22	10		13	9
					9.12	0.71	29	25		16	13
					10.38	0.75	34	50		24	10
					11.70	0.80	41	100		19	22
20	POND OUTFALL	UG+UH+UI+UJ+UK+UAC+UL(C)+UN	28.31	15.00	4.24	0.53	64	2			
					6.24	0.59	105	10			
					7.52	0.64	136	25			
					8.56	0.67	163	50			
					9.64	0.72	196	100			
21	SITE OUTFALL	UM	1.22	10.00	5.05	0.60	4	2	7		
					7.50	0.67	6	10	15		
					9.12	0.71	8	25	21		
					10.38	0.75	10	50	20		
					11.70	0.80	11	100	39		
22	SITE OUTFALL	UO	2.13	10.00	5.05	0.42	5	2			
					7.50	0.48	8	10			
					9.12	0.52	10	25			
					10.38	0.55	12	50			
					11.70	0.60	15	100			



LOCATION MAP

SCALE: 1"= 200'
0' 200' 400' 600'

MASTER DRAINAGE LEGEND

- PROJECT LIMITS
- EXISTING CONTOUR — 690
- 100 YR FLOODPLAIN
- RUNOFF FLOW PATH
- DRAINAGE AREA BOUNDARY
- FHA LOT GRADING TYPE — A,B,C
- PROPOSED DIRECTION OF FLOW
- DRAINAGE CALCULATION POINT — 11
- DRAINAGE AREA — A

NO.	REVISION	DATE

6-25-2025

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

OVERALL DRAINAGE PLAN - ULTIMATE CONDITIONS

PLAT NO. _____
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED _____ DRAWN CA
SHEET C1.02

FOR PERMIT

Date: Jun 25, 2025, 5:33pm User ID: Robert.Ewerts
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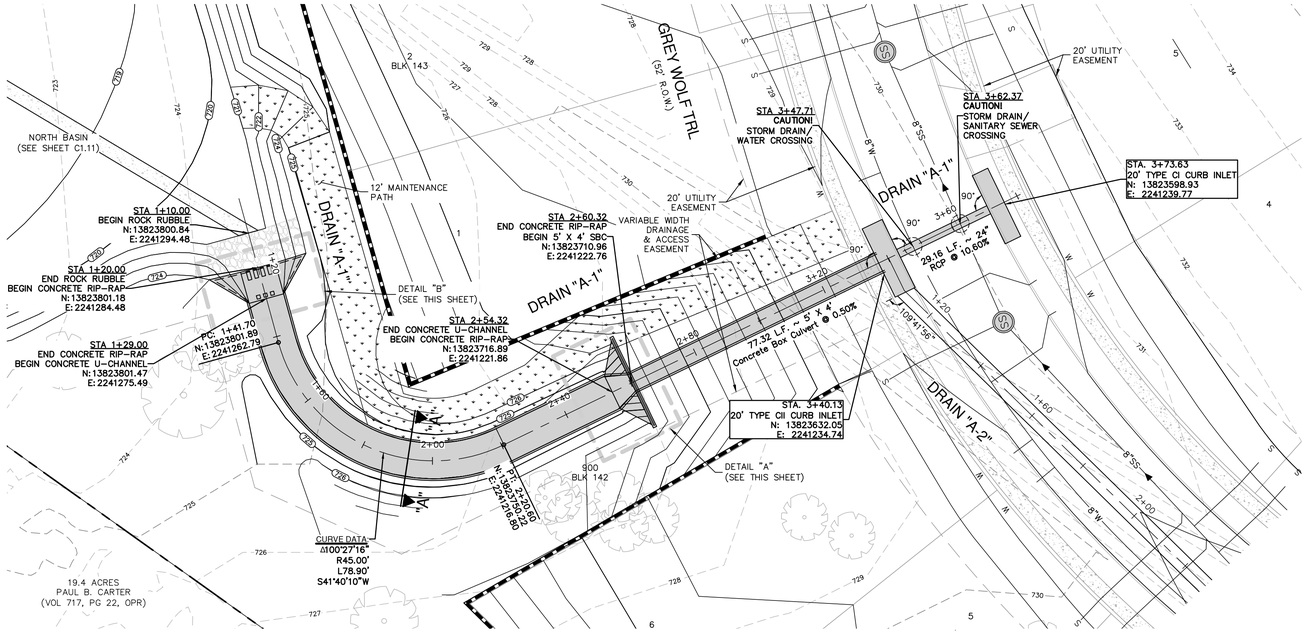
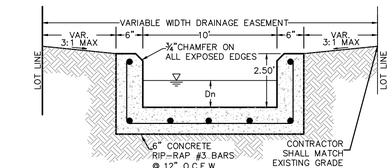
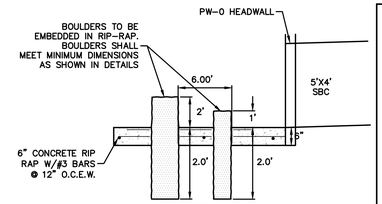
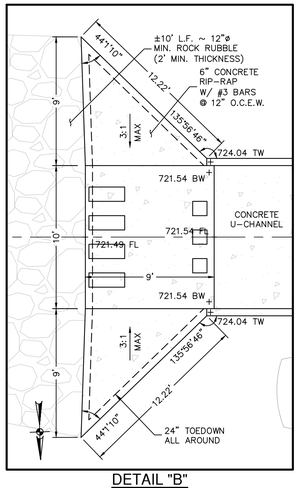




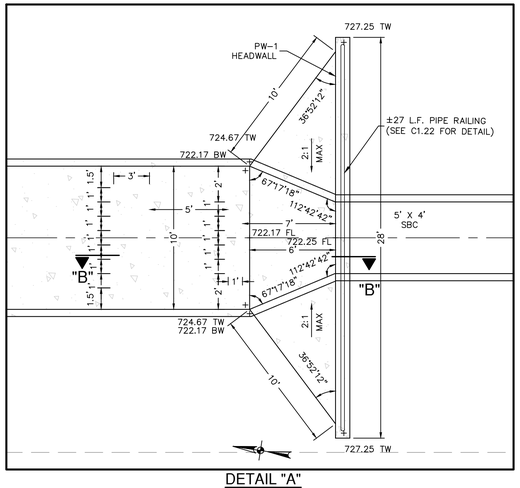
SECTION "A-A"
CONCRETE CHANNEL
(STA. 1+29.00 – STA. 2+54.32)



SECTION "B-B"
BOULDER DETAIL
NOT-TO-SCALE



DETAIL "B"
1" = 5'



DETAIL "A"
1" = 5'

HYDRAULIC CALCULATIONS
CONCRETE U-CHANNEL
STA. 1+29.00 TO 2+54.32

Q25 = 170 CFS
Bw = 10 FT
n = 0.013
S = 0.50%
dn25 = 1.76 FT
dn25+Fbrd. = 2.26 FT
V25 = 9.64 FPS
Q2 = 80 CFS
V2 = 7.45 FPS
Q100 = 244 cfs
dn100 = 2.25 FT

HYDRAULIC CALCULATIONS
STORM DRAIN "A-1"
STA. 2+60.32 TO 3+40.13

Q25 = 170 CFS
S = 0.50%
Sf = 1.40%
D = 4.00'
V25 = 10.24 FPS
n = 0.013
Q100 = 244 CFS
V100 = 12.20 FPS

HYDRAULIC CALCULATIONS
STORM DRAIN "A-1"
STA. 3+40.13 TO 3+73.63

Q25 = 25 CFS
S = 10.60%
Sf = 1.22%
D = 2.0'
V25 = 7.80 FPS
n = 0.013
Q100 = 41 CFS
V100 = 13.05 FPS

SCALE: 1"= 20'
0' 20' 40' 60'

DRAINAGE LEGEND

- PROJECT LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR — 690 —
- PROPOSED CONTOUR — 690 —
- EXISTING WATER — W —
- EXISTING UNDERGROUND ELECTRIC — UGE —
- EXISTING GAS — G —
- EXISTING SEWER — SS — MANHOLE
- PROPOSED SEWER — SS —
- PROPOSED WATER — W —
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS — G —
- PROPOSED UNDERGROUND ELECTRIC — UGE —
- FLOW ARROW
- 12' MAINTENANCE PATH

EXISTING FIRE HYDRANT
FIRE HYDRANT

HYDRAULIC CALCULATIONS
2 - 20' CURB INLETS

Q25 = 24.5 CFS

Q25 = CA√2gh (ORIFICE FLOW EQN.)

A = L(0.52), h = 0.54, g = 32.2, c = 0.70

$L = \frac{24.5 \text{ cfs}}{0.7(0.52)\sqrt{2}(32.2)(0.54)}$

L = 11.41' USE 20 FT.

CHECK WITH WEIR FORMULA

$h = \left(\frac{Q}{(CL)}\right)^{2/3} = \left(\frac{24.5}{(3.087)\ 20'}\right)^{2/3} = 0.54$ FT.

h = 0.54' < 0.79' OK

DRAINAGE & GRADING 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. ALL CONCRETE FOR TXDOT DRAINAGE STRUCTURES SHALL MEET TXDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
3. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
4. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
5. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF NEW BRAUNFELS WILL ACCEPT.
6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.
7. ALL RCP SHALL BE AASHTO M170 CLASS III RCP.

CAUTION!!

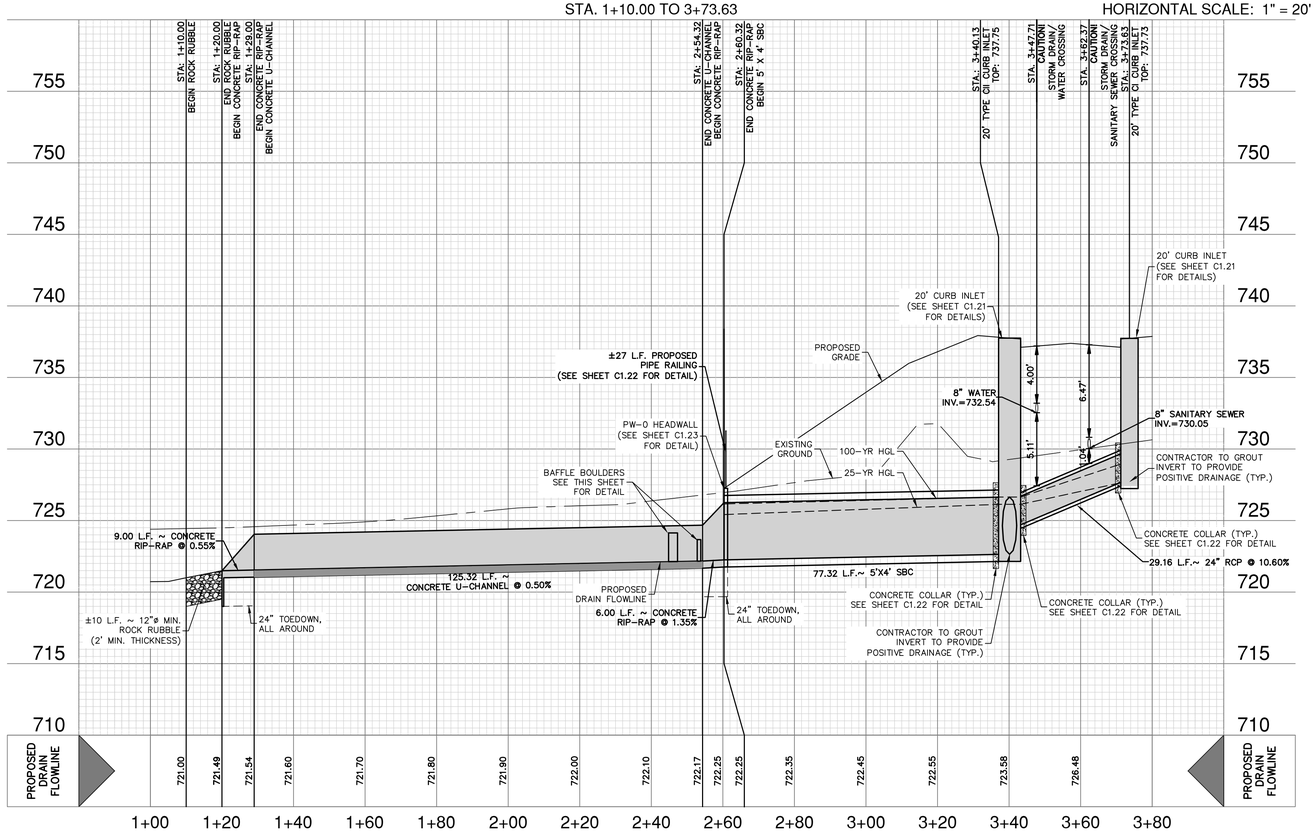
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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.

STORM DRAIN "A-1"
STA. 1+10.00 TO 3+73.63

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



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FOR PERMIT

NO.	REVISION	DATE

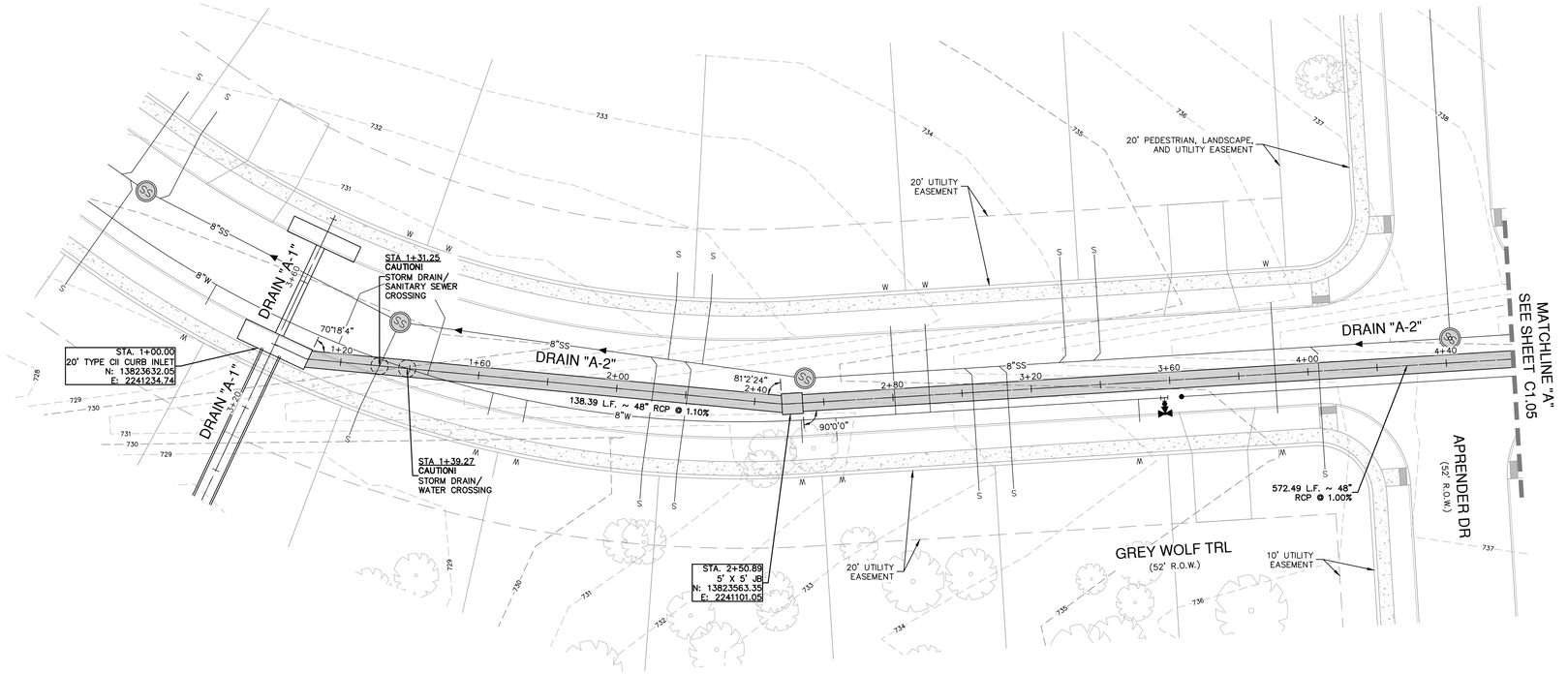
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
12-30-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

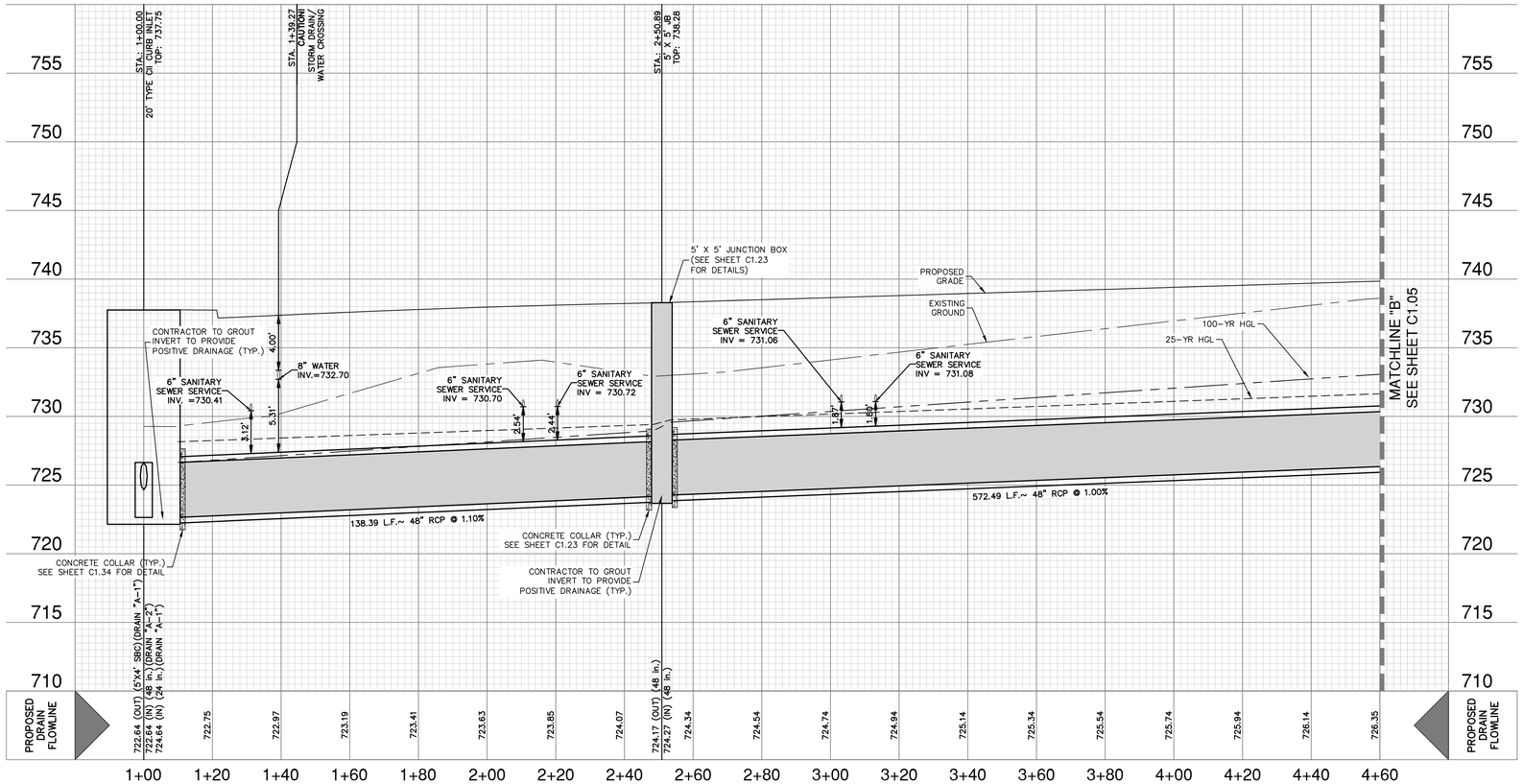
STORM DRAIN A-1 - PLAN & PROFILE
STA. 1+10.00 TO 3+73.63

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C1.03



STORM DRAIN "A-2"
STA. 1+00.00 TO 4+60.00

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



DRAINAGE LEGEND

- PROJECT LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR — 690
- PROPOSED CONTOUR — 690
- EXISTING FIRE HYDRANT
- EXISTING WATER — W
- EXISTING UNDERGROUND ELECTRIC — UGE
- EXISTING GAS — G
- EXISTING SEWER — SS
- PROPOSED SEWER — SS — MANHOLE
- PROPOSED WATER — W — FIRE HYDRANT
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS — G
- PROPOSED UNDERGROUND ELECTRIC — UGE
- FLOW ARROW
- CURLEX SINGLE NET EROSION CONTROL BLANKETS

HYDRAULIC CALCULATIONS STORM DRAIN "A-2" STA. 1+00.00 TO 2+50.89	
Q25	= 138 CFS
S	= 1.10%
Sf	= 0.92%
D	= 4.00'
V25	= 10.98 FPS
n	= 0.013
Q100	= 187 CFS
V100	= 14.88 FPS

HYDRAULIC CALCULATIONS STORM DRAIN "A-2" STA. 2+50.89 TO 8+28.38	
Q25	= 138 CFS
S	= 1.00%
Sf	= 0.92%
D	= 4.00'
V25	= 10.98 FPS
n	= 0.013
Q100	= 187 CFS
V100	= 14.88 FPS

DRAINAGE & GRADING 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.
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3. 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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5. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF NEW BRAUNFELS WILL ACCEPT.
6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.
7. ALL RCP SHALL BE AASHTO M170 CLASS III RCP.

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 "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
7-3-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

STORM DRAIN A-2 - PLAN & PROFILE
STA. 1+00.00 TO 4+60.00

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JL DRAWN CA
SHEET C1.04

FOR PERMIT

Date: Jul 03, 2024, 3:52pm User ID: dlynch
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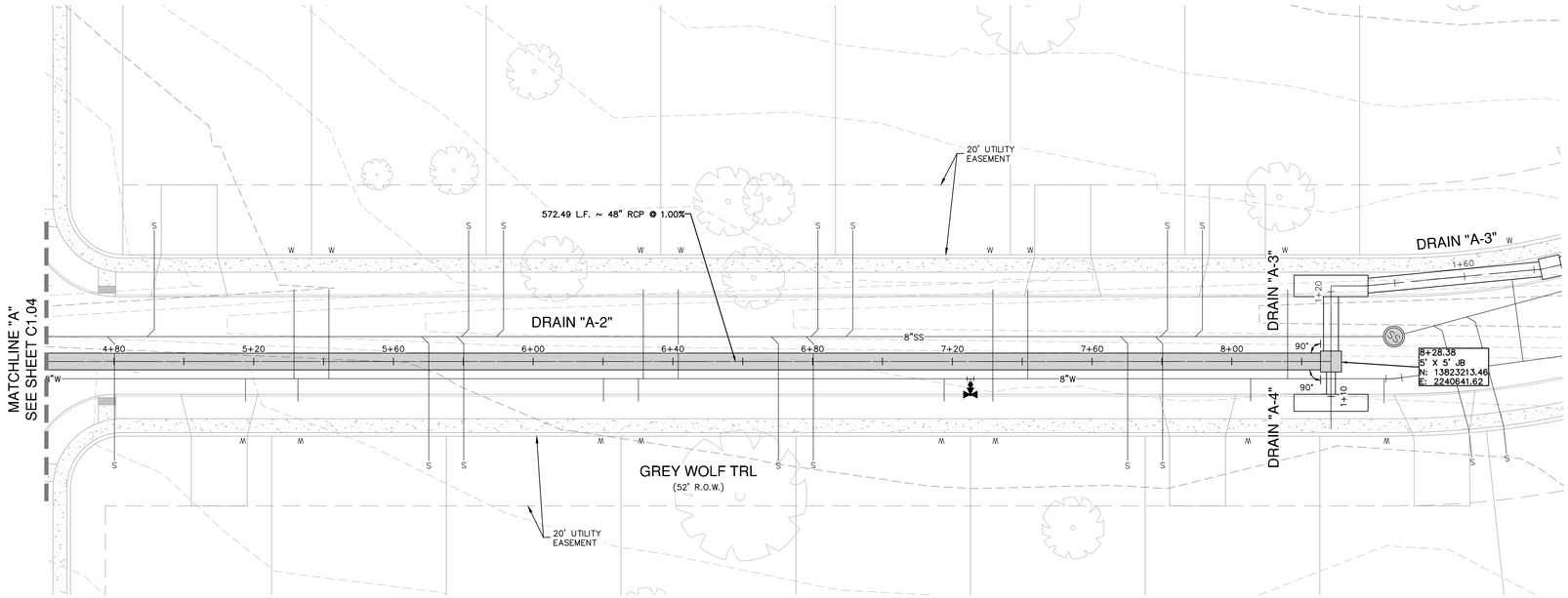


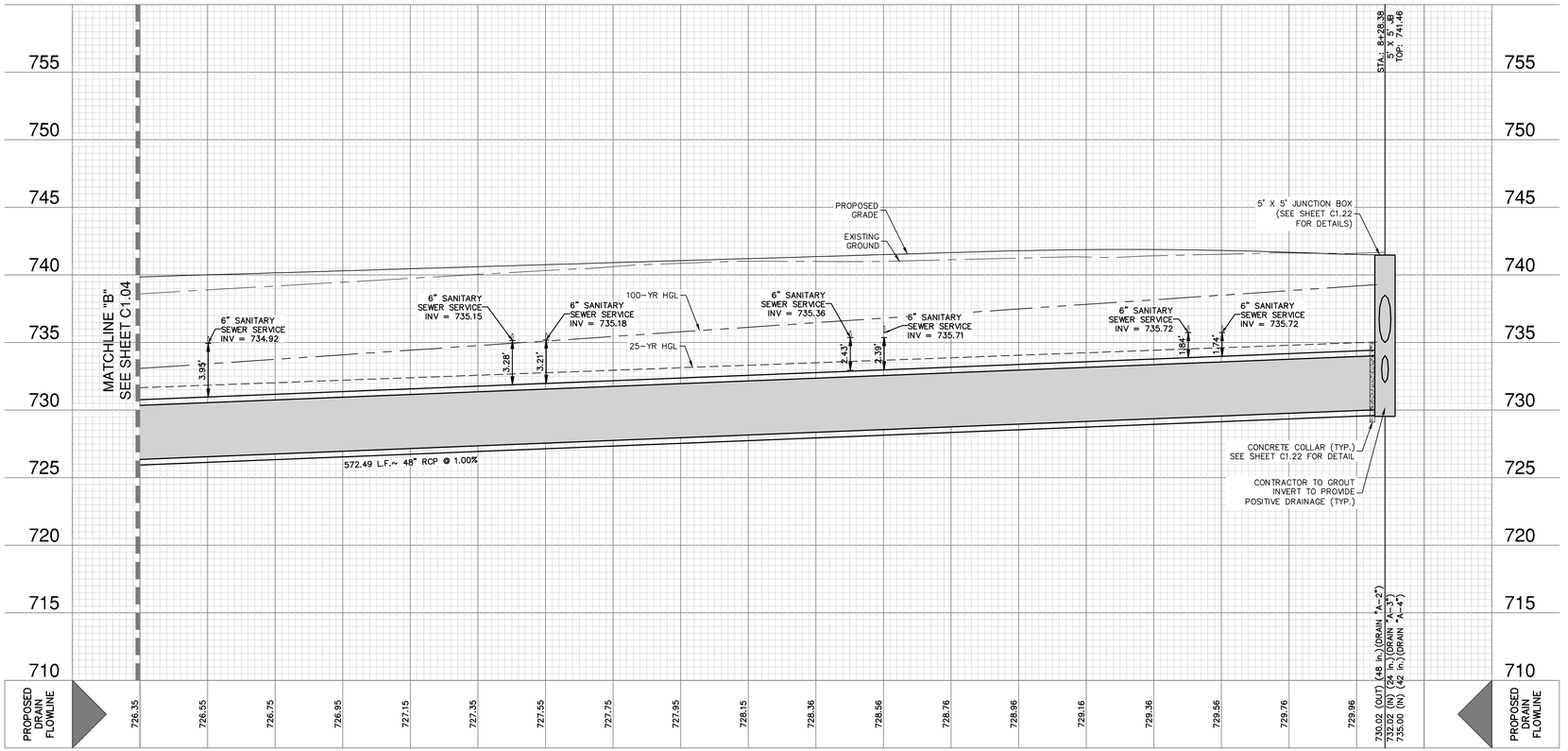
SCALE: 1"= 20'
0' 20' 40' 60'

DRAINAGE LEGEND

- PROJECT LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR — 690
- PROPOSED CONTOUR — 690
- EXISTING FIRE HYDRANT
- EXISTING WATER — W
- EXISTING UNDERGROUND ELECTRIC — UGE
- EXISTING GAS — G
- EXISTING SEWER — SS
- PROPOSED SEWER — SS — MANHOLE
- PROPOSED WATER — W — FIRE HYDRANT
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS — G
- PROPOSED UNDERGROUND ELECTRIC — UGE
- FLOW ARROW
- CURLEX SINGLE NET EROSION CONTROL BLANKETS

STORM DRAIN "A-2"
STA. 4+60.00 TO 8+28.38

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



HYDRAULIC CALCULATIONS
STORM DRAIN "A-2"
STA. 2+50.89 TO 8+28.38

- Q25 = 138 CFS
- S = 1.00%
- Sf = 0.92%
- D = 4.00'
- V25 = 10.98 FPS
- n = 0.013
- Q100 = 187 CFS
- V100 = 14.88 FPS

DRAINAGE & GRADING 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. ALL CONCRETE FOR TXDOT DRAINAGE STRUCTURES SHALL MEET TXDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
3. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
4. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
5. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF NEW BRAUNFELS WILL ACCEPT.
6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.
7. ALL RCP SHALL BE AASHTO M170 CLASS III RCP.

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 "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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.

FOR PERMIT

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
7-3-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 830.822.5933
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

STORM DRAIN A-2 - PLAN & PROFILE
STA. 4+60.00 TO 8+28.38

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JC DRAWN CA
SHEET C1.05

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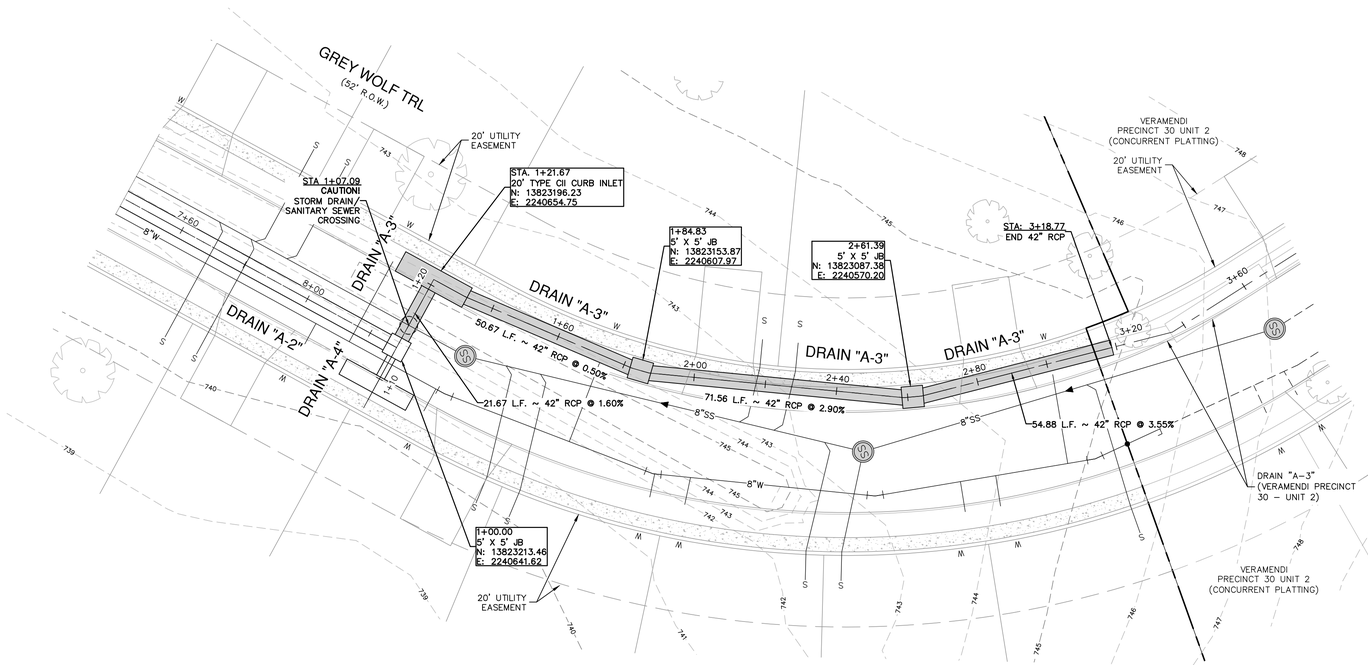
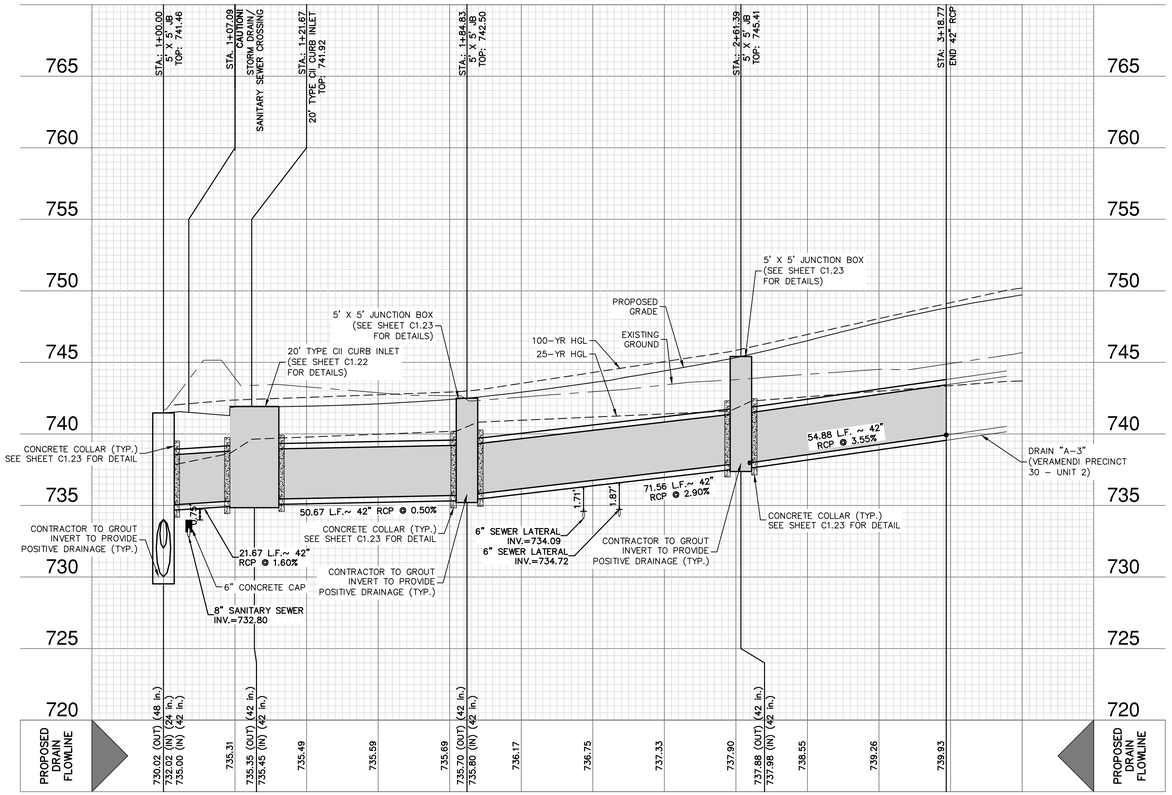


STORM DRAIN "A-3"
STA. 1+00.00 TO 3+18.77

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



HYDRAULIC CALCULATIONS STORM DRAIN "A-3"
STA. 1+00.00 TO 1+21.67

- Q25 = 120 CFS
- S = 1.60%
- Sf = 1.42%
- D = 3.50'
- V25 = 15.11 FPS
- n = 0.013
- Q100 = 159 CFS
- V100 = 16.48 FPS

HYDRAULIC CALCULATIONS STORM DRAIN "A-3"
STA. 1+21.67 TO 1+84.83

- Q25 = 102 CFS
- S = 0.50%
- Sf = 1.02%
- D = 3.50'
- V25 = 10.60 FPS
- n = 0.013
- Q100 = 130 CFS
- V100 = 13.51 FPS

HYDRAULIC CALCULATIONS STORM DRAIN "A-3"
STA. 1+84.83 TO 2+61.39

- Q25 = 102 CFS
- S = 2.90%
- Sf = 1.02%
- D = 3.50'
- V25 = 10.60 FPS
- n = 0.013
- Q100 = 130 CFS
- V100 = 13.51 FPS

HYDRAULIC CALCULATIONS STORM DRAIN "A-3"
STA. 2+61.39 TO 3+18.77

- Q25 = 102 CFS
- S = 3.55%
- Sf = 1.02%
- D = 3.50'
- V25 = 10.60 FPS
- n = 0.013
- Q100 = 130 CFS
- V100 = 13.51 FPS

DRAINAGE LEGEND

- PROJECT LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR (690)
- PROPOSED CONTOUR (690)
- EXISTING FIRE HYDRANT
- EXISTING WATER (W)
- EXISTING UNDERGROUND ELECTRIC (UGE)
- EXISTING GAS (G)
- EXISTING SEWER (SS) MANHOLE
- PROPOSED SEWER (SS)
- PROPOSED WATER (W) FIRE HYDRANT
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS (G)
- PROPOSED UNDERGROUND ELECTRIC (UGE)
- FLOW ARROW
- CURLEX SINGLE NET EROSION CONTROL BLANKETS

HYDRAULIC CALCULATIONS
20' CURB INLET

Q_{25} = 22 CFS

Q_{25} = $CA\sqrt{2gh}$ (ORIFICE FLOW EQN.)

A = L(0.52), h = 0.54, g = 32.2, c = 0.70

$$L = \frac{22 \text{ cfs}}{0.7(0.52)\sqrt{(2)(32.2)(0.54)}}$$

L = 10.25' USE 20 FT.

CHECK WITH WEIR FORMULA

$$h = \left(\frac{Q}{(CL)}\right)^{2/3} = \left(\frac{22}{(3.087)\ 20'}\right)^{2/3} = 0.50 \text{ FT.}$$

h = 0.50' < 0.79' OK

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6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.
7. ALL RCP SHALL BE AASHTO M170 CLASS III RCP.

CAUTION!!

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FOR PERMIT

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
7-3-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

STORM DRAIN A-3 - PLAN & PROFILE
STA. 1+00.00 TO 3+18.77

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C1.06

Date: Jul 03, 2024, 3:53pm User ID: dlynch
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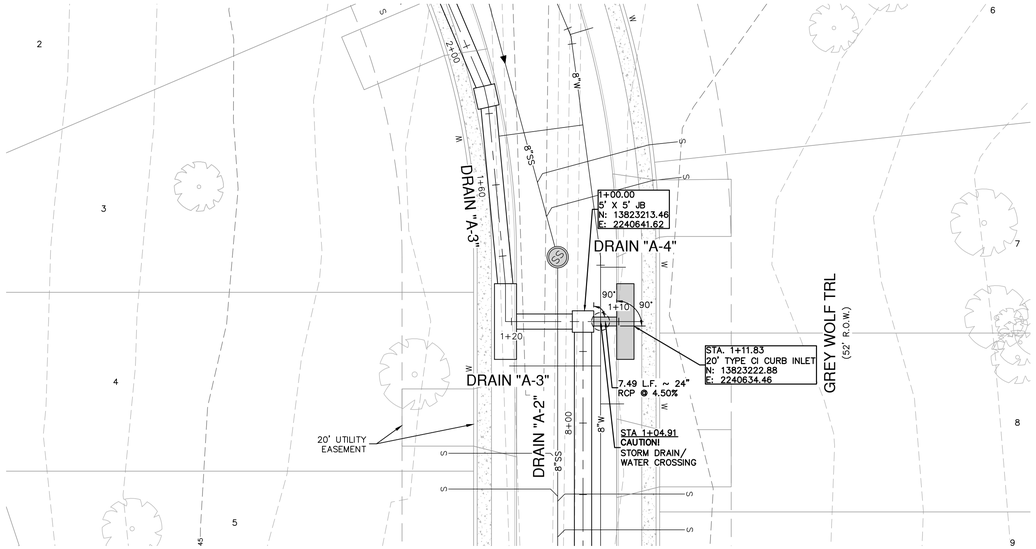

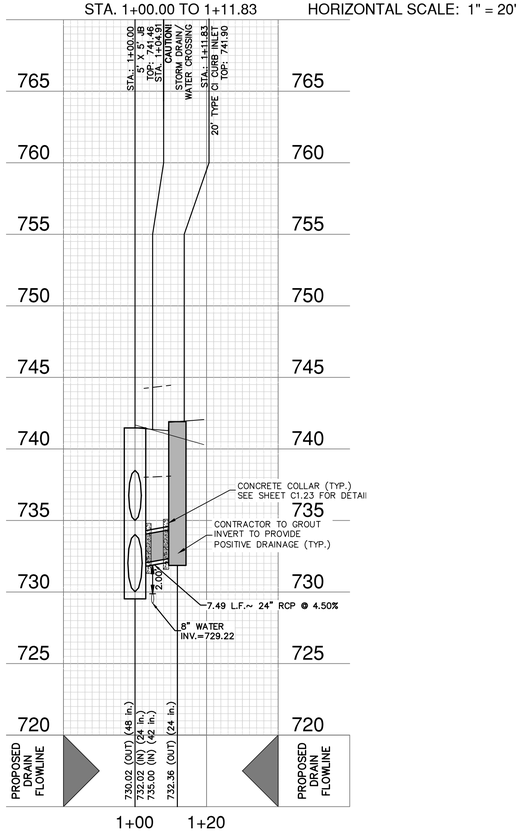

DRAINAGE LEGEND

PROJECT LIMITS
100 YR FLOODPLAIN
EXISTING CONTOUR — 690 —
PROPOSED CONTOUR — 690 —
EXISTING FIRE HYDRANT
EXISTING WATER — W —
EXISTING UNDERGROUND ELECTRIC — UGE —
EXISTING GAS — G —
EXISTING SEWER — SS —
MANHOLE
PROPOSED SEWER — SS —
FIRE HYDRANT
PROPOSED WATER — W —
PROPOSED STORM DRAIN
EXISTING STORM DRAIN
PROPOSED GAS — G —
PROPOSED UNDERGROUND ELECTRIC — UGE —
FLOW ARROW
CURLEX SINGLE NET EROSION CONTROL BLANKETS

HYDRAULIC CALCULATIONS STORM DRAIN "A-4"

STA. 1+00.00 TO 1+11.83

Q25 = 22 CFS
S = 4.50%
Sf = 0.95%
D = 2.0'
V25 = 7.00 FPS
n = 0.013
Q100 = 35 CFS
V100 = 11.14 FPS

HYDRAULIC CALCULATIONS

20' CURB INLET

Q_{25} = 22 CFS

$Q_{25} = CA\sqrt{2gh}$ (ORIFICE FLOW EQN.)

A = L(0.52), h = 0.54, g = 32.2, c = 0.70

$$L = \frac{22 \text{ cfs}}{0.7(0.52)\sqrt{(2)(32.2)(0.54)}}$$

L = 10.25' USE 20 FT.

CHECK WITH WEIR FORMULA

$$h = \left(\frac{Q}{(CL)}\right)^{2/3} = \left(\frac{22}{(3.087)\ 20'}\right)^{2/3} = 0.50 \text{ FT.}$$

h = 0.50' < 0.79' OK

DRAINAGE & GRADING NOTES:

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6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.
7. ALL RCP SHALL BE AASHTO M170 CLASS III RCP.

CAUTION!!

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NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
7-3-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

STORM DRAIN A-4 - PLAN & PROFILE
STA. 1+00.00 TO 1+11.83

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C1.07

FOR PERMIT

Date: Jul 03, 2024, 3:54pm User ID: dlynch
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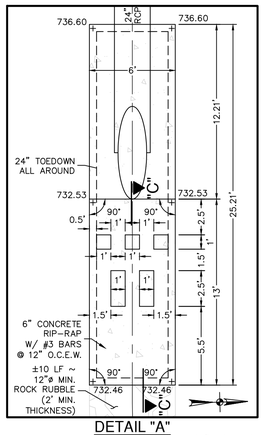
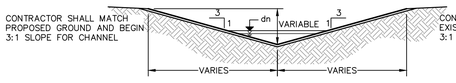
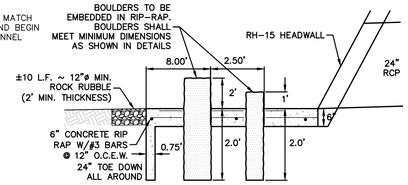


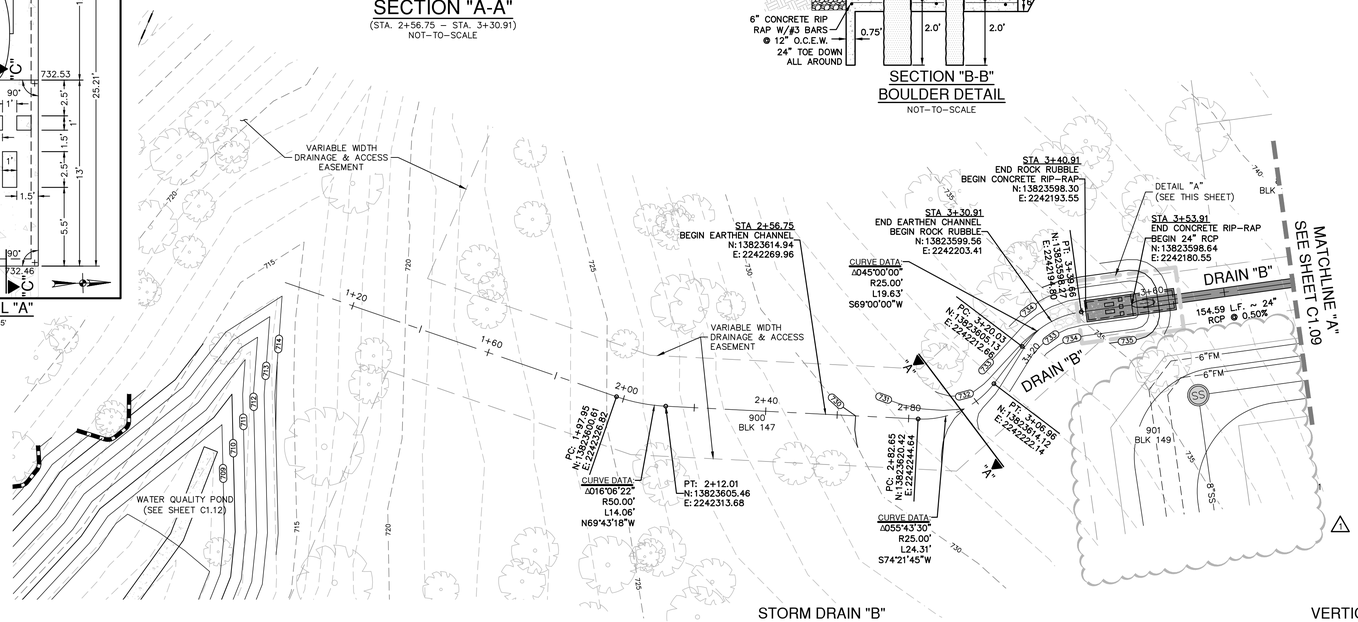
DETAIL "A"
1" = 5'



EARTHEN CHANNEL
SECTION "A-A"
(STA. 2+56.75 – STA. 3+30.91)
NOT-TO-SCALE

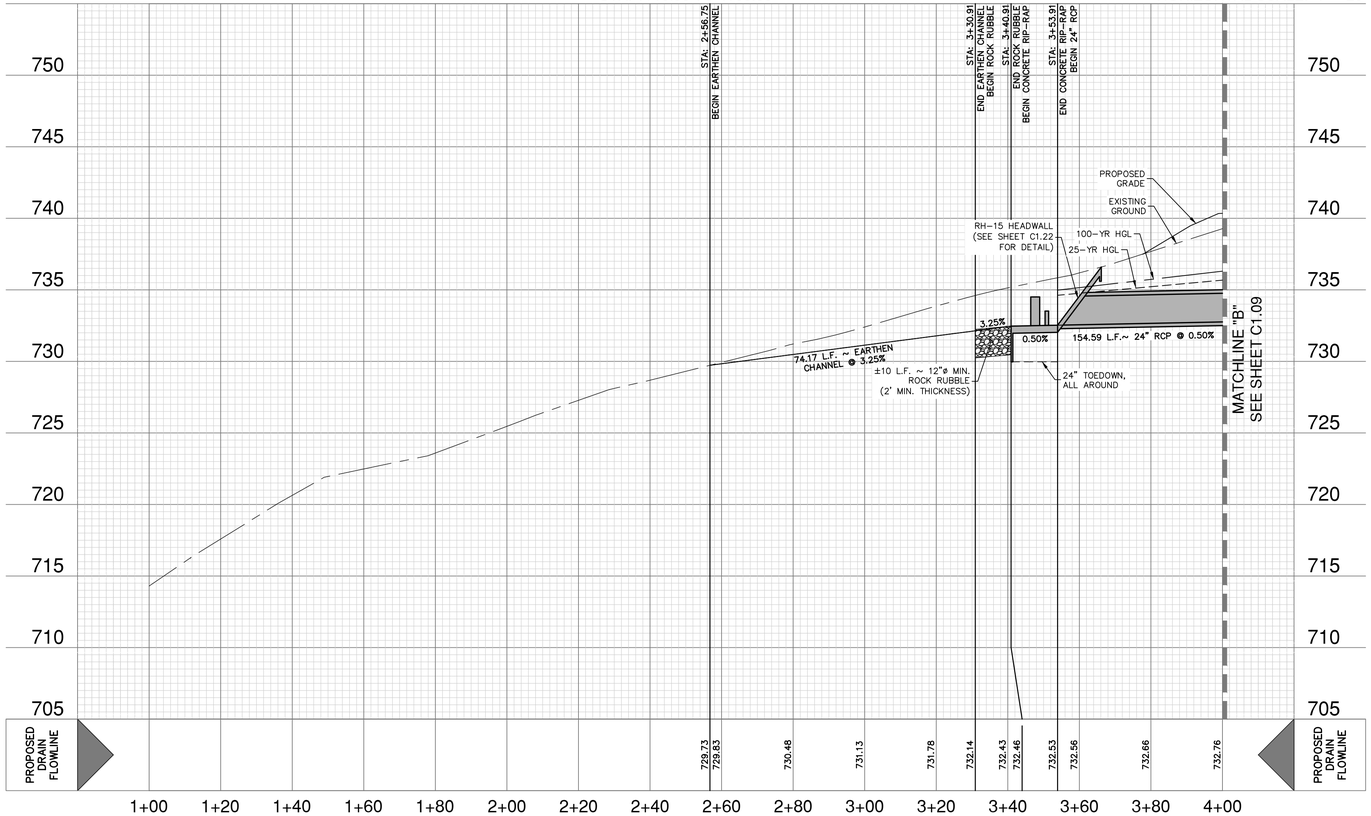


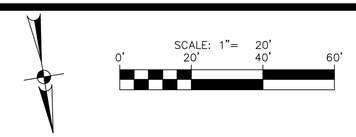
SECTION "B-B"
BOULDER DETAIL
NOT-TO-SCALE



STORM DRAIN "B"
STA. 1+10.00 TO 4+00.00

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





HYDRAULIC CALCULATIONS EARTH CHANNEL

STA. 2+56.75 TO 3+30.91

Q_{25}	=	40 CFS
Bw	=	0 FT
n	=	0.035
S	=	3.25 %
dn_{25}	=	1.48 FT
dn_{25} + Fbrd.	=	1.98
V_{25}	=	6.0 FPS
Q_2	=	20 CFS
V_2	=	5.09 FPS
Q_{100}	=	40 CFS
dn_{100}	=	1.48 FT
V_{100}	=	6.0 FPS

HYDRAULIC CALCULATIONS STORM DRAIN "B"

STA. 3+53.91 TO 5+08.50

Q_{25}	=	34 CFS
S	=	0.50 %
Sf	=	2.26 %
D	=	2.0'
V_{25}	=	10.82 FPS
n	=	0.013
Q_{100}	=	38 CFS
V	=	12.10 FPS

DRAINAGE LEGEND

- PROJECT LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR — 690 —
- PROPOSED CONTOUR — 690 —
- EXISTING FIRE HYDRANT
- EXISTING WATER — W —
- EXISTING UNDERGROUND ELECTRIC — UGE —
- EXISTING GAS — G —
- EXISTING SEWER — SS —
- PROPOSED SEWER — SS — MANHOLE
- PROPOSED WATER — W — FIRE HYDRANT
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS — G —
- PROPOSED UNDERGROUND ELECTRIC — UGE —
- FLOW ARROW
- CURLEX SINGLE NET EROSION CONTROL BLANKETS

DRAINAGE & GRADING 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.
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3. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
4. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
5. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF NEW BRAUNFELS WILL ACCEPT.
6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.
7. ALL RCP SHALL BE AASHTO M170 CLASS III RCP.

CAUTION!!

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NO.	REMISION	DATE
1	MOVED SEWER ALIGNMENT	09/25/25

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

STORM DRAIN B - PLAN & PROFILE
STA. 1+10.00 TO 4+00.00

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C1.08

FOR PERMIT

Date: Sep 05, 2025, 2:10pm User ID: carcher
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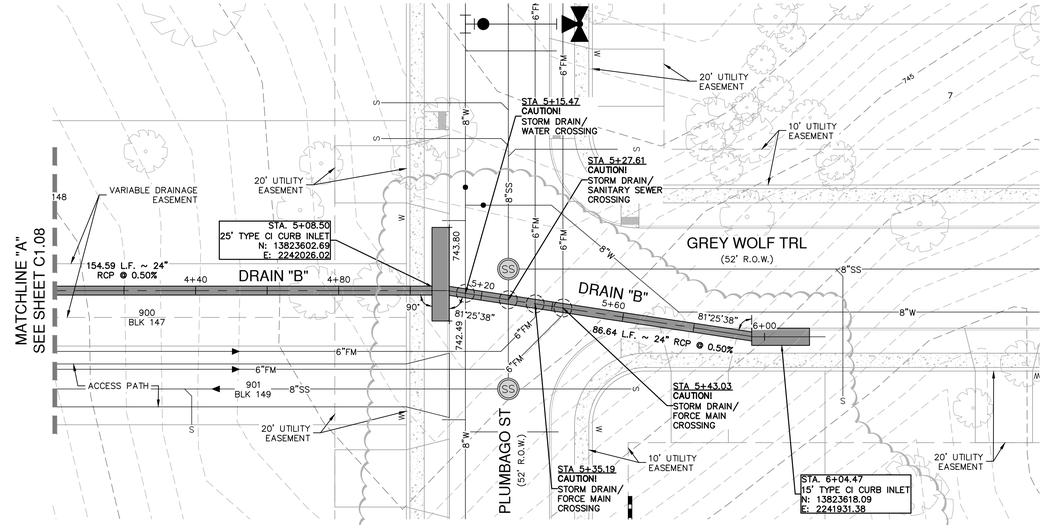
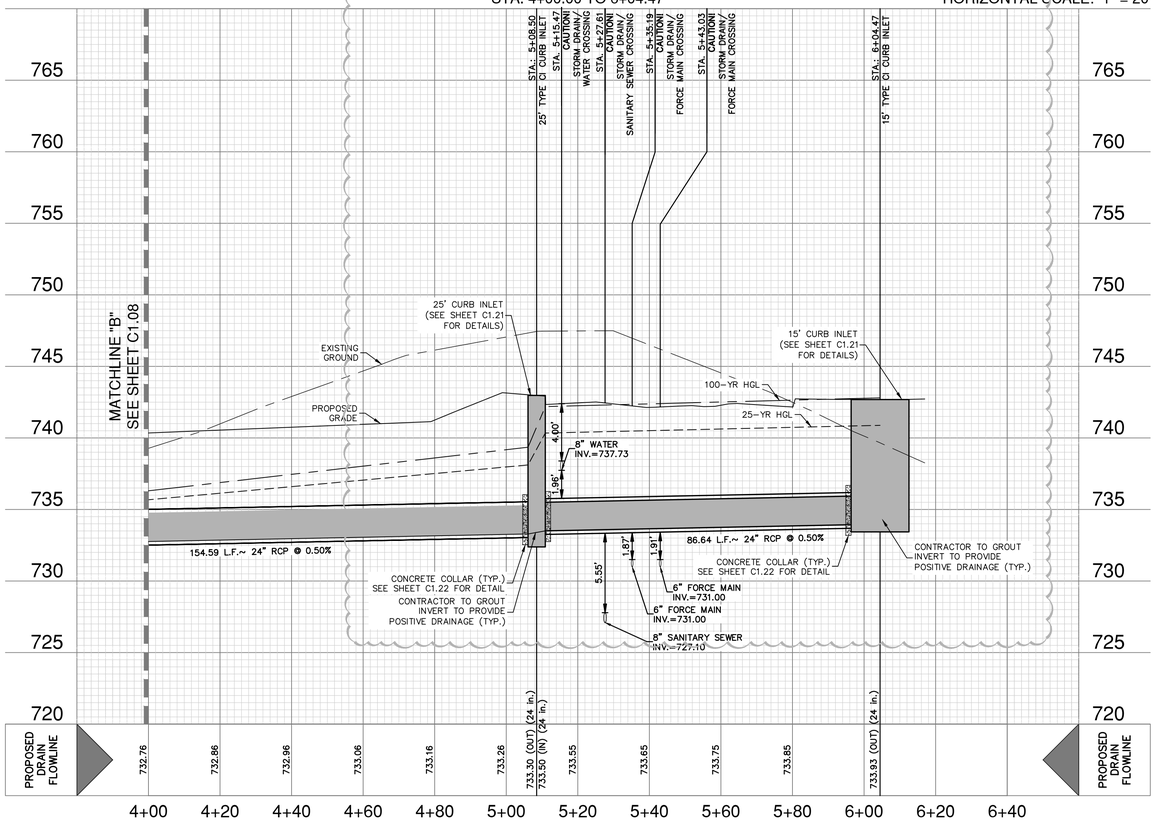


STORM DRAIN "B"
STA. 4+00.00 TO 6+04.47

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



SCALE: 1"= 20'
0' 20' 40' 60'

DRAINAGE LEGEND

- PROJECT LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR — 690
- PROPOSED CONTOUR — 690
- EXISTING FIRE HYDRANT
- EXISTING WATER — W
- EXISTING UNDERGROUND ELECTRIC — UGE
- EXISTING GAS — G
- EXISTING SEWER — SS
- PROPOSED SEWER — SS — MANHOLE
- PROPOSED WATER — W — FIRE HYDRANT
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS — G
- PROPOSED UNDERGROUND ELECTRIC — UGE
- FLOW ARROW
- CURLEX SINGLE NET EROSION CONTROL BLANKETS

HYDRAULIC CALCULATIONS STORM DRAIN "B"
STA.3+53.91 TO 5+08.50

Q_{25}	=	34 CFS
S	=	0.50 %
Sf	=	2.26 %
D	=	2.0'
V_{25}	=	10.82 FPS
n	=	0.013
Q_{100}	=	38 CFS
V	=	12.10 FPS

HYDRAULIC CALCULATIONS STORM DRAIN "B"
STA. 5+08.50 TO 6+04.47

Q_{25}	=	18 CFS
S	=	0.50 %
Sf	=	0.63 %
D	=	2.0'
V_{25}	=	5.73 FPS
n	=	0.013
Q_{100}	=	19 CFS
V	=	6.05 FPS

HYDRAULIC CALCULATIONS 15 FT CURB INLET

Q_{25} = 18 CFS

$Q_{25} = CA\sqrt{2gh}$ (ORIFICE FLOW EQN.)

A = L(0.52), h = 0.54, g = 32.2, c = 0.70

$$L = \frac{18 \text{ CFS}}{0.7(0.52)\sqrt{(2)(32.2)(0.54)}}$$

L = 8.39' USE 15 FT.

CHECK WITH WEIR FORMULA

$$h = \left(\frac{Q}{(CL)}\right)^{2/3} = \left(\frac{12}{(3.087)\ 15}\right)^{2/3} = 0.53 \text{ FT.}$$

h = 0.53 < 0.79' OK

DRAIN "B" ON-GRADE INLET HYDRAULIC CALCULATIONS
CURB INLET TABLE POINT 19

Q_{25}	= 29 CFS
S	= 5.00%
L	= 1 ~ 25' INLET
Q100 CAPTURED	= 19 CFS
Q100 BYPASS	= 22 CFS

DRAINAGE & GRADING NOTES:

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7. ALL RCP SHALL BE AASHTO M170 CLASS III RCP.

CAUTION!!

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NO.	REVISION	DATE
1	MOVED LOT LINES AND DRAIN ALIGNMENT	09/25/25

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
1672 INDEPENDENCE DR. STE 102 I NEW BRAUNFELS, TX 78132 I 830.632.5533
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

STORM DRAIN B - PLAN & PROFILE
STA. 4+00.00 TO 6+04.47

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C1.09

FOR PERMIT

Date: Sep 05, 2025, 2:10pm User ID: corcher
File: P:\300\01\73\Design\Civil\SSB-30001-73.dwg
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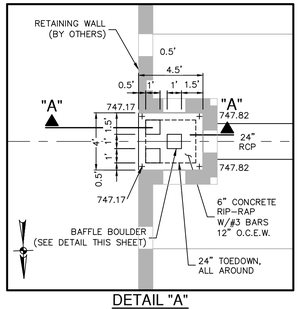
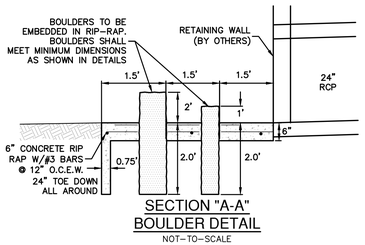


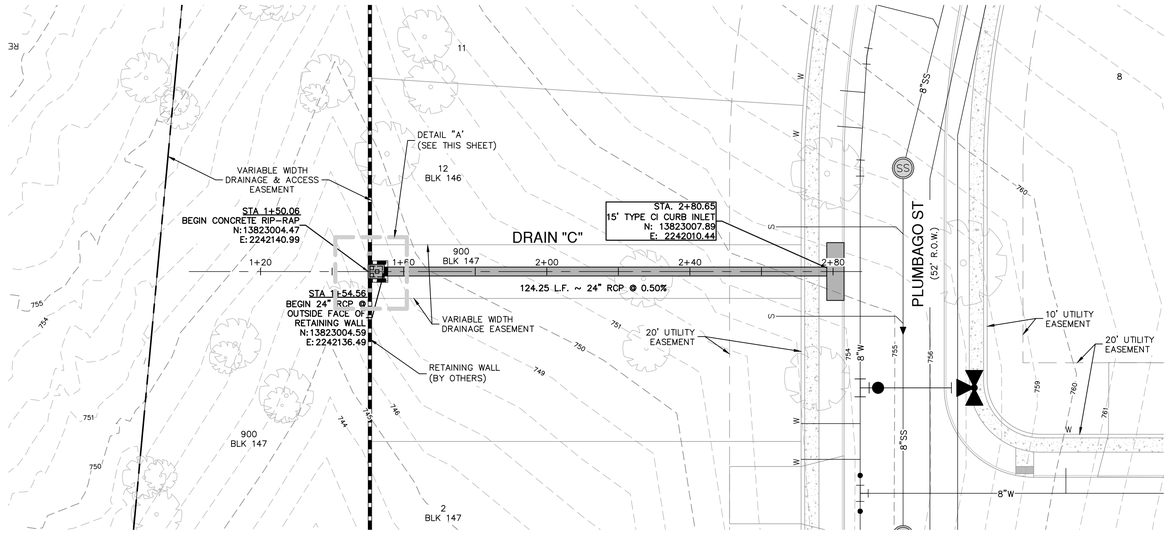
DETAIL "A"

1" = 5'



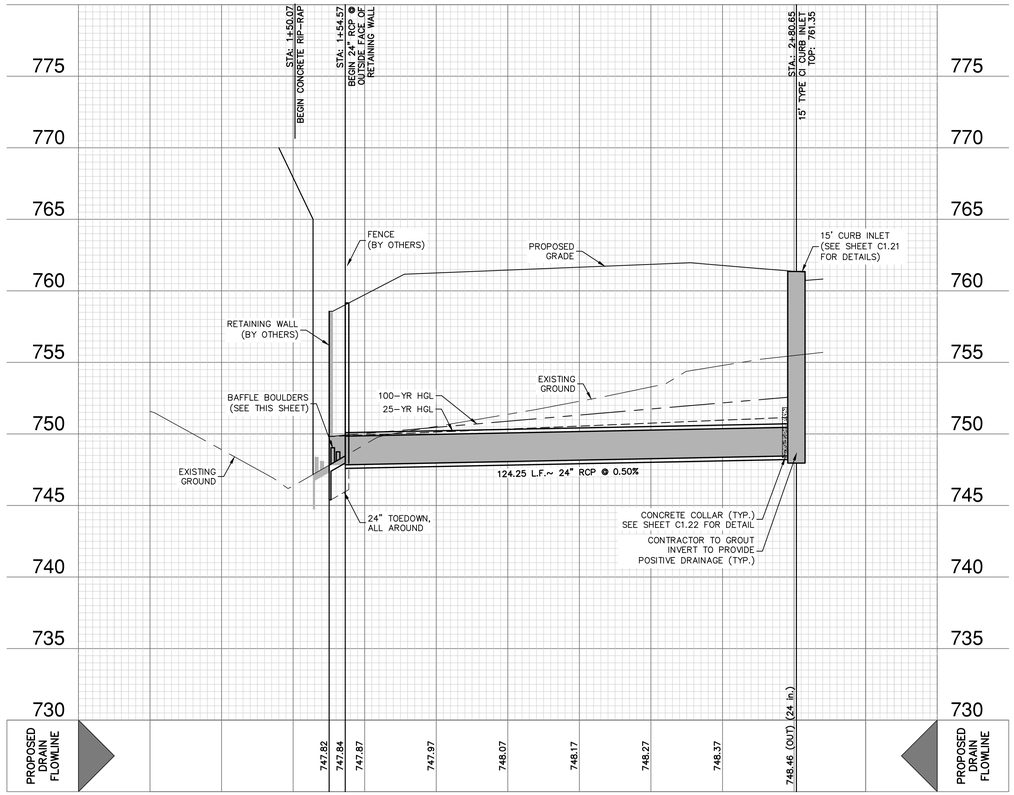
SECTION "A-A"
BOULDER DETAIL

NOT-TO-SCALE



STORM DRAIN "C"
STA. 1+45.56 TO 2+80.65

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



SCALE: 1"= 20'

0' 20' 40' 60'

DRAINAGE LEGEND

- PROJECT LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR — 690
- PROPOSED CONTOUR — 690
- EXISTING FIRE HYDRANT — W
- EXISTING WATER — W
- EXISTING UNDERGROUND ELECTRIC — UGE
- EXISTING GAS — G
- EXISTING SEWER — SS
- PROPOSED SEWER — SS (MANHOLE)
- PROPOSED WATER — W (FIRE HYDRANT)
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS — G
- PROPOSED UNDERGROUND ELECTRIC — UGE
- FLOW ARROW
- CURLEX SINGLE NET EROSION CONTROL BLANKETS

HYDRAULIC CALCULATIONS STORM DRAIN "C"

STA. 1+45.56 TO 2+80.65

Q25 = 23 CFS

S = 0.50%

Sf = 1.03%

D = 2.00

V25 = 7.32 FPS

n = 0.013

Q100 = 33 CFS

V100 = 10.51 FPS

HYDRAULIC CALCULATIONS

15' CURB INLET

Q_{25} = 23 CFS

$Q_{25} = CA\sqrt{2gh}$ (ORIFICE FLOW EQN.)

A = L(0.52), h = 0.54, g = 32.2, c = 0.70

$$L = \frac{23 \text{ cfs}}{0.7(0.52)\sqrt{(2)(32.2)(0.54)}}$$

L = 10.71' USE 15 FT.

CHECK WITH WEIR FORMULA

$$h = \left(\frac{Q}{(CL)}\right)^{2/3} = \left(\frac{23}{(3.087)\ 15'}\right)^{2/3} = 0.50 \text{ FT.}$$

h = 0.50' < 0.79' OK

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NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
6-25-2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

STORM DRAIN C - PLAN & PROFILE
STA. 1+45.56 TO 2+80.65

PLAT NO.

JOB NO. 30001-73

DATE JULY 2024

DESIGNER GDL

CHECKED JP DRAWN CA

SHEET C1.10

FOR PERMIT

Date: Jun 25, 2025, 5:35pm User ID: Robert.Everts
File: P:\300\01\73\Design\Civil\SDC-30001-73.dwg

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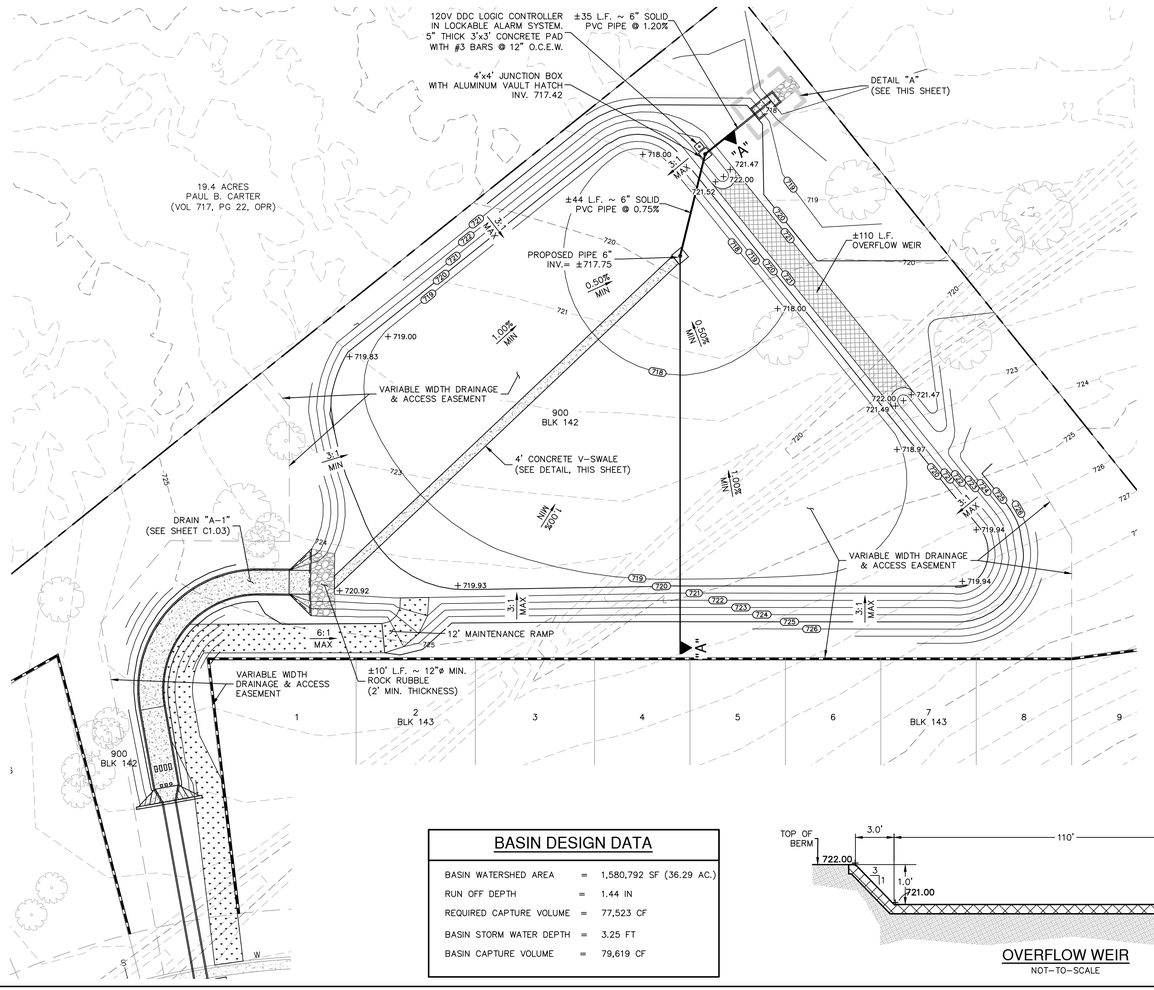
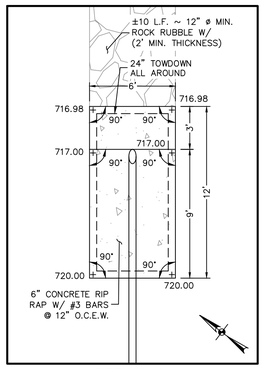




DETAIL "A"
NOT-TO-SCALE

SCALE: 1"= 30'
0' 30' 60' 90'

DRAINAGE LEGEND

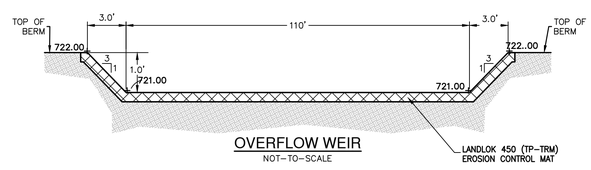
- PROJECT LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR — 690 —
- PROPOSED CONTOUR — 690 —
- EXISTING WATER — W —
- EXISTING UNDERGROUND ELECTRIC — UGE —
- EXISTING GAS — G —
- EXISTING SEWER — SS —
- PROPOSED SEWER — SS —
- PROPOSED WATER — W —
- PROPOSED STORM DRAIN
- FLOW ARROW
- CURLEX SINGLE NET EROSION CONTROL BLANKETS
- PROPOSED GAS — G —
- PROPOSED UNDERGROUND ELECTRIC — UGE —
- LANDLOK 450 (HP-TRM) EROSION CONTROL MAT
- BASIN FENCE
- DRAINAGE MAINTENANCE ACCESS
- WALL (BY OTHERS)

OVERFLOW WEIR CALCULATIONS

Q_{25}	=	$(Cw)(L)(h)^{3/2}$
Q_{25}	=	182 cfs
C	=	2.60
L	=	110 ft
182	=	$(2.60)(110)(h)^{3/2}$
h	=	0.74 ft

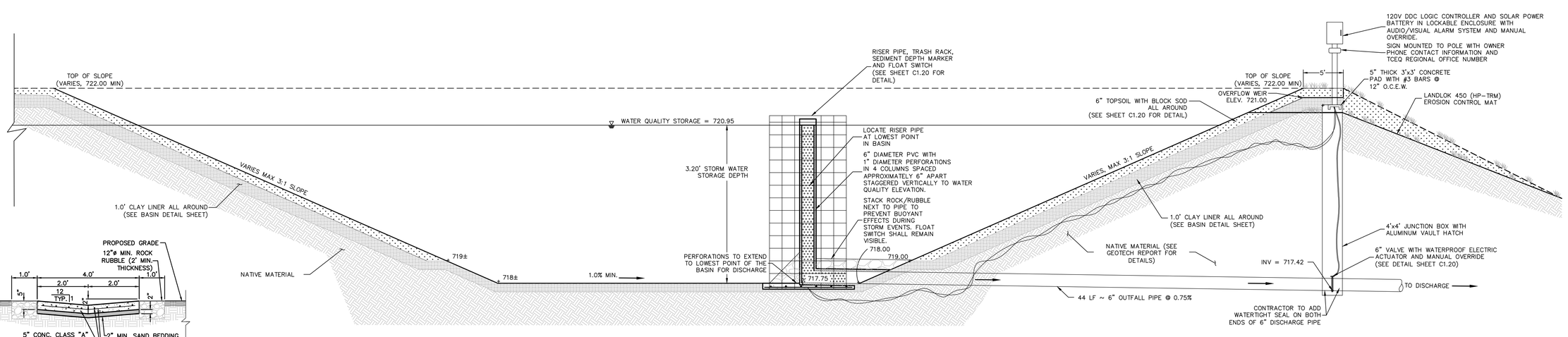
BASIN DESIGN DATA

BASIN WATERSHED AREA	=	1,580,792 SF (36.29 AC.)
RUN OFF DEPTH	=	1.44 IN
REQUIRED CAPTURE VOLUME	=	77,523 CF
BASIN STORM WATER DEPTH	=	3.25 FT
BASIN CAPTURE VOLUME	=	79,619 CF

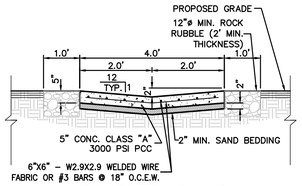


OVERFLOW WEIR
NOT-TO-SCALE

M.A.S NOTE:
STAGING AREA REQUIREMENT (800 SQ.FT.) IS SATISFIED BY UTILIZING THE PRIVATE AREA ADJACENT TO THE BASIN AS DESIGNATED IN THE PLAN VIEW ABOVE.



SECTION "A-A"
N.T.S.



CONCRETE V-SWALE
NOT TO SCALE

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 5

FOR PERMIT

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
7-3-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
NORTH WATER QUALITY BASIN PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C1.11

Date: Jul 03, 2024, 5:02pm User ID: dlynch
File: P:\30001\73\Design\Civil\BN-NORTH-30001-73.dwg

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DRAINAGE & GRADING NOTES:

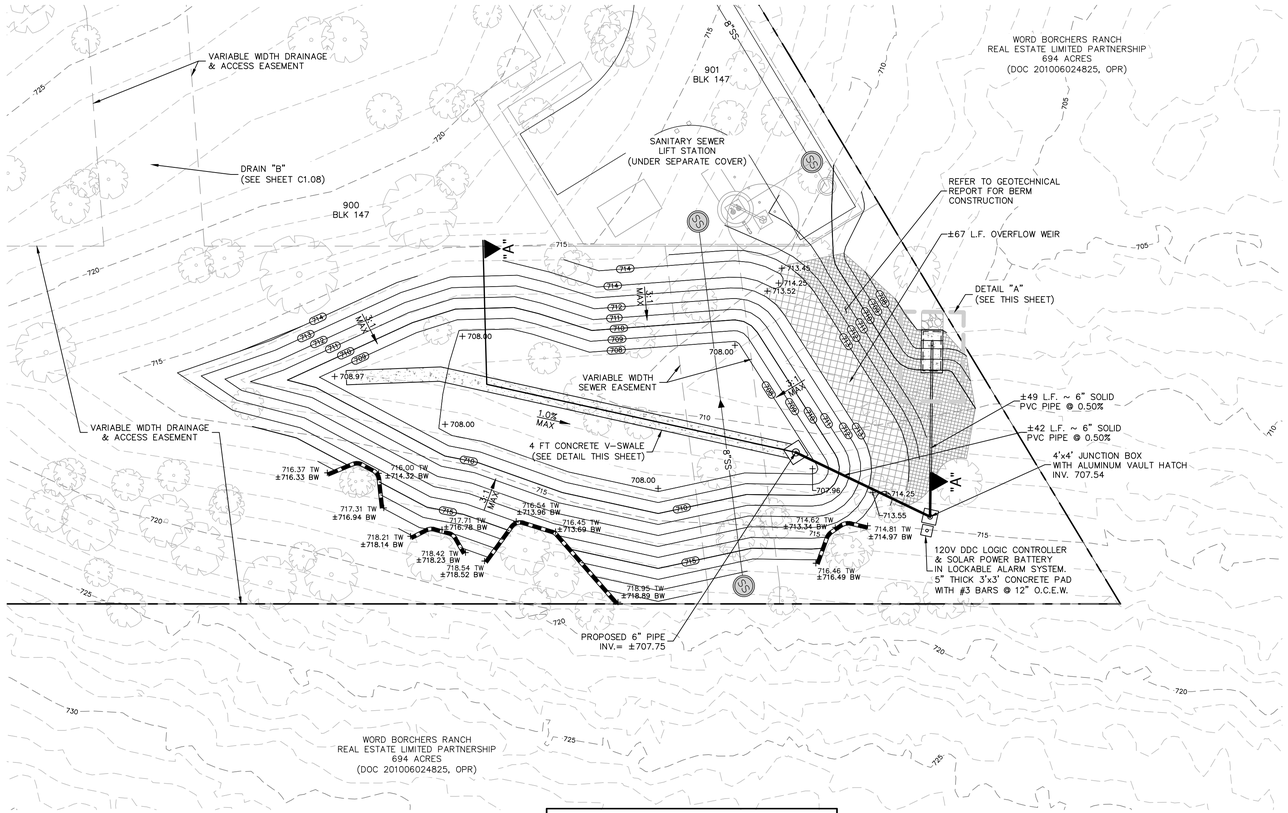
1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY 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. ALL CONCRETE FOR TXDOT DRAINAGE STRUCTURES SHALL MEET TXDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
3. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
4. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
5. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF NEW BRAUNFELS WILL ACCEPT.
6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.
7. ALL RCP SHALL BE AASHTO M170 CLASS III RCP.

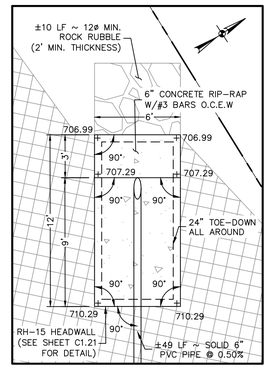
CAUTION!!

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 "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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.





DETAIL "A"
1" = 5'

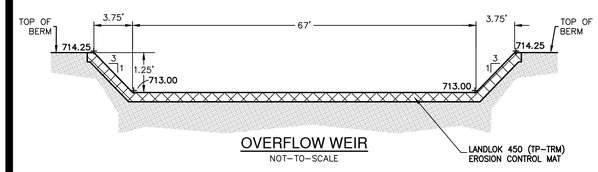
SCALE: 1"= 20'
0' 20' 40' 60'

DRAINAGE LEGEND

- PROJECT LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR — 690 —
- PROPOSED CONTOUR — 690 —
- EXISTING FIRE HYDRANT
- EXISTING WATER — W —
- EXISTING UNDERGROUND ELECTRIC — UGE —
- EXISTING GAS — G —
- EXISTING SEWER — SS —
- PROPOSED SEWER — SS — MANHOLE
- PROPOSED WATER — W — FIRE HYDRANT
- PROPOSED STORM DRAIN
- FLOW ARROW
- CURLEX SINGLE NET EROSION CONTROL BLANKETS
- PROPOSED GAS — G —
- PROPOSED UNDERGROUND ELECTRIC — UGE —
- LANDLOK 450 (HP-TRM) EROSION CONTROL MAT
- BASIN FENCE
- DRAINAGE MAINTENANCE ACCESS
- WALL (BY OTHERS)

OVERFLOW WEIR CALCULATIONS

Q_{25}	=	$(Cw)(L)(h)^{3/2}$
Q_{25}	=	136 cfs
C	=	2.60
L	=	67 ft
136	=	$(2.60)(67)(h)^{3/2}$
h	=	0.85 ft

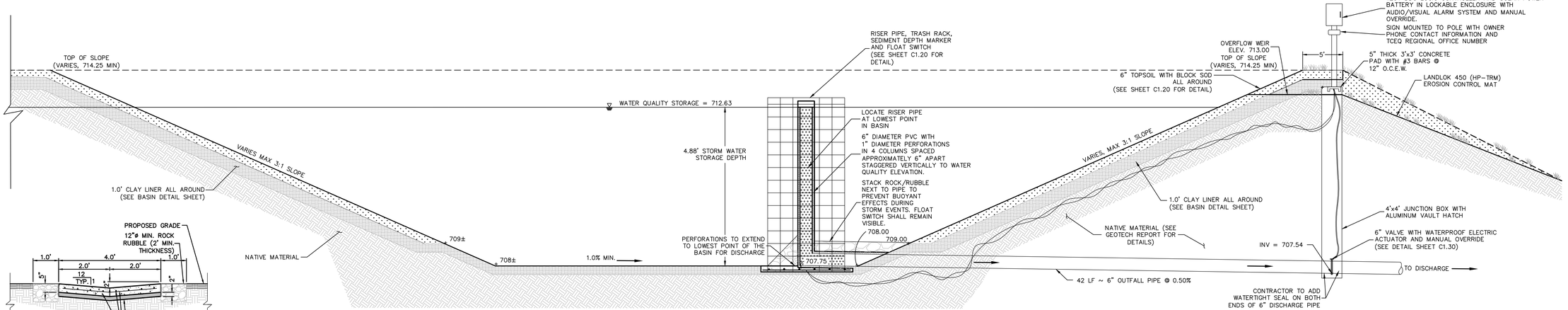


OVERFLOW WEIR
NOT-TO-SCALE

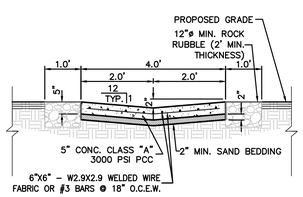
BASIN DESIGN DATA

BASIN WATERSHED AREA	=	465,220 SF (10.68 AC.)
RUN OFF DEPTH	=	1.38 IN
REQUIRED CAPTURE VOLUME	=	21,817 CF
BASIN STORM WATER DEPTH	=	4.88 FT
BASIN CAPTURE VOLUME	=	31,285 CF
APPROX. DRAWDOWN TIME	=	16.04 HOURS

M.A.S NOTE:
STAGING AREA REQUIREMENT (800 SQ.FT.) IS SATISFIED BY UTILIZING THE PRIVATE AREA ADJACENT TO THE BASIN AS DESIGNATED IN THE PLAN VIEW ABOVE.



SECTION "A-A"
N.T.S.



CONCRETE V-SWALE
NOT TO SCALE

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EXHIBIT 5

FOR PERMIT

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
6-25-2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

EAST WATER QUALITY BASIN #1 PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C1.12

Date: Jun 25, 2025, 5:35pm User ID: Robert.Evarts
File: P:\300\01\73\Design\Civil\BN-LOWR-EAST-30001-73.dwg

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6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.
7. ALL RCP SHALL BE AASHTO M170 CLASS III RCP.

CAUTION!!

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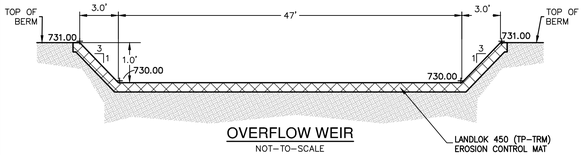
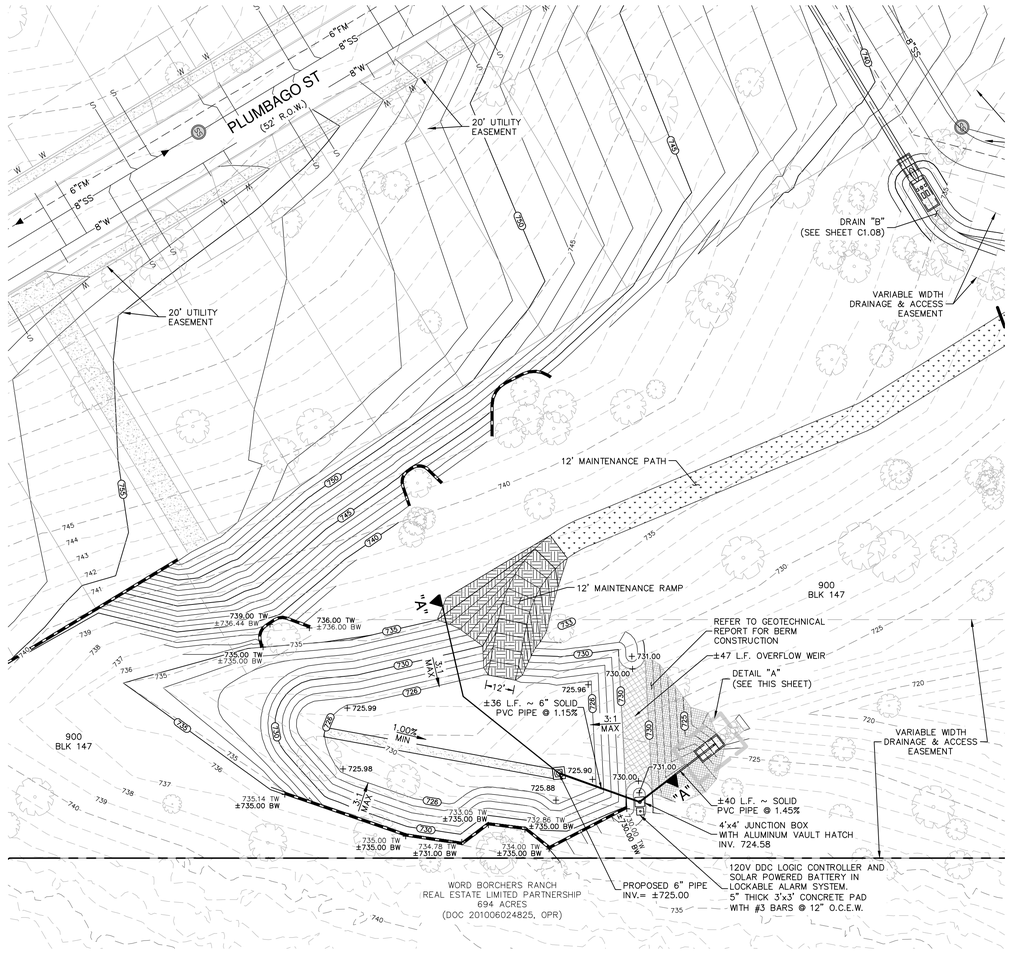
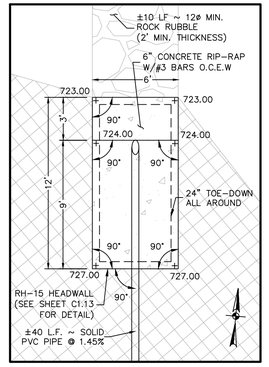


OVERFLOW WEIR
NOT-TO-SCALE

LANDLOK 450 (TP-TRM) EROSION CONTROL MAT





DETAIL "A"
NOT-TO-SCALE

SCALE: 1"= 30'
0' 30' 60' 90'

DRAINAGE LEGEND

- PROJECT LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR (690)
- PROPOSED CONTOUR (690)
- EXISTING FIRE HYDRANT
- EXISTING WATER (W)
- EXISTING UNDERGROUND ELECTRIC (UGE)
- EXISTING GAS (G)
- EXISTING SEWER (SS)
- PROPOSED SEWER (SS, MANHOLE)
- PROPOSED WATER (W, FIRE HYDRANT)
- PROPOSED STORM DRAIN
- FLOW ARROW
- CURLEX SINGLE NET EROSION CONTROL BLANKETS
- PROPOSED GAS (G)
- PROPOSED UNDERGROUND ELECTRIC (UGE)
- LANDLOK 450 (HP-TRM) EROSION CONTROL MAT
- BASIN FENCE
- DRAINAGE MAINTENANCE ACCESS
- WALL (BY OTHERS)

BASIN DESIGN DATA

BASIN WATERSHED AREA	=	586,317 SF (13.46 AC.)
RUN OFF DEPTH	=	1.44 IN
REQUIRED CAPTURE VOLUME	=	27,675 CF
BASIN STORM WATER DEPTH	=	4.85 FT
BASIN CAPTURE VOLUME	=	28,996 CF

OVERFLOW WEIR CALCULATIONS

$Q_{25} = (Cw)(L)(h)^{3/2}$

$Q_{25} = 83$ cfs

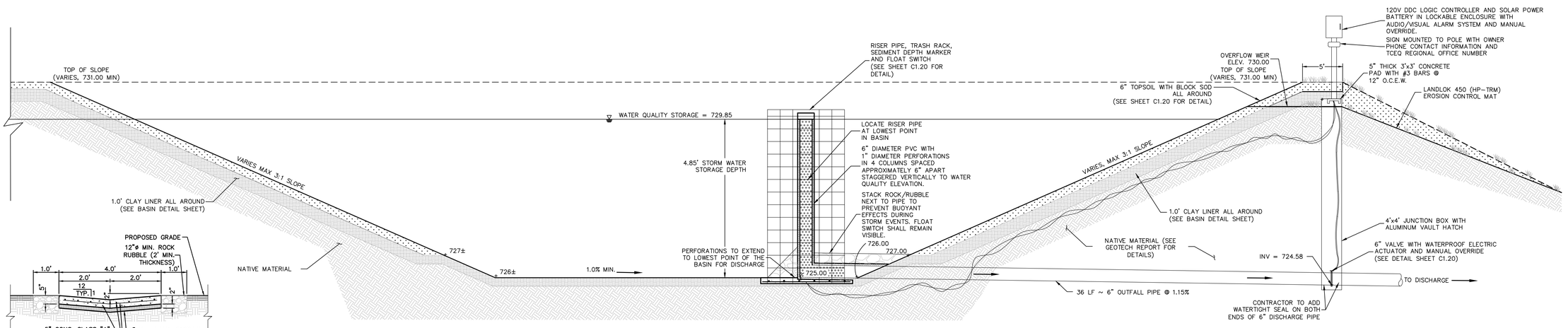
$C = 2.60$

$L = 47$ ft

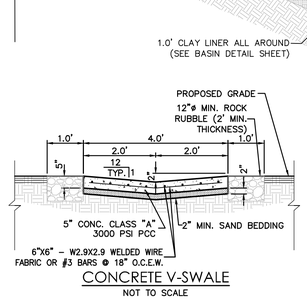
$83 = (2.60)(47)(h)^{3/2}$

$h = 0.68$ ft

M.A.S NOTE:
STAGING AREA REQUIREMENT (800 SQ.FT.) IS SATISFIED BY UTILIZING THE PRIVATE AREA ADJACENT TO THE BASIN AS DESIGNATED IN THE PLAN VIEW ABOVE.



SECTION "A-A"
N.T.S.



CONCRETE V-SWALE
NOT TO SCALE

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EXHIBIT 5

FOR PERMIT

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
7-3-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5933
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

EAST WATER QUALITY BASIN #2 PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JL DRAWN CA
SHEET C1.13

Date: Jul 05, 2024, 11:54am User ID: carcher
File: P:\300\01\73\Design\Civil\BN-UPPR-EAST-30001-73.dwg

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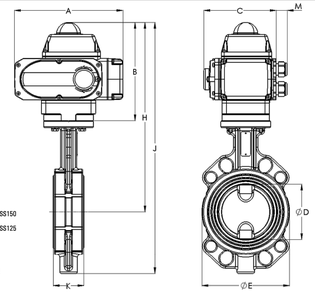
Valworx

SERIES
5670

Dimensions:



Suitable between flanges:

- ANSI/ASME B16.5 CLASS150
- ANSI/ASME B16.1 CLASS125
- EN1092 PN10, PN16
- JIS B 2239 10K, 16K
- BS 10 Table D, Table E

Pipe Size		A	B	C	D	E	H	J	K	M	Weight (AC/DC)
2	inch	6.34	7.09	4.65	1.97	3.90	12.05	15.04	1.81	0.98	10.5/9.3 lb
DN50	mm	161	180	118	50	99	306	382	46	25	4.8/4.3 kg
2-1/2	inch	6.34	7.09	4.65	2.56	4.46	12.36	15.59	1.93	0.98	11.6/10.6 lb
DN65	mm	161	180	118	65	113	314	396	49	25	5.3/4.8 kg
3	inch	6.34	7.09	4.65	3.15	5.07	13.27	17.03	1.93	0.98	13.4/12.4 lb
DN80	mm	161	180	118	80	129	337	432.5	49	25	6.1/5.6 kg
4	inch	6.34	7.09	4.65	3.94	6.17	13.66	18.54	2.20	0.98	17.0/16.0 lb
DN100	mm	161	180	118	100	157	347	471	56	25	7.7/7.3 kg
6	inch	10.08	8.50	6.30	5.91	8.39	16.50	22.24	2.32	0.98	37.2/38.2 lb
DN150	mm	256	216	160	150	213	419	565	59	25	16.8/17.3 kg
8	inch	10.08	8.50	6.30	7.87	10.67	17.48	24.25	2.36	0.98	48.9 lb
DN200	mm	256	216	160	200	271	444	616	60	25	22.2 kg
12	inch	10.08	8.50	6.30	11.81	15.0	19.9	29.4	3.07	0.98	79.4 lb
DN300	mm	256	216	160	300	381	505	747	78	25	36 kg

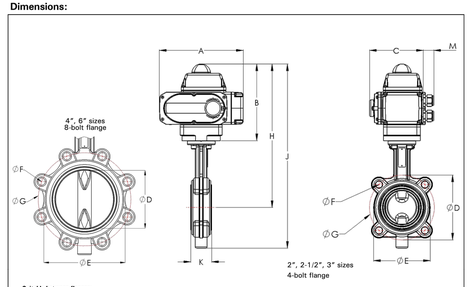
Doc: 5670.1219 Cornelius, N.C. • USA www.valworx.com

6

Valworx

SERIES
5673

Dimensions:



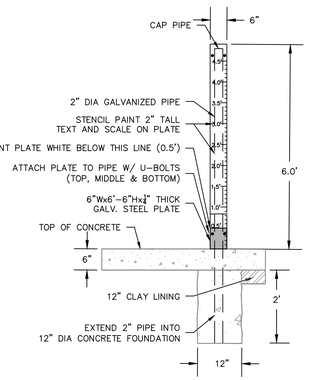
Suitable between flanges:

- ANSI/ASME B16.5 CLASS150
- ANSI/ASME B16.1 CLASS125

Pipe Size		A	B	C	D	E	F	G	H	J	K	M	ISO	Weight (AC/DC)
2	inch	6.34	7.09	4.65	1.97	3.74	4) 5/8-11	4.74	12.05	15.04	1.81	0.98	F05	12.7 / 13.3 lb
	mm	161	180	118	50	95	–	120.5	306	382	46	25		5.8 / 6.0 kg
2-1/2	inch	6.34	7.09	4.65	2.56	4.13	4) 5/8-11	5.50	12.36	15.59	1.93	0.98	F05	14.5 / 15.0 lb
	mm	161	180	118	65	105	–	139.7	314	396	49	25		6.6 / 6.8 kg
3	inch	6.34	7.09	4.65	3.15	4.72	4) 5/8-11	6.00	13.27	17.03	1.93	0.98	F05	17.3 / 17.8 lb
	mm	161	180	118	80	120	–	152.4	337	432.5	49	25		7.8 / 8.1 kg
4	inch	6.34	7.09	4.65	3.94	5.79	8) 5/8-11	7.50	11.97	16.46	2.20	0.98	F05/F07	22.1 / 22.8 lb
	mm	161	180	118	100	147	–	190.5	304	418	56	25		10.0 / 10.3 kg
6	inch	10.08	8.50	6.30	5.91	8.07	8) 3/4-10	9.50	16.50	22.24	2.32	0.98	F07	50.0 / 51.0 lb
	mm	256	216	160	150	205	–	241.3	419	565	59	25		22.7 / 23.1 kg

Doc: 5673.0118 Cornelius, N.C. • USA www.valworx.com

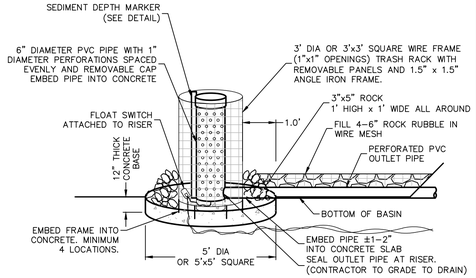
6



SEDIMENT DEPTH MARKER

NOT TO SCALE

NOTE: ONCE SEDIMENT IS ABOVE THE 6" DESIGNATION, THE BASIN MUST BE CLEANED OUT TO DESIGN ELEVATIONS AND VOLUMES PER PLAN.

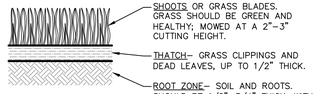


OUTLET STRUCTURE DETAIL WITH SURFACE OUTFALL PIPE

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.

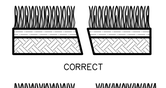


APPEARANCE OF GOOD SOD

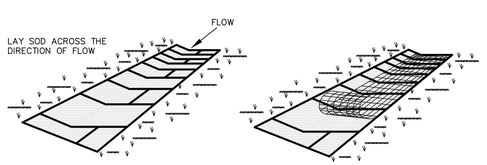
NOTES:
1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

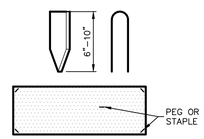
2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

3. MOW WHEN THE SOD IS ESTABLISHED – IN 2–3 WEEKS. SET THE MOWER HIGH (2"–3").



SOD INSTALLATION





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

NOTES:

1. CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION IN BASINS PER BASIN DETAIL SHEET PRIOR TO SITE CLOSEOUT.

2. UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S (FILTERSTRIPS AND BASINS) MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.

3. ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASINS SHALL BE REVEGATATED PRIOR TO COMPLETION.

SEQUENCE OF OPERATION

1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #1.
2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 8" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER BASIN.
4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROL TO START DETENTION TIMER #2.
5. DETENTION TIMER #2 TO BE MANUALLY SET TO 19–48 HOURS AND TO BE USER ADJUSTABLE.
6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 8" BUTTERFLY VALVE IS TO CLOSE.
7. VALVE TO BE ACTUATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.

NOTES TO CONTRACTOR

(EACH PHASE OF BASIN CONSTRUCTION)

1. CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR PRIOR APPROVAL.

2. CONTRACTOR SHALL NOTIFY CERTIFYING ENGINEER WHEN:

– REINFORCING STEEL FOR BASIN WALL OR RIPRAP LINER HAS BEEN SET, CONCRETE HAS NOT BEEN PLACED AND DRAIN PIPE AND RISER PIPE IS IN PLACE.

3. WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE.

4. UPON SUBSTANTIAL COMPLETION, OR AS REQUESTED BY ENGINEER, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELD SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:

– TOP OF BANK/WALL AT EACH CORNER OF BASIN
– TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE)
– SPLASH PAD/INLET PIPES
– OVERFLOW WEIRS

5. BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE CONTRACTOR WILL REMOVE ALL TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE BASINS AND REESTABLISH THEM TO THE PROPER OPERATING CONDITION.

CLAY LINER SPECIFICATIONS

PROPERTY	TEST METHOD	SPECIFICATION
PERMEABILITY (CM/SEC)	ASTM D 2434	1×10^{-6}
PLASTICITY INDEX OF CLAY (%)	ASTM D 423/D 424	NOT LESS THAN 15
LIQUID LIMIT OF CLAY (%)	ASTM D 2216	NOT LESS THAN 30
CLAY PARTICLES PASSING (%)	ASTM D 422	NOT LESS THAN 30
CLAY COMPACTION (%)	ASTM D 2216	95% OF STANDARD PROCTOR DENSITY

NOTES:
1. THE CLAY LINER SHALL HAVE A MINIMUM THICKNESS OF TWELVE (12) INCHES.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 5

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
7-3-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

BASIN DETAILS

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED CA DRAWN CA
SHEET C1.20

Date: Jul 03, 2024, 5:05pm User ID: dlynch
File: P:\30001\73\Design\Civil\BMDT-30001-73.dwg

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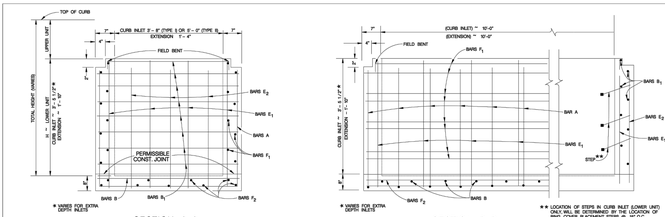
FOR PERMIT



REINFORCING STEEL

LOWER UNIT 10' X 5'-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"
E_1	20	#4	18"±	VARIES
E_2	6	#4	18"±	VARIES
F_1	VARIES	#4	12"±	10'-10"
F_2	9	#4	——	10'-10"

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"
E_1	22	#4	18"±	VARIES
E_2	8	#4	18"±	VARIES
F_1	VARIES	#4	12"±	10'-10"
F_2	11	#4	——	10'-10"

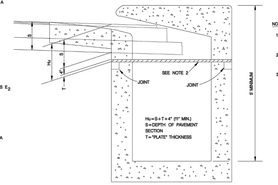
GENERAL NOTES

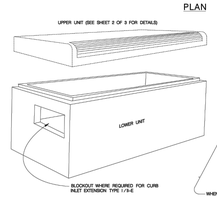
1. 5' INLETS AND 5' EXTENSIONS MUST BE IN ACCORDANCE WITH THE LATEST TXDOT CURB INLET TYPE "C" AND EXTENSION TYPE II (5'-0).
2. TYPE C-4 INLET TO BE USED ONLY WHEN STORM DRAIN PIPE IS IN-LINE WITH CURB INLET AND APPROVED BY THE ENGINEER.
3. QUANTITIES SHOWN ARE FOR CONTRACTORS INFORMATION ONLY.
4. CONCRETE 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 INTERCEPTING 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 SWOM OF THE PIPE AS NECESSARY. CONSTRUCTION JOINT MAY BE RAISED A MAXIMUM OF 6".

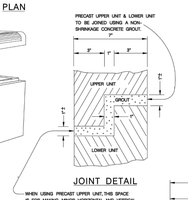
PHASE CONSTRUCTION

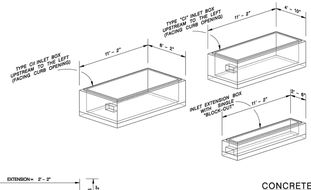
NOTES FOR PHASE CONSTRUCTION, WHEN DIRECTED BY THE ENGINEER:

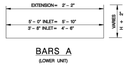
1. THE CURB INLET AND EXTENSION SHALL BE CONSTRUCTED TO A DEPTH "Hu" BELOW THE INLET AND EXTENSION GUTTER LINE ELEVATION.
2. CAP THE CURB INLET AND EXTENSION WITH A STEEL PLATE AS DIRECTED BY THE ENGINEER AND CONSTRUCT THE ROADWAY OVER THE PLATE.
3. AFTER THE ROADWAY IS COMPLETED, BUT PRIOR TO THE FINAL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





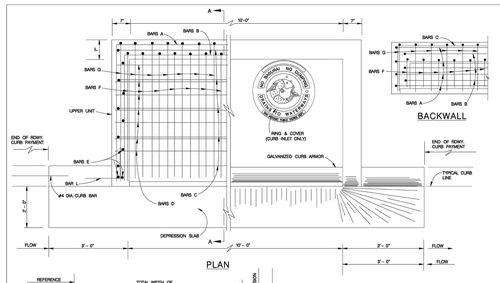


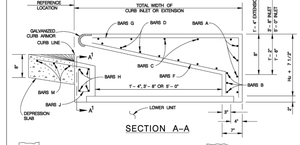


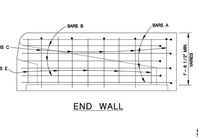


NOTE:
CURB ARMOR NOT REQUIRED ON CURB INLETS.

MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
TYPE "C" INLET (TYPE I & II)
& INLET EXTENSION STANDARDS
SHEET 1 OF 3



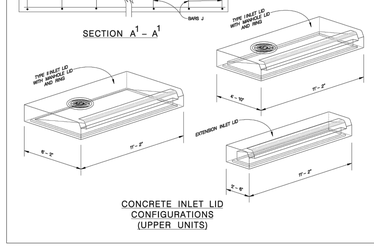


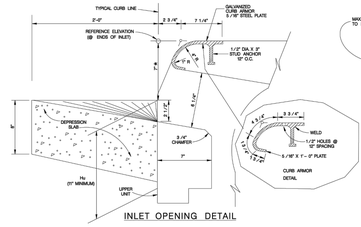


NOTES FOR MANHOLE LID AND RING

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

SEE SHEET 1 OF 3 FOR GENERAL NOTES.





REINFORCING STEEL (FOR Hu = 11")

UPPER UNIT 10' X 5'-8" (TYPE I)

BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	5	#4	——	10'-10"	33
B	3	#4	——	10'-10"	38
C	5	#4	11"	13'-2"	44
D	7	#4	6"	10'-10"	51
E	12	#4	11"	7'-2"	9
F	21	#6	6"	6'-8"	147
G	22	#6	6"	5'-8"	187
H	4	#4	——	10'-10"	29
J	12	#4	——	2'-8"	23
L	4	#4	——	2'-0"	5
M	3	#4	——	14'-8"	39
TOTAL WEIGHT					620 LBS.

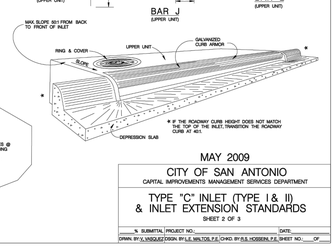
UPPER UNIT 10' X 5' (TYPE II)

BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	4	#4	——	10'-10"	30
B	3	#4	——	11'-6"	43
C	7	#4	11"	13'-2"	62
D	11	#4	6"	10'-10"	80
E	18	#4	11"	7'-2"	13
F	21	#6	6"	6'-8"	179
G	22	#6	6"	5'-8"	229
H	4	#4	——	10'-10"	29
J	12	#4	——	2'-8"	23
L	4	#4	——	2'-0"	5
M	3	#4	——	14'-8"	39
TOTAL WEIGHT					759 LBS.

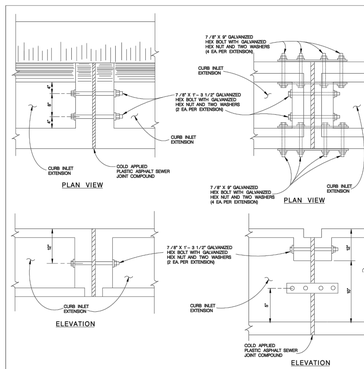
CLASS "A" CONCRETE QUANTITIES (FOR Hu = 11")

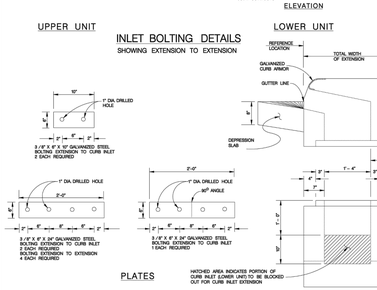
DEPRESSION SLAB	C.Y.
10' INLET	0.7
10' EXTENSION	0.7

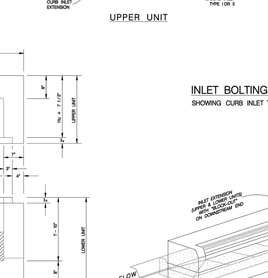
UPPER UNIT (ONLY)	C.Y.
10' X 5'-8" CURB INLET	1.9
10' X 5'-0" CURB INLET	2.7
10' EXTENSION	1.0



MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
TYPE "C" INLET (TYPE I & II)
& INLET EXTENSION STANDARDS
SHEET 2 OF 3







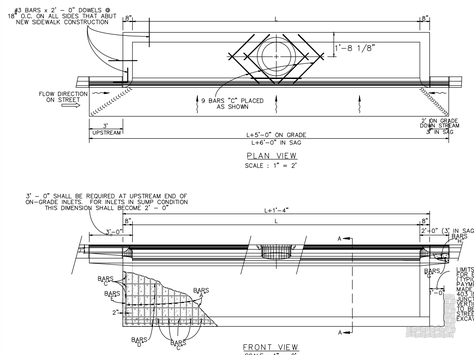
UPPER UNIT EXTENSION (FOR Hu = 11")					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	4	#4	——	11'-2"	31
B	3	#4	——	10'-10"	38
C	5	#4	11"	13'-2"	44
D	7	#4	6"	10'-10"	51
E	12	#4	11"	7'-2"	9
F	21	#6	6"	6'-8"	147
G	22	#6	6"	5'-8"	187
H	4	#4	——	10'-10"	29
J	12	#4	——	2'-8"	23
L	4	#4	——	2'-0"	5
M	3	#4	——	14'-8"	39
REINFORCING STEEL				LBS.	387
CLASS "A" CONCRETE				C.Y.	1.0

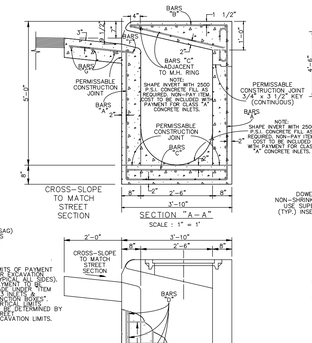
LOWER UNIT EXTENSION					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	12	#4	12"	6'-3"	49
B	11	#4	12"	5'-10"	16
B_1	3	#4	12"	5'-10"	4
F_1	16	#4	12"±	3'-3"	27
E_2	4	#4	18"±	2'-1"	5
F_1	16	#4	12"±	10'-10"	116
F_2	3	#4	——	10'-10"	36
REINFORCING STEEL				LBS.	254
CLASS "A" CONCRETE				C.Y.	1.4

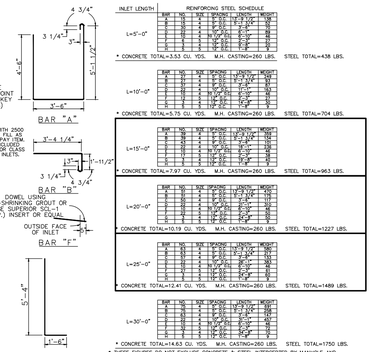
GENERAL NOTES

1. WHEN INLET EXTENSIONS ARE REQUIRED FOR ON GRADE INLETS THE 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.

MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
TYPE "C" INLET (TYPE I & II)
& INLET EXTENSION STANDARDS
SHEET 3 OF 3

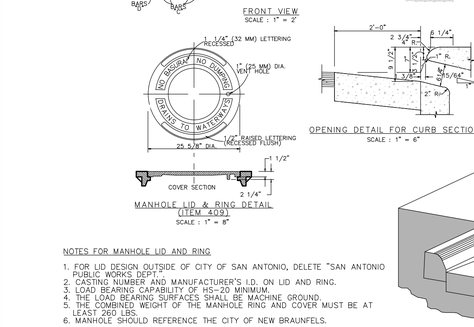






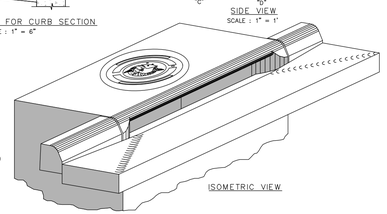
GENERAL NOTES

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 4 "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".



NOTES FOR MANHOLE LID AND RING

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



TYPE "C" INLET STANDARDS

FOR PERMIT

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.3633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
7-3-2024

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

DRAINAGE DETAILS

PLAT NO. ____
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C1.21

Date: Jul 05, 2024, 11:54am User ID: carcher
File: P:\3001\01\73\Design\Civil\SDT-30001-73.dwg

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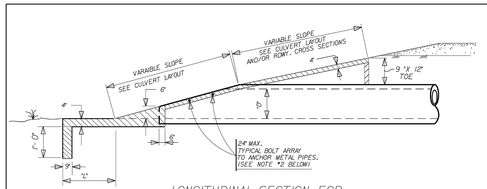
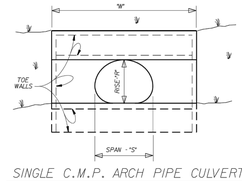
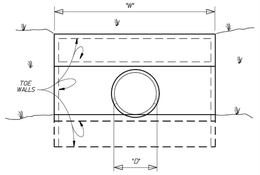


LONGITUDINAL SECTION FOR CIRCULAR & ARCH PIPES



SINGLE C.M.P. ARCH PIPE CULVERT

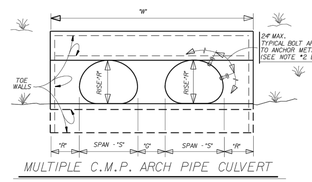


SINGLE CIRCULAR PIPE CULVERT
(CMP or RCP)

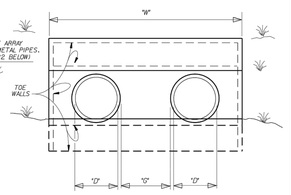
DIMENSIONS FOR CIRCULAR (CMP and RCP) PIPE CULVERTS

"D" INSIDE DIA. of PIPE	"L"	"S"		SINGLE	DOUBLE	TRIPLE	QUADRUPLE
		CDM	RCP	"W"			
18"	2'-0"	1'-2"	0'-9"	4'-6"	7'-2"	9'-10"	12'-6"
21"	2'-6"	1'-3"	0'-10"	5'-3"	8'-4"	11'-4"	13'-4"
24"	3'-0"	1'-5"	0'-11"	6'-0"	9'-5"	12'-10"	16'-3"
30"	4'-0"	1'-8"	1'-1"	7'-6"	11'-8"	15'-10"	20'-0"
36"	5'-0"	1'-11"	1'-3"	9'-0"	13'-11"	18'-10"	23'-9"
42"	6'-0"	2'-2"	1'-5"	10'-6"	16'-2"	21'-10"	27'-6"
48"	7'-0"	2'-5"	1'-7"	12'-0"	18'-5"	24'-10"	31'-3"
54"	8'-0"	2'-10"	1'-11"	13'-6"	20'-10"	28'-2"	35'-6"
60"	9'-0"	3'-2"	2'-0"	15'-0"	23'-2"	31'-4"	39'-6"

"D" IS MEASURED BETWEEN THE OUTER SURFACES OF THE PIPES.



MULTIPLE C.M.P. ARCH PIPE CULVERT



MULTIPLE CIRCULAR PIPE CULVERT
(CMP or RCP)

DIMENSIONS FOR C.M.P. ARCH PIPE CULVERTS

DESIGN SIZE	APPROX. ARCH DIM. SPAN "S"	APPROX. ARCH DIM. RISE "R"	"L"	"D"	SINGLE	DOUBLE	TRIPLE	QUADRUPLE
					"W"			
2	29"	18"	2'-0"	1'-2"	4'-3"	7'-2"	10'-1"	13'-0"
3	28"	20"	3'-0"	1'-3"	5'-8"	9'-5"	13'-2"	16'-11"
4	35"	24"	4'-0"	1'-8"	6'-11"	11'-6"	16'-1"	20'-8"
5	42"	29"	5'-0"	1'-11"	8'-4"	13'-9"	19'-2"	24'-7"
6	49"	33"	6'-0"	2'-2"	9'-7"	15'-10"	22'-1"	28'-4"
7	57"	38"	7'-0"	2'-5"	11'-1"	18'-3"	25'-5"	32'-7"
8	64"	43"	8'-0"	2'-10"	12'-5"	20'-8"	28'-10"	37'-0"
9	71"	47"	9'-0"	3'-2"	13'-9"	22'-10"	31'-11"	41'-0"

BASED ON 2-2/3" X 1/2" CORRUGATION
"D" IS MEASURED BETWEEN THE OUTER SURFACES OF THE PIPES.

NOTES:

1.) FOR RIPRAP QUANTITIES AND SLOPES, SEE CULVERT LAYOUT SHEET. CONCRETE SHALL BE CLASS B UNLESS OTHERWISE SHOWN IN THE PLANS.

2.) ALL METAL PIPES (CIRCULAR AND/OR ARCH) SHALL HAVE 5/8" X 6" GALVANIZED BOLTS WITH 2 HEX NUTS AT 24" CENTERS TO ANCHOR THE PIPE TO THE CONCRETE. THIS WORK WILL BE SUBSIDIARY TO THE RIPRAP HEADWALL.

3.) FOR CONCRETE ARCH PIPES, THE CMP ARCH PIPE CULVERT DIMENSIONS WILL HAVE TO BE ADJUSTED FOR THE PIPE WALL THICKNESS.

4.) FOR PIPES LARGER THAN SHOWN, USE THE CLEAR DISTANCE BETWEEN PIPES SHOWN IN ITEMS 460 AND/OR 464.

5.) IF THE SIDES OF THE HEADWALL IS ADJACENT TO A RIPRAP SLOPE AND IF THE TOP OF THE HEADWALL IS ADJACENT TO THE ROADWAY FOUNDATION OR RIPRAP SLOPE, THE SIDE AND TOP TOE WALLS MAY BE ELIMINATED IF APPROVED BY THE ENGINEER.

SAN ANTONIO
DISTRICT STANDARD
RIPRAP HEADWALL

© 1998 Texas Department of Transportation

FED.RD. DIV.NO.	PROJECT NO.			SHEET NO.
6				
STATE	DIST.	AREA	COUNTY	
TEXAS	SAT			
CONT.	SECT.	JOB	HIGHWAY NO.	
10/95				

STRUCTURE DESIGN
RIPRAP\STDS\RIPRAP.dgn

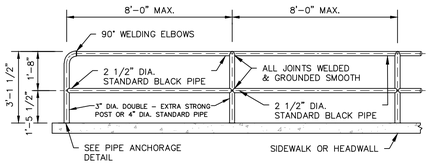
DATE

NO.	REVISION

7-3-2024

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

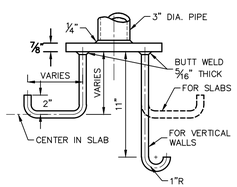
PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5933
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

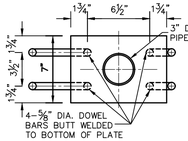


NOTES:
1. FOR CONSTRUCTION WITHIN THE CITY OF SAN ANTONIO ETJ AND/OR BEXAR COUNTY, PIPE SHALL BE STANDARD BLACK PIPE PAINTED WITH 1 COAT OF RED PRIMER AND 2 COATS OF ALUMINUM PAINT

PIPE RAILING DETAIL

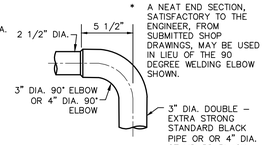
NOT-TO-SCALE





PIPE ANCHORAGE DETAIL

NOT-TO-SCALE



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

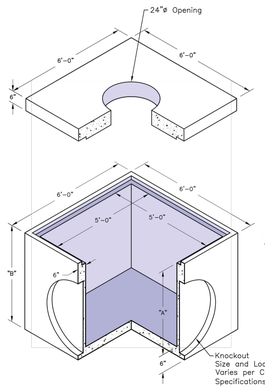
90° WELDING ELBOWS DETAIL

NOT-TO-SCALE

Oldcastle Precast

Water

5'-0"x5'-0" I.D. Junction Box
Model: JB-550



Roof Slab
Weight = 3150 Lbs.
Item# = 1207960

GENERAL NOTES:
1. Different Height of Bodies are Available by Request.
2. Frames and Covers Also Available.

SPECIFICATIONS:
1. Concrete has a design strength of 5000 PSI at 28 days.
2. Steel reinforcement: ASTM A-615 Grade 60 or ASTM A-497 Welded wire fabric.
3. Loading: Designed for H20 Loading.
4. C.I. Castings: ASTM A-48, Class 30/35.

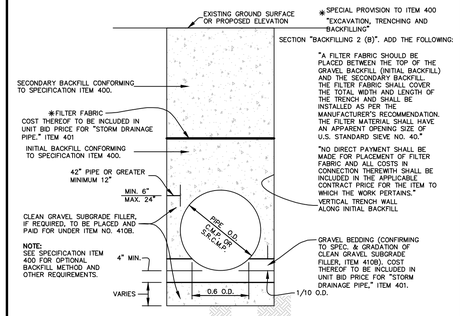
Body
Weight = See Table
Item# = See Table

Body			
A	B	Weight	Item#
42"	48"	8475 Lbs.	1205600
48"	54"	9300 Lbs.	1205620
54"	60"	10,125 Lbs.	1205640
60"	66"	10,950 Lbs.	1205660

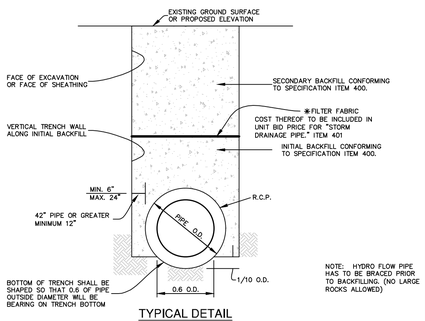
Texas Region

For more information about our products please visit us on the web at: oldcastleprecast.com
© 2013 Oldcastle Precast, Inc.
JB-11

888-9 Oldcastle (888-965-3227)



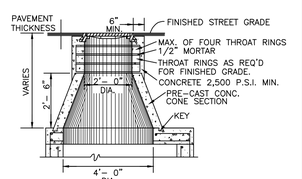
TYPICAL DETAIL FOR C.M.P. AND S.R.C.M.P.

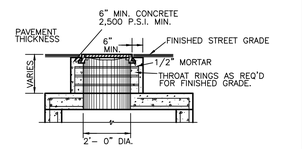


TYPICAL DETAIL

PIPE BEDDING AND BACKFILL DETAILS

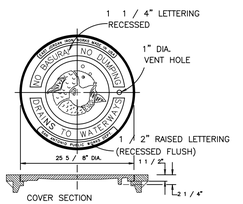
NOT-TO-SCALE





VARIATION OF VERTICAL STACK

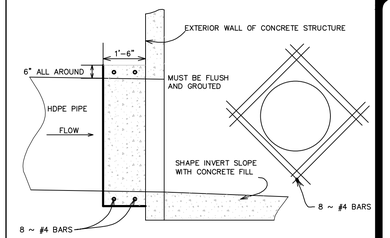
VERTICAL STACK DESIGN SHALL BE GOVERNED BY THE DEPTH OF THE TOP OF THE JUNCTION BOX BELOW THE FINISHED STREET GRADE.



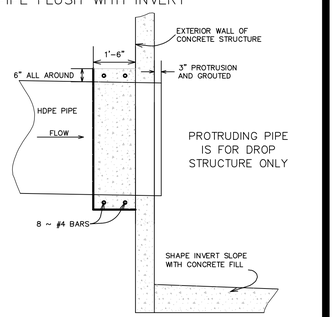
MANHOLE LID & RING DETAIL

NOTES FOR MANHOLE LID AND RING

1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT." AND USE CITY OF NEW BRAUNFELS STANDARDS
2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
3. LOAD BEARING CAPABILITY OF H5-20 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.



PIPE FLUSH WITH INVERT



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

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

DRAINAGE DETAILS

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C1.22

FOR PERMIT

Date: Jul 05, 2024, 11:54am User ID: carcher
File: P:\300\01\73\Design\Civil\SDD1-30001-73.dwg

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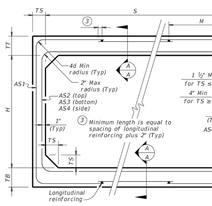
BOX DATA

SECTION DIMENSIONS						REINFORCING (sq. in. / ft.) (2)								(1) Lift Weight
S (ft.)	H (ft.)	T1 (in.)	T8 (in.)	T5 (in.)	Fill Height (ft.)	M (in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
5	2	8	7	6	< 2	-	0.19	0.27	0.18	0.14	0.19	0.19	0.17	6.0
5	2	6	6	6	2 < 3	44	0.22	0.20	0.16	0.14	-	-	-	5.1
5	2	6	6	6	3 - 5	44	0.16	0.14	0.14	0.14	-	-	-	5.1
5	2	6	6	6	10	36	0.15	0.14	0.14	0.14	-	-	-	5.1
5	2	6	6	6	15	36	0.20	0.18	0.18	0.14	-	-	-	5.1
5	2	6	6	6	20	36	0.26	0.23	0.24	0.14	-	-	-	5.1
5	2	6	6	6	25	36	0.33	0.29	0.29	0.14	-	-	-	5.1
5	2	6	6	6	30	36	0.39	0.34	0.35	0.14	-	-	-	5.1
5	3	8	7	6	< 2	-	0.19	0.31	0.21	0.14	0.19	0.19	0.17	6.6
5	3	6	6	6	2 < 3	45	0.18	0.24	0.19	0.14	-	-	-	5.7
5	3	6	6	6	3 - 5	36	0.14	0.17	0.16	0.14	-	-	-	5.7
5	3	6	6	6	10	36	0.14	0.16	0.17	0.14	-	-	-	5.7
5	3	6	6	6	15	35	0.16	0.21	0.22	0.14	-	-	-	5.7
5	3	6	6	6	20	35	0.21	0.27	0.28	0.14	-	-	-	5.7
5	3	6	6	6	25	35	0.26	0.34	0.34	0.14	-	-	-	5.7
5	3	6	6	6	30	35	0.31	0.41	0.41	0.14	-	-	-	5.7
5	4	8	7	6	< 2	-	0.19	0.33	0.24	0.14	0.19	0.19	0.17	7.2
5	4	6	6	6	2 < 3	45	0.16	0.27	0.22	0.14	-	-	-	6.3
5	4	6	6	6	3 - 5	45	0.14	0.19	0.18	0.14	-	-	-	6.3
5	4	6	6	6	10	36	0.14	0.18	0.18	0.14	-	-	-	6.3
5	4	6	6	6	15	35	0.14	0.23	0.24	0.14	-	-	-	6.3
5	4	6	6	6	20	35	0.17	0.30	0.31	0.14	-	-	-	6.3
5	4	6	6	6	25	35	0.21	0.37	0.38	0.14	-	-	-	6.3
5	4	6	6	6	30	35	0.25	0.44	0.45	0.14	-	-	-	6.3
5	5	8	7	6	< 2	-	0.19	0.35	0.26	0.14	0.19	0.19	0.17	7.8
5	5	6	6	6	2 < 3	45	0.14	0.29	0.24	0.14	-	-	-	6.9
5	5	6	6	6	3 - 5	45	0.14	0.21	0.20	0.14	-	-	-	6.9
5	5	6	6	6	10	45	0.14	0.19	0.20	0.14	-	-	-	6.9
5	5	6	6	6	15	36	0.14	0.24	0.25	0.14	-	-	-	6.9
5	5	6	6	6	20	35	0.15	0.31	0.32	0.14	-	-	-	6.9
5	5	6	6	6	25	35	0.18	0.38	0.39	0.14	-	-	-	6.9
5	5	6	6	6	30	35	0.21	0.46	0.47	0.14	-	-	-	6.9

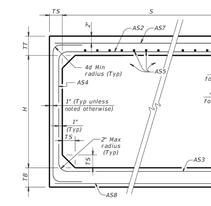
(1) For box length = 8'-0"

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



CORNER OPTION "A" CORNER OPTION "B"

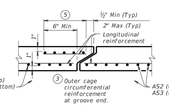
FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

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



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

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

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

HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

SINGLE BOX CULVERTS PRECAST 5'-0" SPAN

SCP-5

File: CD-SCP05-20.dgn	ck: TxDOT	ck: TxDOT	dw: TxDOT	ck: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

DATE FILE

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

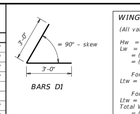
Dimensions					Variable Reinforcing				Estimated Quantities per ft of wing (2-wings) (4)		Estimated Quantities per ft of Toewall (1-toewall)	
Maximum Wingwall Height Hw	W	X	Y	Z	Bars J1 Size	Bars J1 Spa	Bars J2 Size	Bars J2 Spa	Reinf (lb/Ft)	Conc (CY/Ft)	Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-10"	10"	1'-0"	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
4'-0"	2'-10"	1'-0"	1'-0"	7"	#4	1'-0"	#4	1'-0"	53.98	0.480	6.85	0.071
4'-0"	3'-2"	1'-2"	1'-0"	7"	#4	1'-0"	#4	1'-0"	55.77	0.532	6.85	0.071
4'-6"	3'-2"	1'-2"	1'-0"	7"	#4	1'-0"	#4	1'-0"	59.77	0.568	6.85	0.071
5'-0"	3'-2"	1'-2"	1'-0"	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'-0"	7'-2"	3'-0"	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'-0"	8'-10"	4'-3"	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"
M1	#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

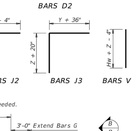
WING DIMENSION FORMULAS:
(All values are in feet.)

Hw = H + T + C
Lw = (Hw) (SL) + cosine (θ) for Type PW-1
= (Hw − 1') (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)
Total Wingwall Area (two wings = SF)
= (2)(Hw)(Lw) for Type PW-1
= (2)(Hw)(Lw) − 6 SF 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 = Channel 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.



BARS J1 BARS J2 BARS J3 BARS V

(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 TL631 or TL631LS bridge rail, refer to the Mounting Details for TL631 & TL631LS Rails (TL631-CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than TL631 or TL631LS.

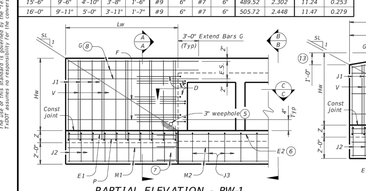
(10) For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 2" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

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.

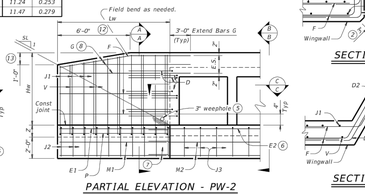
(11) 1'-0" typical. 2'-3" when the Box Culvert Rail Mounting Details (RAC) standard sheet is referred to elsewhere in the plans.

(12) 2'-0" for Hw < 4'.

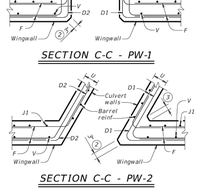
(13) 6" For Hw < 4'.



PARTIAL ELEVATION - PW-1



PARTIAL ELEVATION - PW-2



SECTION C-C - PW-1

SECTION C-C - PW-2

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.

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.)

Texas Department of Transportation — Bridge Division Standard

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

PW

File: CD-PW-20.dgn	dn: GAT	ck: GAT	dw: TxDOT	ck: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

NO.	REVISION	DATE

7-3-2024
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.3633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
DRAINAGE DETAILS

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C1.23

FOR PERMIT

Date: Jul 05, 2024, 11:54am User ID: carcher
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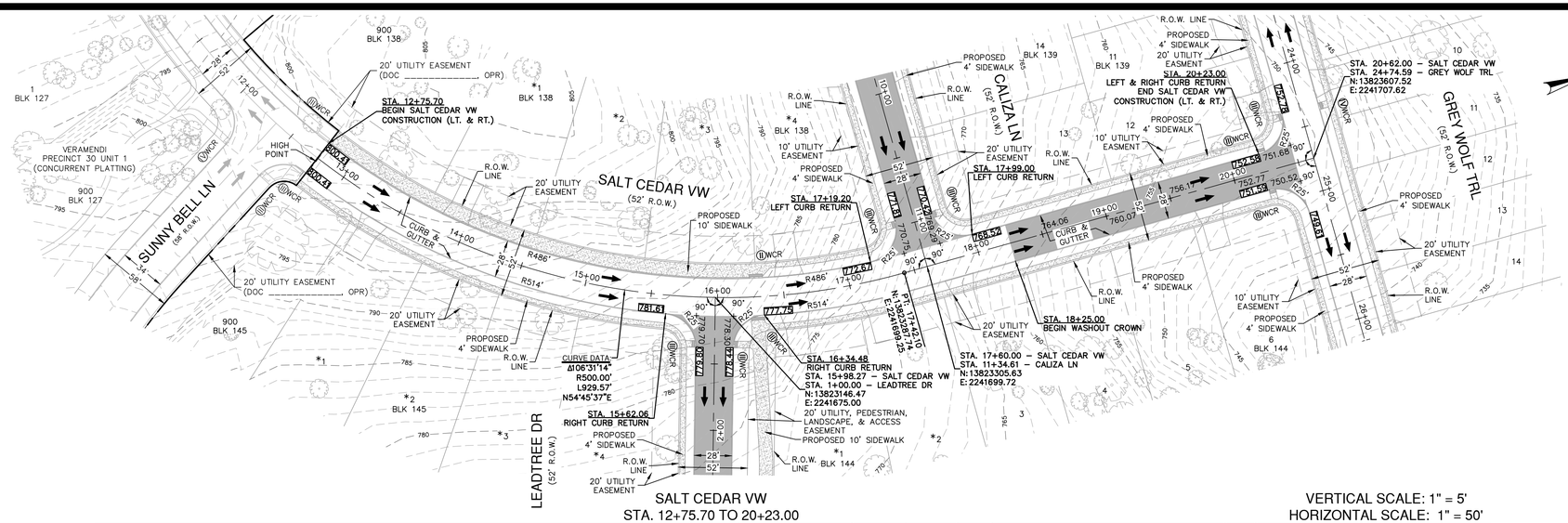


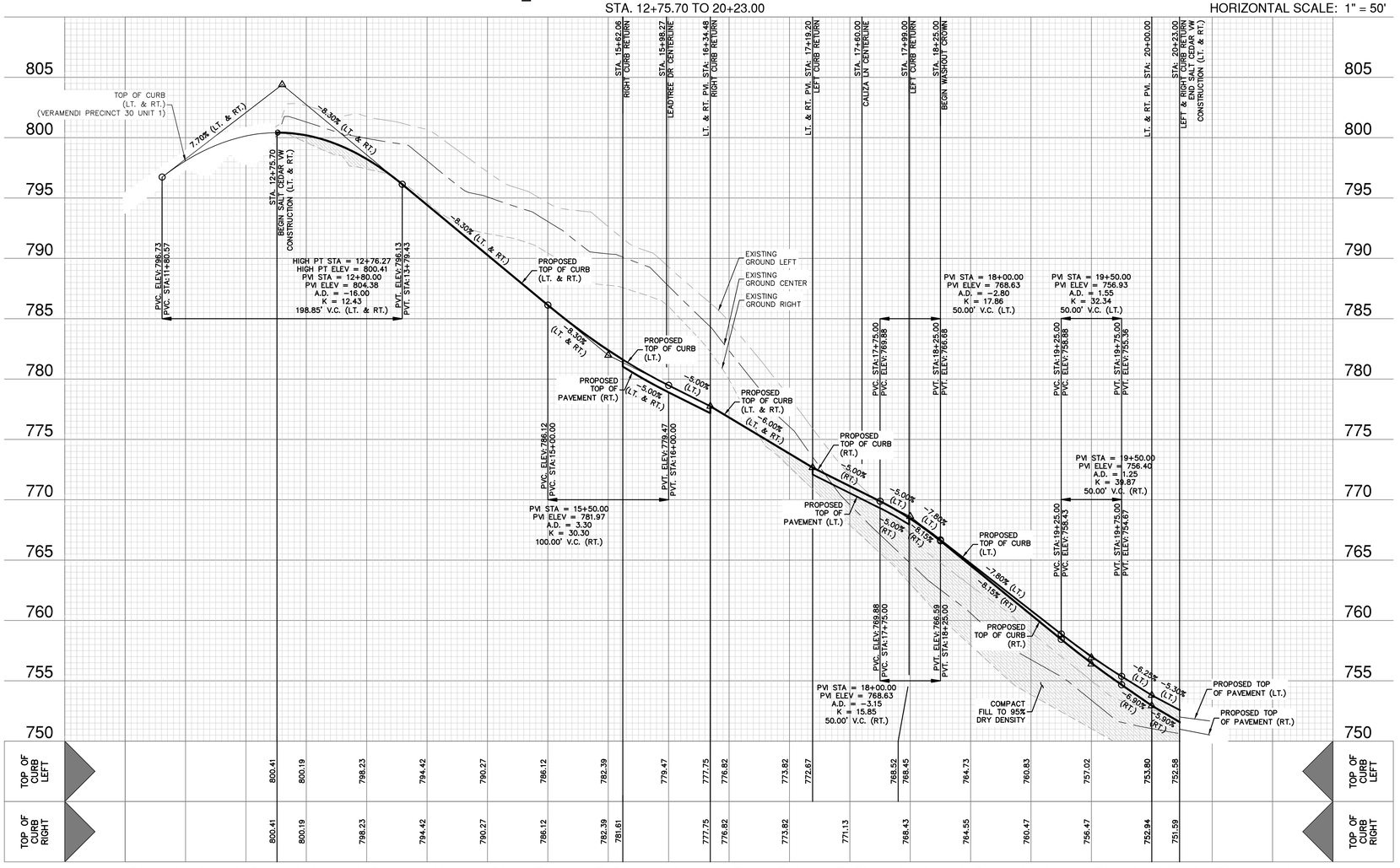
SCALE: 1"= 50'
0' 50' 100' 150'

STREET LEGEND

PROJECT LIMITS	
EXISTING CONTOUR	970
CORRECTED EFFECTIVE 100 YR FLOOD PLAIN	
PROPOSED 100 YR FLOOD PLAIN	
WHEELCHAIR RAMP	WCR
CENTERLINE	CL
POINT OF CURVATURE	PC
POINT OF TANGENCY	PT
DRAINAGE FLOW ARROW	
TOP OF CURB SPOT ELEVATION	857.30
PAVEMENT ELEVATION	857.00(P) ×
WASHOUT CROWN SECTION	
SIDEWALK (SEE SHEETS C3.00 & C3.01 FOR DEVELOPER RESPONSIBILITY)	
DRIVEWAY	

SALT CEDAR VW
STA. 12+75.70 TO 20+23.00

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



STREET NOTES:

1. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE–IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
2. NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENTS SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
3. DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
4. PER THE VERAMENDI DEVELOPMENT & DESIGN CONTROL DOCUMENT, SECTION 13.3.4, TABLE 13–2, LOCAL STREETS WERE DESIGNED FOR 25 MPH.

NO.	REVISION	DATE

8–26–2024
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

SALT CEDAR VW - PLAN & PROFILE
STA. 12+75.70 TO 20+23.00

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C2.00

FOR PERMIT

Date: Aug 26, 2024, 11:28am User ID: jasquivel
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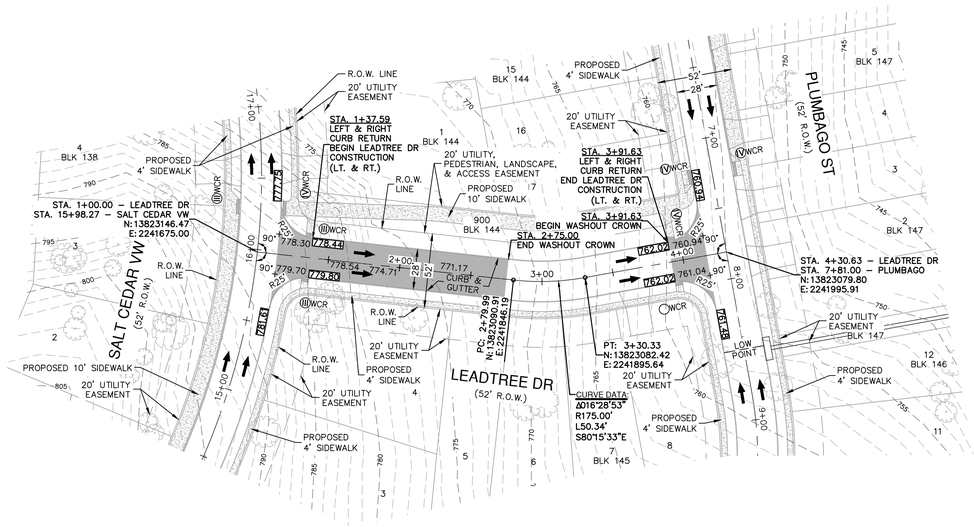

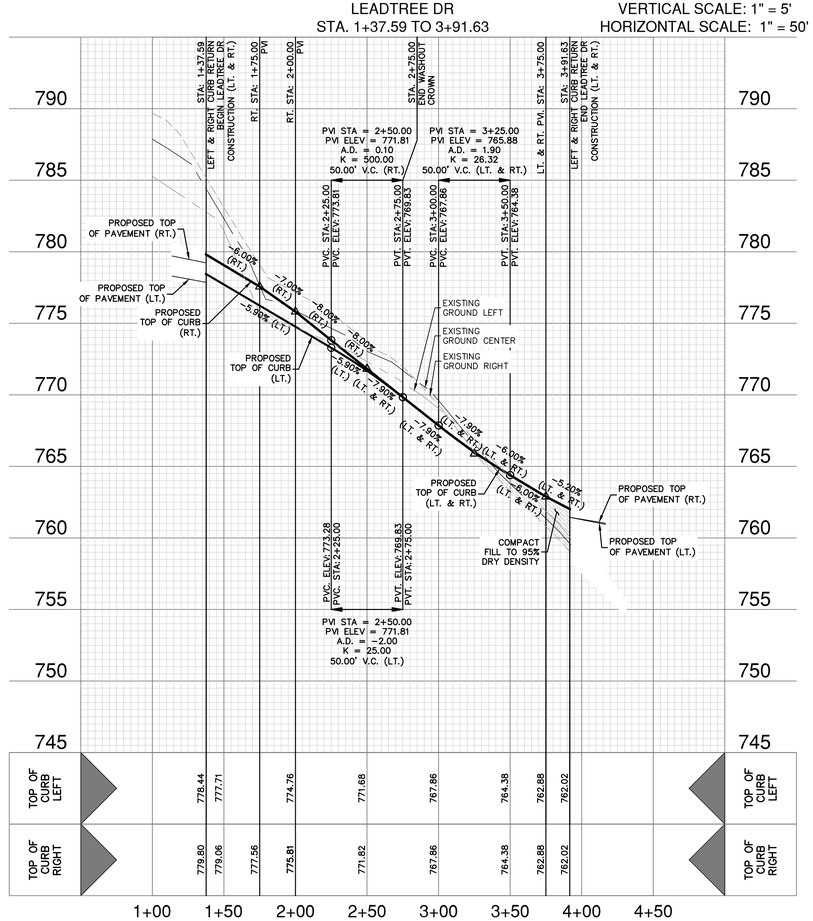

SCALE: 1"= 50'
0' 50' 100' 150'

STREET LEGEND

- PROJECT LIMITS
- EXISTING CONTOUR (970)
- CORRECTED EFFECTIVE 100 YR FLOOD PLAIN
- PROPOSED 100 YR FLOOD PLAIN
- WHEELCHAIR RAMP (D)WCR
- CENTERLINE CL
- POINT OF CURVATURE PC
- POINT OF TANGENCY PT
- DRAINAGE FLOW ARROW
- TOP OF CURB SPOT ELEVATION 857.30
- PAVEMENT ELEVATION 857.00(P) ×
- WASHOUT CROWN SECTION
- SIDEWALK (SEE SHEETS C3.00 & C3.01 FOR DEVELOPER RESPONSIBILITY)
- DRIVEWAY

STREET NOTES:

1. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE–IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
2. NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENTS SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
3. DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
4. PER THE VERAMENDI DEVELOPMENT & DESIGN CONTROL DOCUMENT, SECTION 13.3.4, TABLE 13–2, LOCAL STREETS WERE DESIGNED FOR 25 MPH.

NO.	REVISION	DATE

07–3–2024

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

LEADTREE DR - PLAN & PROFILE
STA. 1+37.59 TO 3+91.63

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C2.01

FOR PERMIT

Date: Jun 20, 2024, 8:28am User ID: jesquivel
File: P:\300\01\73\Design\Civil\ST-30001-73-LEADTREE DR.dwg

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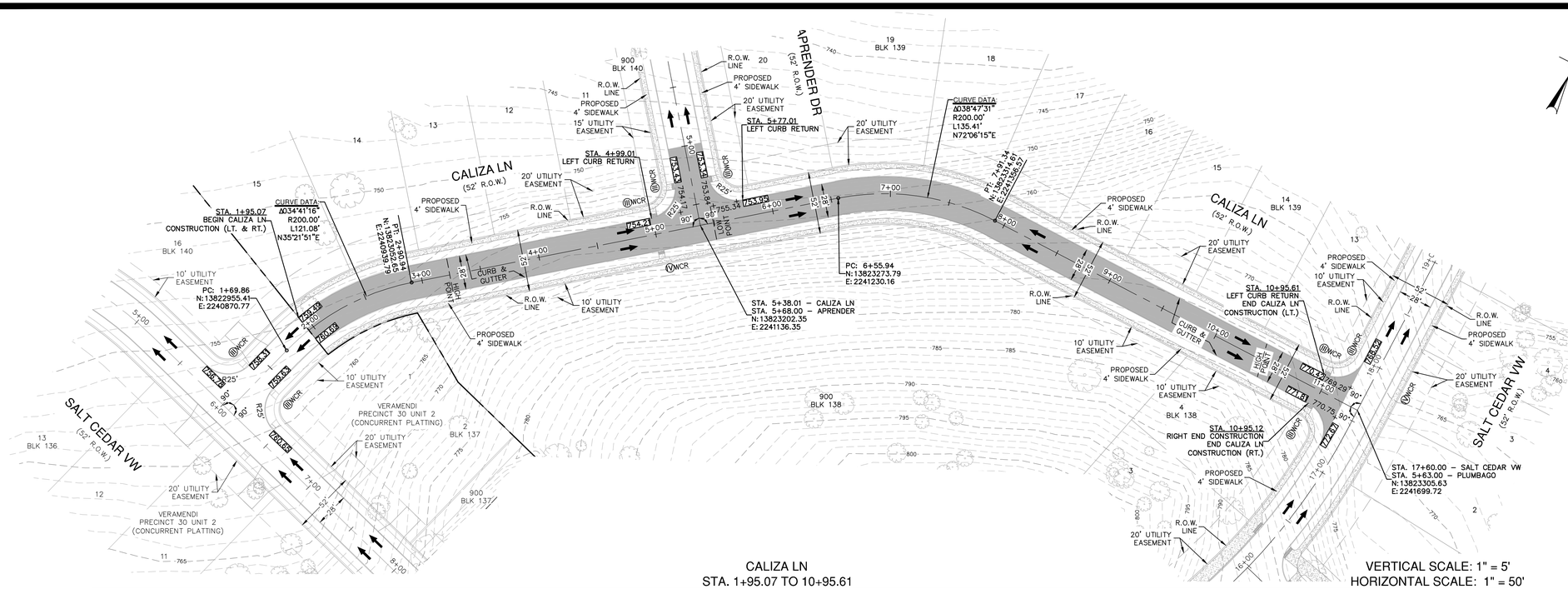

CALIZA LN
STA. 1+95.07 TO 10+95.61

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

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

STREET LEGEND

PROJECT LIMITS	
EXISTING CONTOUR	970
CORRECTED EFFECTIVE 100 YR FLOOD PLAIN	
PROPOSED 100 YR FLOOD PLAIN	
WHEELCHAIR RAMP	(D)WCR
CENTERLINE	CL
POINT OF CURVATURE	PC
POINT OF TANGENCY	PT
DRAINAGE FLOW ARROW	
TOP OF CURB SPOT ELEVATION	857.30
PAVEMENT ELEVATION	857.00(P) ×
WASHOUT CROWN SECTION	
SIDEWALK (SEE SHEETS C3.00 & C3.01 FOR DEVELOPER RESPONSIBILITY)	
DRIVEWAY	

STREET NOTES:

1. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
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4. PER THE VERAMENDI DEVELOPMENT & DESIGN CONTROL DOCUMENT, SECTION 13.3.4, TABLE 13-2, LOCAL STREETS WERE DESIGNED FOR 25 MPH.

NO.	REVISION	DATE

7-3-2024
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

CALIZA LN - PLAN & PROFILE
STA. 1+95.07 TO 10+95.61

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C2.02

FOR PERMIT

Date: Jul 05, 2024, 11:55am User ID: carcher
File: P:\3001\01\73\Design\Civil\ST-30001-73-CALIZA LN.dwg

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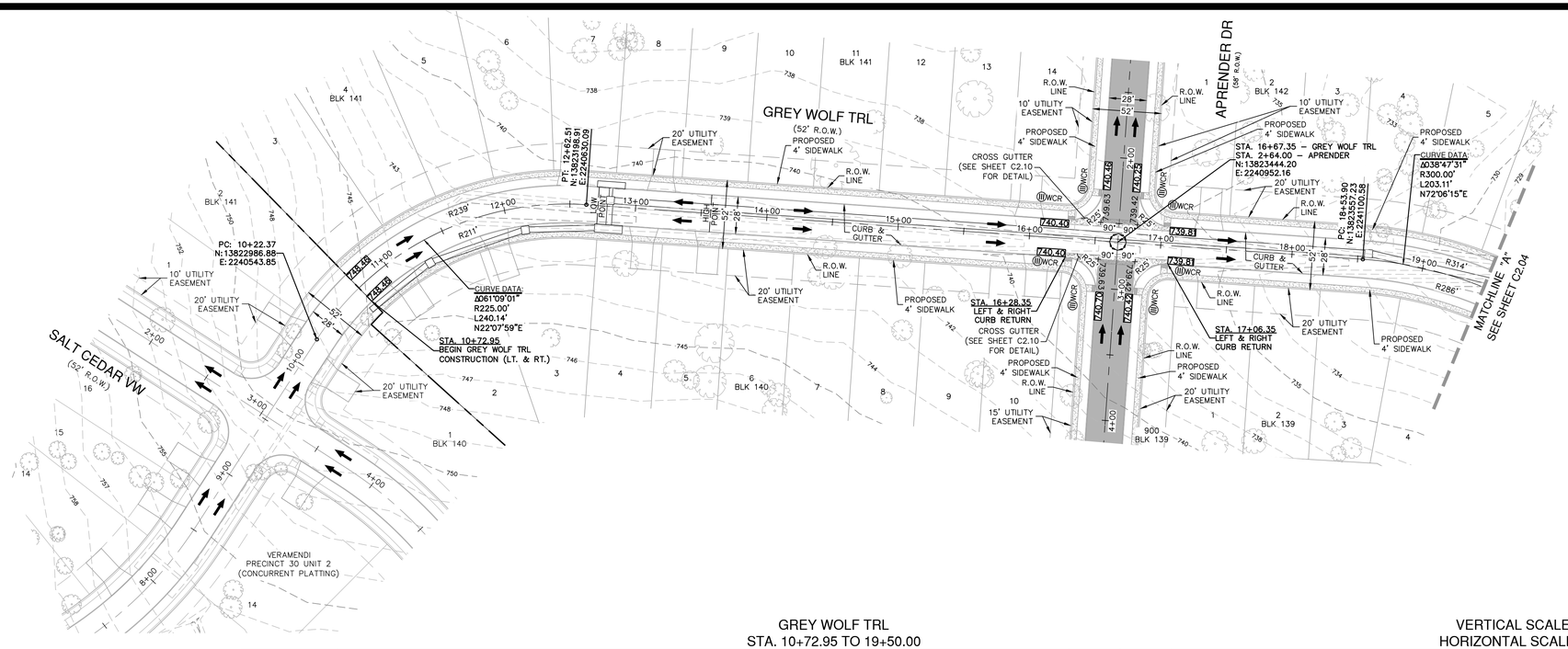


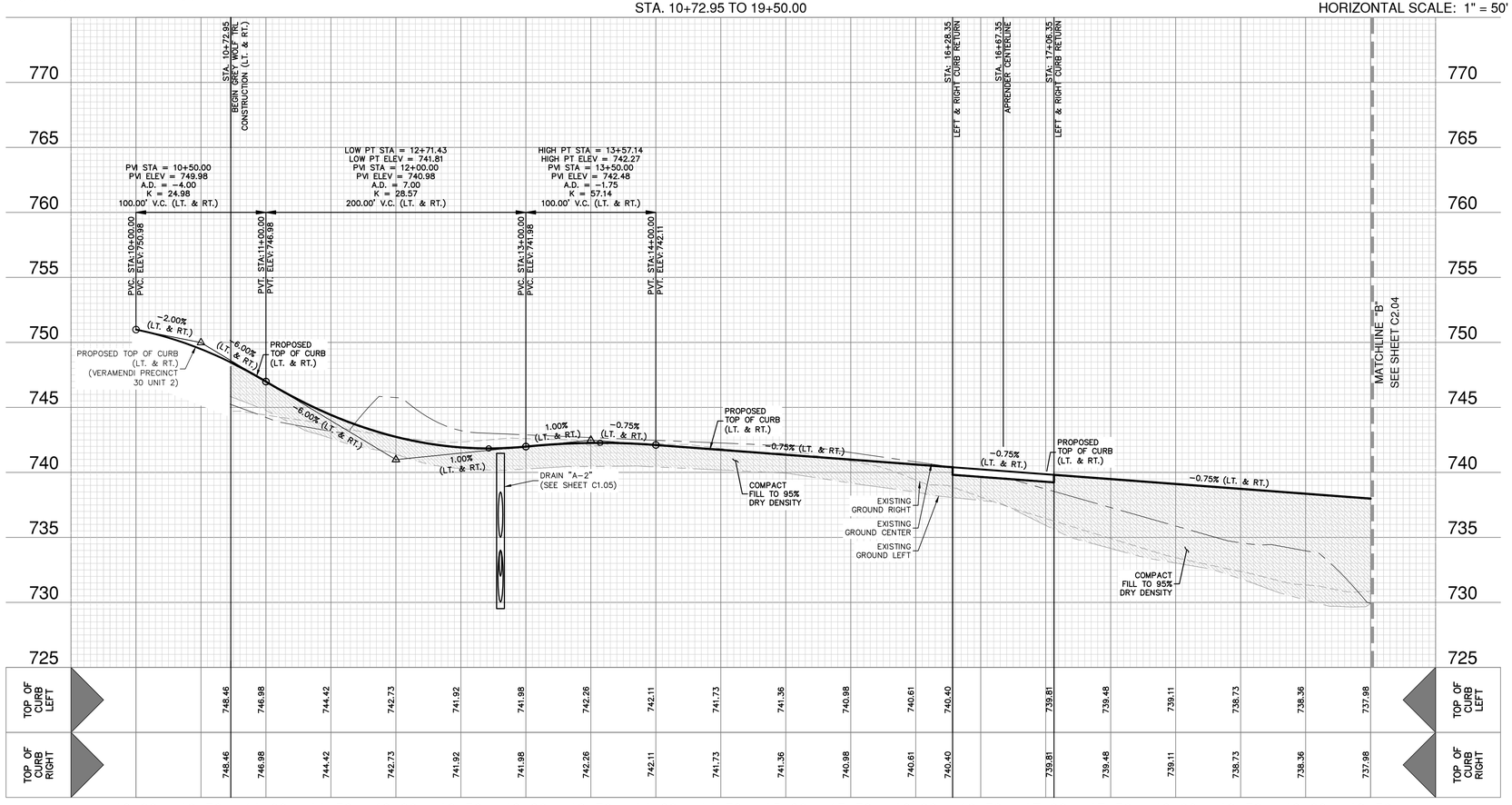
SCALE: 1"= 50'
0' 50' 100' 150'

STREET LEGEND

PROJECT LIMITS	
EXISTING CONTOUR	970
CORRECTED EFFECTIVE 100 YR FLOOD PLAIN	
PROPOSED 100 YR FLOOD PLAIN	
WHEELCHAIR RAMP	WCR
CENTERLINE	CL
POINT OF CURVATURE	PC
POINT OF TANGENCY	PT
DRAINAGE FLOW ARROW	
TOP OF CURB SPOT ELEVATION	857.30
PAVEMENT ELEVATION	857.00(P) ×
WASHOUT CROWN SECTION	
SIDEWALK (SEE SHEETS C3.00 & C3.01 FOR DEVELOPER RESPONSIBILITY)	
DRIVEWAY	

GREY WOLF TRL
STA. 10+72.95 TO 19+50.00

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



STREET NOTES:

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4. PER THE VERAMENDI DEVELOPMENT & DESIGN CONTROL DOCUMENT, SECTION 13.3.4, TABLE 13–2, LOCAL STREETS WERE DESIGNED FOR 25 MPH.

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
7–3–2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
GREY WOLF TRL - PLAN & PROFILE
STA. 10+72.95 TO 19+50.00

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C2.03

FOR PERMIT

Date: Jul 05, 2024, 1:06pm User ID: dlynch
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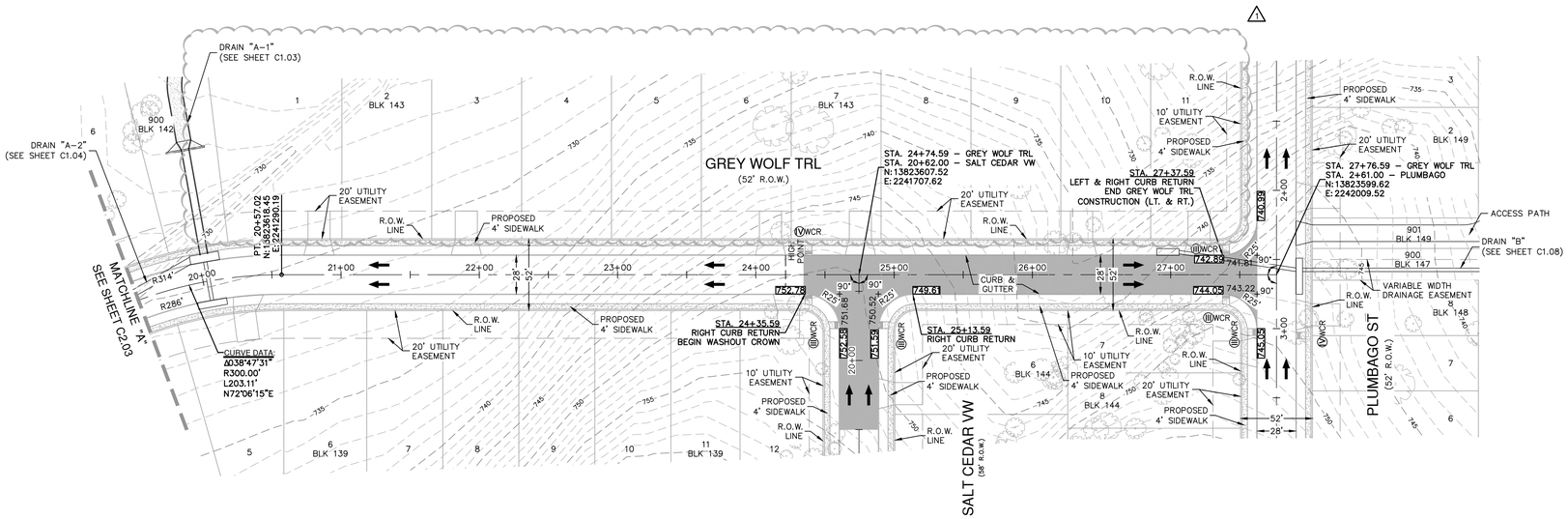


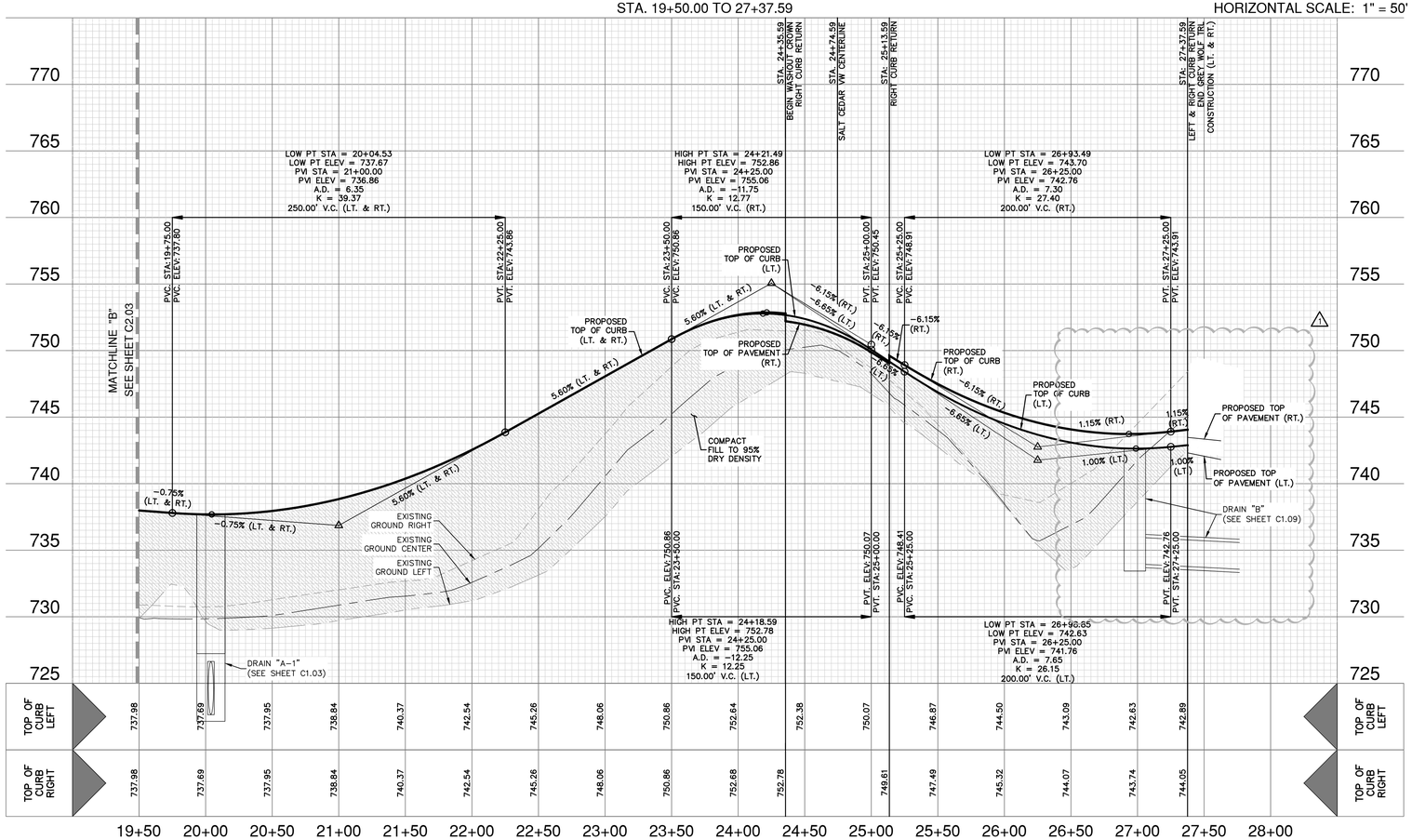
SCALE: 1"= 50'
0' 50' 100' 150'

STREET LEGEND

PROJECT LIMITS	
EXISTING CONTOUR	970
CORRECTED EFFECTIVE 100 YR FLOOD PLAIN	
PROPOSED 100 YR FLOOD PLAIN	
WHEELCHAIR RAMP	DWCR
CENTERLINE	CL
POINT OF CURVATURE	PC
POINT OF TANGENCY	PT
DRAINAGE FLOW ARROW	
TOP OF CURB SPOT ELEVATION	857.30
PAVEMENT ELEVATION	857.00(P) ×
WASHOUT CROWN SECTION	
SIDEWALK (SEE SHEETS C3.00 & C3.01 FOR DEVELOPER RESPONSIBILITY)	
DRIVEWAY	

GREY WOLF TRL
STA. 19+50.00 TO 27+37.59

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



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4. PER THE VERAMENDI DEVELOPMENT & DESIGN CONTROL DOCUMENT, SECTION 13.3.4, TABLE 13–2, LOCAL STREETS WERE DESIGNED FOR 25 MPH.

NO.	REMISION	DATE
1	MOVED LOT LINES AND DRAIN	09/25/25

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
9–5–2025

PAPE–DAWSON
1672 INDEPENDENCE DR., STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

GREY WOLF TRL - PLAN & PROFILE
STA. 19+50.00 TO 27+37.59

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C2.04

FOR PERMIT

Date: Sep 05, 2025, 2:11pm User ID: carcher
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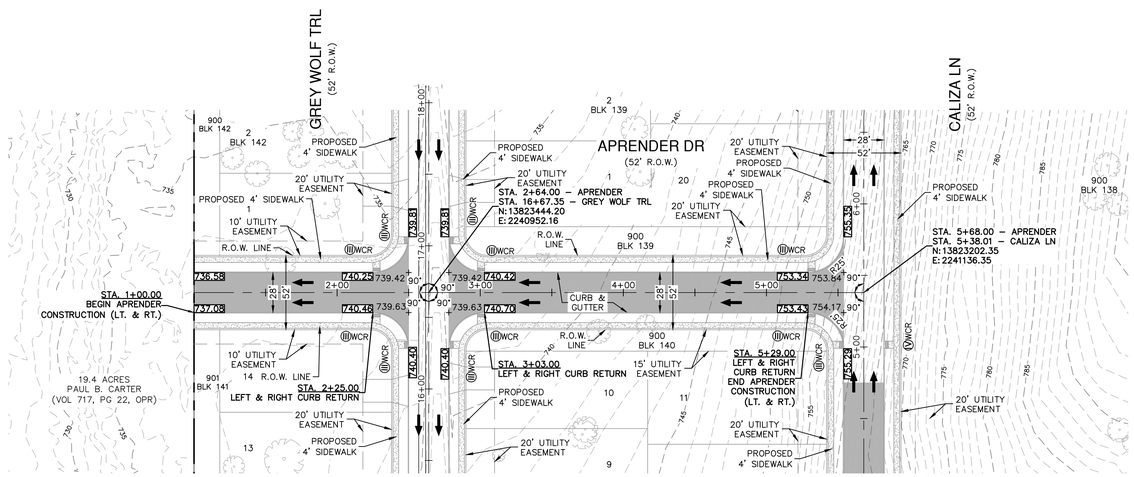

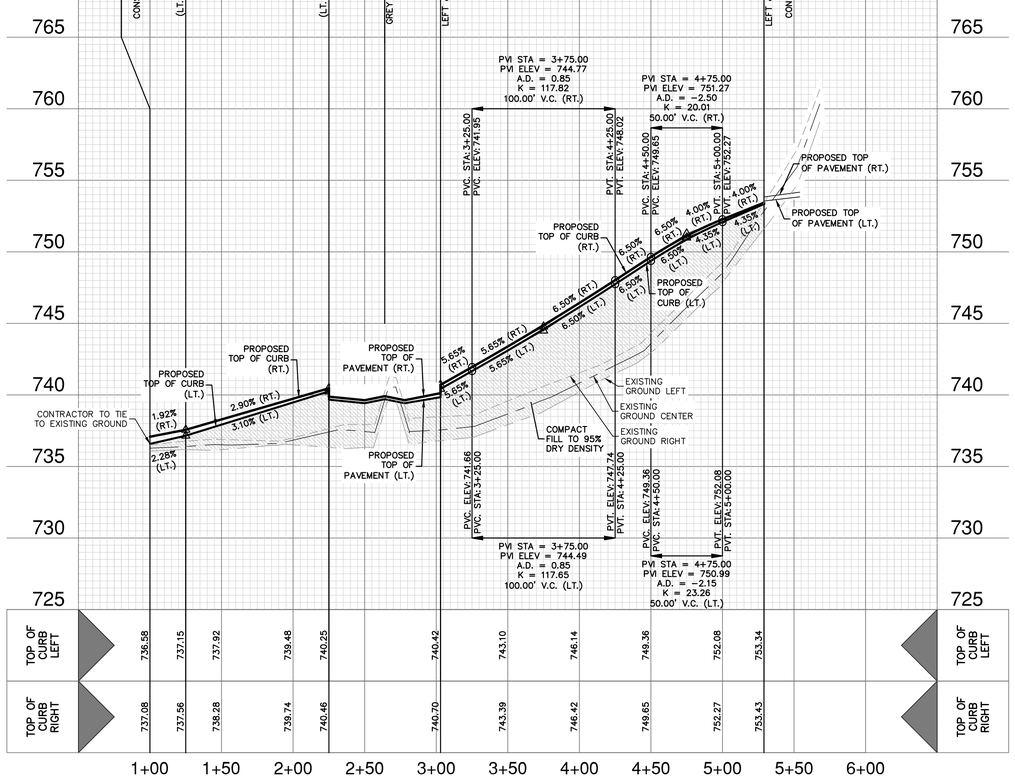

SCALE: 1"= 50'
0' 50' 100' 150'

STREET LEGEND

- PROJECT LIMITS
- EXISTING CONTOUR — 970
- CORRECTED EFFECTIVE 100 YR FLOOD PLAIN
- PROPOSED 100 YR FLOOD PLAIN
- WHEELCHAIR RAMP — (D)WCR
- CENTERLINE — CL
- POINT OF CURVATURE — PC
- POINT OF TANGENCY — PT
- DRAINAGE FLOW ARROW
- TOP OF CURB SPOT ELEVATION — 857.30
- PAVEMENT ELEVATION — 857.00(P) ×
- WASHOUT CROWN SECTION
- SIDEWALK (SEE SHEETS C3.00 & C3.01 FOR DEVELOPER RESPONSIBILITY)
- DRIVEWAY

STREET NOTES:

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4. PER THE VERAMENDI DEVELOPMENT & DESIGN CONTROL DOCUMENT, SECTION 13.3.4, TABLE 13–2, LOCAL STREETS WERE DESIGNED FOR 25 MPH.

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
3–28–2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

APRENDER DR - PLAN & PROFILE
STA. 1+00.00 TO 5+29.00

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED DRAWN CA
SHEET C2.05

FOR PERMIT

Date: Mar 28, 2025, 12:49pm User ID: gtelmer
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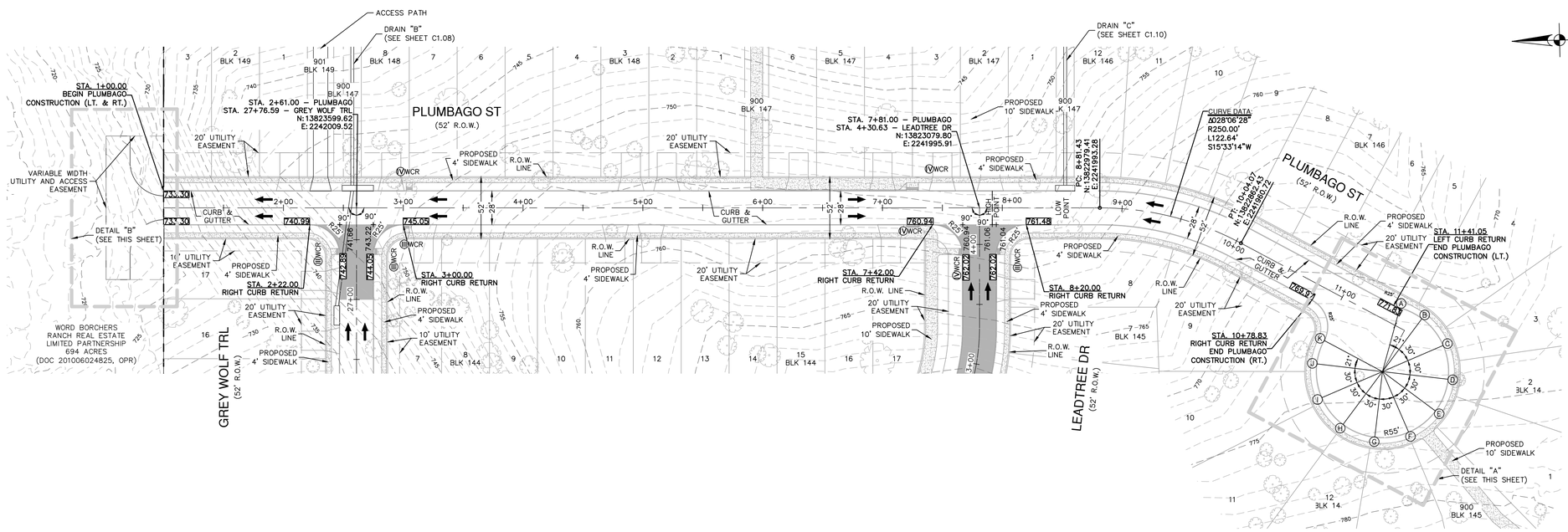


SCALE: 1"= 50'
0' 50' 100' 150'

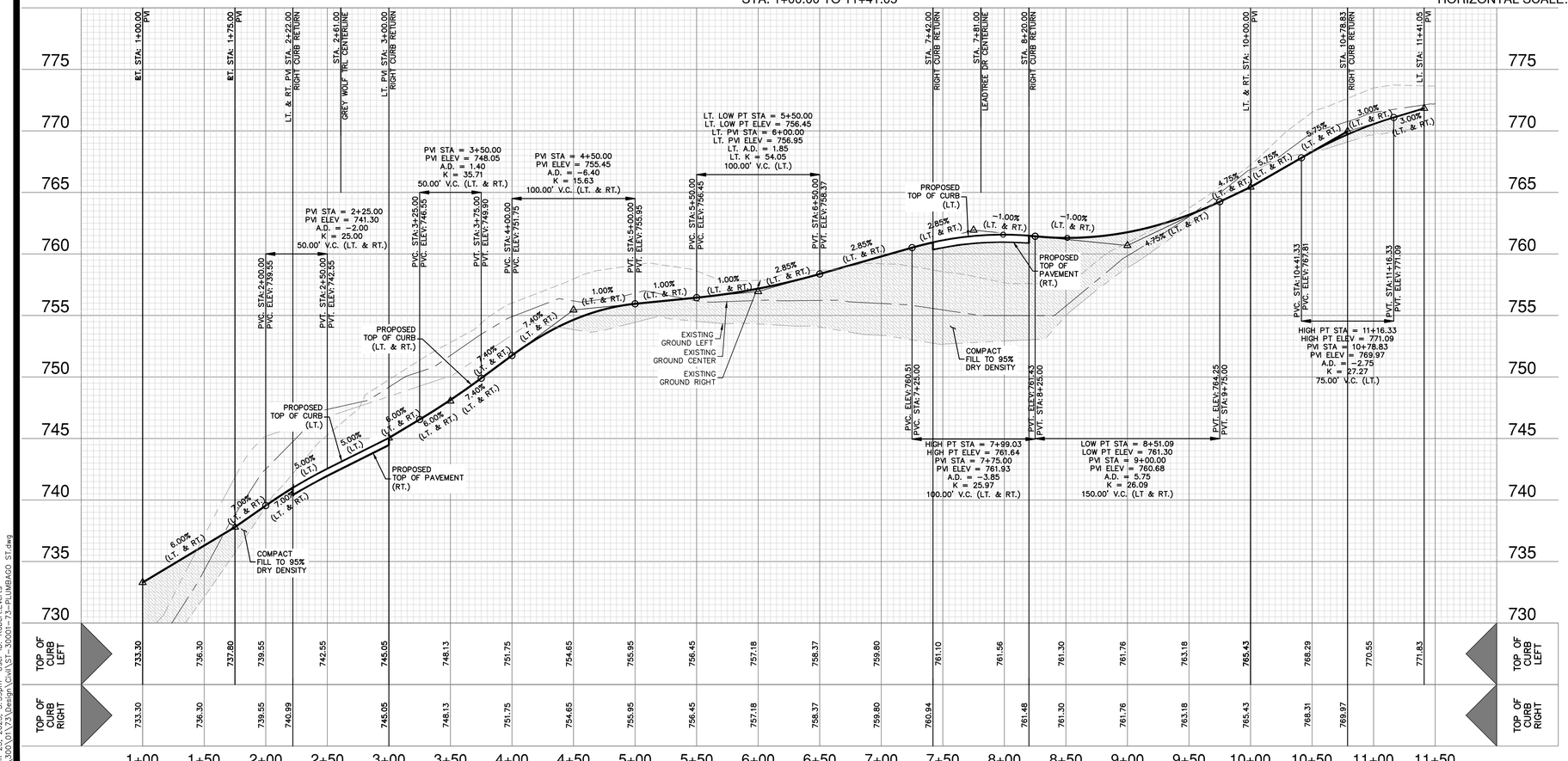
STREET LEGEND

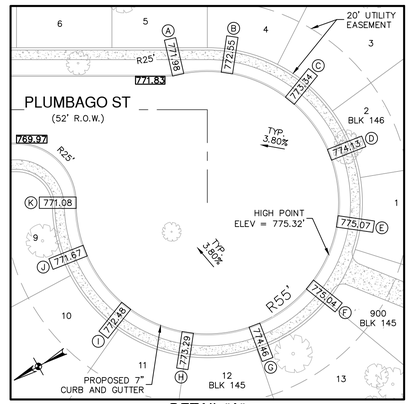
PROJECT LIMITS	
EXISTING CONTOUR	970
CORRECTED EFFECTIVE 100 YR FLOOD PLAIN	
PROPOSED 100 YR FLOOD PLAIN	
WHEELCHAIR RAMP	(D)WCR
CENTERLINE	CL
POINT OF CURVATURE	PC
POINT OF TANGENCY	PT
DRAINAGE FLOW ARROW	
TOP OF CURB SPOT ELEVATION	857.30
PAVEMENT ELEVATION	857.00(P) ×
WASHOUT CROWN SECTION	
SIDEWALK (SEE SHEETS C3.00 & C3.01 FOR DEVELOPER RESPONSIBILITY)	
DRIVEWAY	

TEMPORARY TURNAROUND
NOT-TO-SCALE

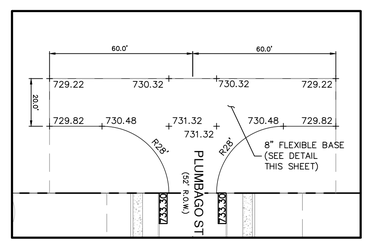
PLUMBAGO ST
STA. 1+00.00 TO 11+41.05

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





DETAIL "A"
1" = 30'



DETAIL "B"
SCALE: 1" = 30'

STREET NOTES:

1. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE–IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
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NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
6–25–2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

PLUMBAGO ST - PLAN & PROFILE
STA. 1+00.00 TO 11+41.05

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C2.06

FOR PERMIT

Date: Jun 25, 2025, 5:39pm User ID: RobertEsarts
File: P:\300\01\73\Design\Civil\ST-30001-73-PLUMBAGO ST.dwg
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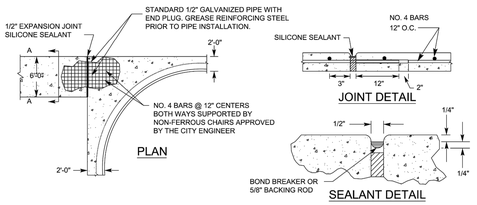
CROSS GUTTER



TYPICAL PROFILE AT LOCAL RESIDENTIAL STREET INTERSECTION

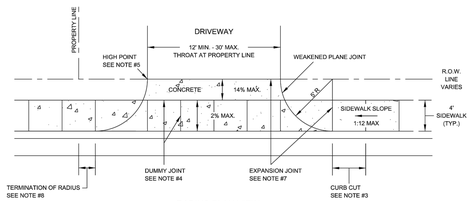
NOTES:

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

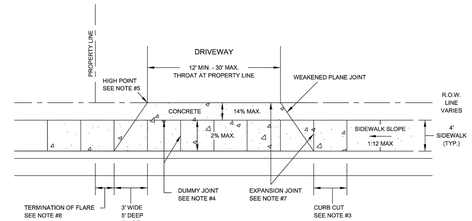
DATE APPROVED: 07/2008	DWG. NO: ST-020	SCALE: N.T.S.
DRAWN BY: RAS	SHEET: 1 OF 1	
FILENAME: CROSS GUTTER		

City of New Braunfels ENGINEERING DEPARTMENT

DRIVEWAY APRON
(RESIDENTIAL - ONE OR TWO FAMILY)



RADIUS PLAN VIEW

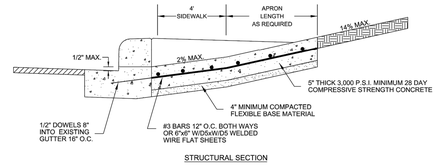


FLARE PLAN VIEW

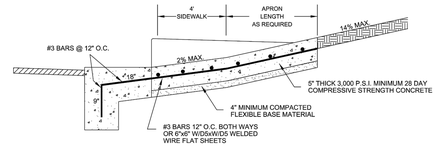
DATE APPROVED: 04/2016	DWG. NO: ST-014.1	SCALE: N.T.S.
DRAWN BY: RAS	SHEET: 1 OF 2	
FILENAME: DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY)		

City of New Braunfels ENGINEERING DEPARTMENT

DRIVEWAY APRON
(RESIDENTIAL - ONE OR TWO FAMILY)



STRUCTURAL SECTION



NO EXISTING CURB STRUCTURAL SECTION

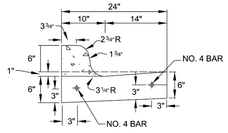
NOTES:

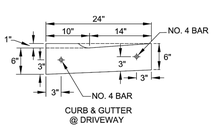
1. WHERE GUTTER DOES NOT EXIST DRIVEWAY APRON SHALL EXTEND TO EDGE OF ASPHALT AND SHALL HAVE A MINIMUM 6" WIDE 1' DEEP GRADE BEAM MONOLITHIC AND REINFORCED SIMILAR TO APRON.
2. PLACEMENT OF SIDEWALK SHOWN IS TYPICAL; HOWEVER, ALTERNATIVE SIDEWALK PLACEMENT COMMON TO DRIVEWAY APRON WILL BE CONSIDERED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

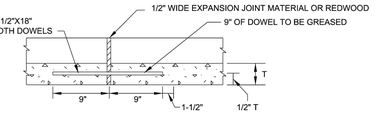
DATE APPROVED: 04/2016	DWG. NO: ST-014.2	SCALE: N.T.S.
DRAWN BY: RAS	SHEET: 2 OF 2	
FILENAME: DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY)		

City of New Braunfels ENGINEERING DEPARTMENT

CURB AND GUTTER







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

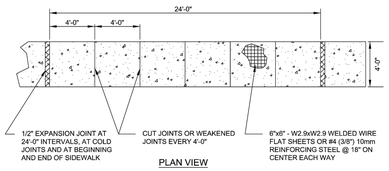
NOTES:

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

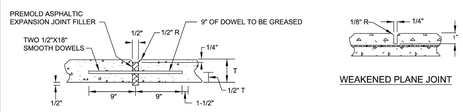
DATE APPROVED: 07/2008	DWG. NO: ST-013	SCALE: N.T.S.
DRAWN BY: RAS	SHEET: 1 OF 1	
FILENAME: CURB & GUTTER		

City of New Braunfels ENGINEERING DEPARTMENT

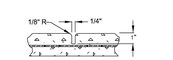
SIDEWALK
(RESIDENTIAL)



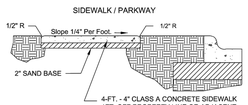
PLAN VIEW



EXPANSION JOINT



WEAKENED PLANE JOINT



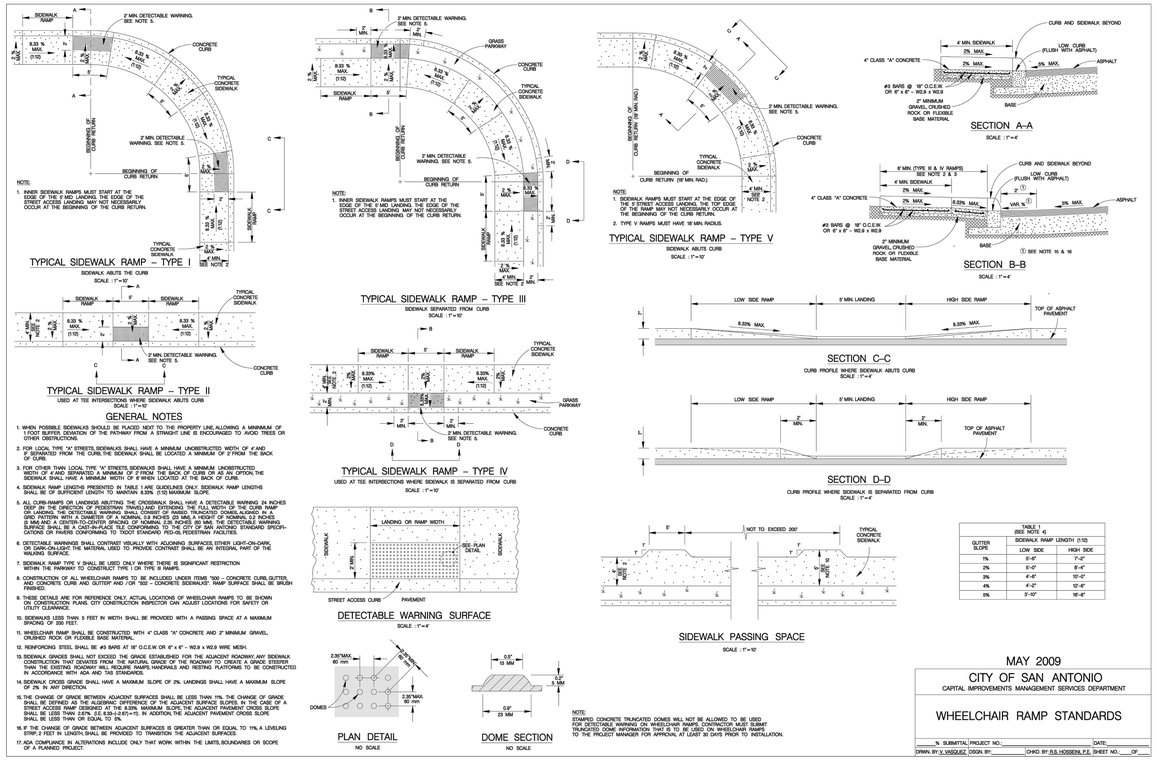
TYPICAL SECTION

NOTES:

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

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

City of New Braunfels ENGINEERING DEPARTMENT



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 2' FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS,SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND SEPARATED A MINIMUM OF 2' FROM THE BACK OF CURB OR AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 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 DRIVEWAY SHALL HAVE A DETECTABLE WARNING 24 INCHES (610 MM) WIDE EXTENDING THE FULL WIDTH AND DIRECTION OF THE CURB RAMP OR LANDING. THE DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES ALIGNED 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 A CAST-IN-PLACE TILE CONFORMING TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS OR PAVERS CONFORMING TO TXDOT STANDARD PED-02,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 "505 – CONCRETE CURB,GUTTER, AND CONCRETE CURB AND GUTTER" AND /OR "506 – CONCRETE SIDEWALKS". RAMP SURFACE SHALL BE BRUSH FINISHED.
9. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. CITY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
10. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM SPACING OF 200 FEET.
11. WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 2" MINIMUM GRAVEL, CRUSHED ROCK OR 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 2%.
16. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%,A LEVELING STRIP,2 FEET IN LENGTH,SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
17. ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS,BOUNDARIES OR SCOPE OF A PLANNED PROJECT.

NOTE:
1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 8' MID LANDING.THE EDGE OF THE STREET ACCESS LANDING MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.

NOTE:
1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' MID LANDING.THE EDGE OF THE STREET ACCESS LANDING MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.

NOTE:
1. SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' STREET ACCESS LANDING. THE TOP EDGE OF THE RAMP MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.
2. TYPE V RAMPS MUST HAVE 18' MIN. RADIUS.

TABLE 1
(SEE NOTE 4)

GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-8"	7'-2"
2%	5'-0"	6'-4"
3%	4'-8"	10'-0"
4%	4'-2"	12'-8"
5%	3'-10"	16'-0"

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

% SUBMITTAL	PROJECT NO.:
DATE:	
DRAWN BY: V. VASQUEZ	DESIGN BY:
CHKD. BY: R.S. HOSSEINI, P.E.	SHEET NO.: OF

DATE	REVISION
NO.	

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

07-3-2024
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
STREET DETAILS

PLAT NO.	
JOB NO.	30001-73
DATE	JULY 2024
DESIGNER	GDL
CHECKED	DRAWN CA
SHEET	C2.10

Date: Jun 20, 2024, 8:35am User ID: jessjavel
File: P:\3001\01\73\Design\Civil\STD-30001-73.dwg

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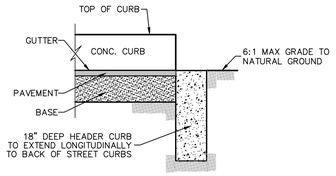
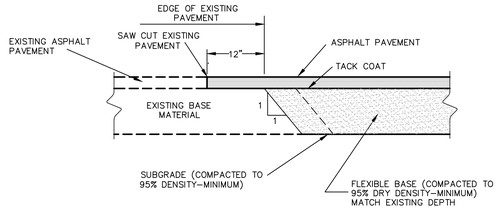


HEADER CURB

NOT TO SCALE



PAVEMENT JUNCTURE DETAIL

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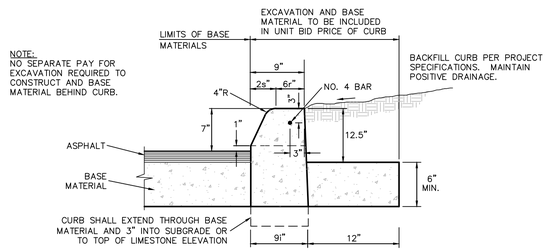

STANDARD CURB DETAIL

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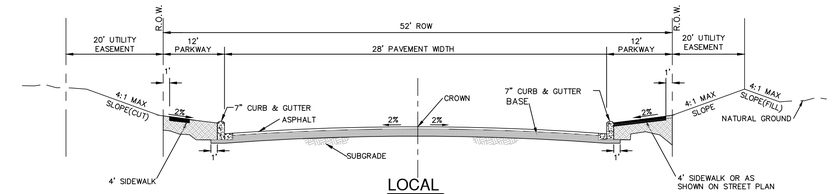


LOCAL
TYPICAL STREET SECTION

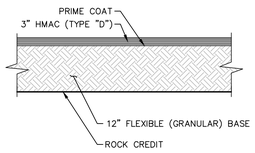
NOT-TO-SCALE

LOCAL STREET WITH INFORMAL ON-STREET PARKING
NEIGHBORHOOD CENTER, RESORT, NEIGHBORHOOD (MIXED DENSITY)
RESIDENTIAL AND PARK PLANNING AREAS
SALT CEDAR VW
LEADTREE DR
CALIZA LN
GREY WOLF TRL
APRENDER DR
PLUMBAGO ST

Pavement Section

3" Type D HMAC
12" Flexible Granular base
Rock credit

Total: 15"
Structural No: 3.00



LOCAL

NOT TO SCALE

SALT CEADAR VW
LEADTREE DR
CALIZA LN
GREY WOLF TRL
APREDER DR
PLUMBAGO ST

IF CLAYS ARE ENCOUNTERED AT THE FINISHED STREET SUBGRADE, CONTRACTOR SHALL FOLLOW GEOTECHNICAL RECOMMENDATIONS FOR UTILIZING SELECT FILL OR EXPOSING INTACT ROCK AND CONSTRUCT THE ROCK SUBGRADE PAVEMENT SECTION IN ACCORDANCE WITH THE GEOTECHNICAL LETTER BY RABA KISTNER CONSULTANTS, INC., PROJECT NO. ANA24-019-00, DATED OCTOBER 1, 2024.

NOTES:

1. PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORTS BY RABA KISTNER CONSULTANTS, INC., PROJECT NO. ANA24–016–00, DATED JUNE 6, 2024.
2. REFERENCE PROJECT GEOTECHNICAL REPORT, PROJECT SPECIFICATIONS AND CITY OF NEW BRAUNFELS SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.
4. ALL THE CLAYS SHOULD BE REMOVED TO EXPOSE THE MARL TO LIMESTONE SUBGRADE. IF THICKER CLAYS ARE ENCOUNTERED AT THE FINISHED STREET SUBGRADE, THEN THE GEOTECHNICAL RECOMMENDATIONS PRESENTED FOR CLAY SUBGRADES SHOULD BE USED. CONTACT RABA KISTNER FOR FURTHER DIRECTION IF THICKER CLAYS ARE ENCOUNTERED.
5. SUBGRADE SOILS SHALL BE TESTED FOR SOLUBLE SULFATE CONTENT PRIOR TO LIME TREATMENT.
6. THE FOLLOWING IS AN EXCERPT FROM THE PROJECT GEOTECHNICAL REPORT BY RABA KISTNER CONSULTANTS, INC., DATED MAY 8, 2020, PROJECT NO. ANA20–018–00 AND SUPPLEMENTAL LETTER DATED MAY 20, 2020.
   "WE RECOMMEND THAT PAVEMENTS AT THIS SITE INCLUDE A MINIMUM OF 6 IN. OF LIME–TREATED SUBGRADE. WE RECOMMEND THAT THE REQUIRED LIME CONTENT REDUCE THE PI OF THE SUBGRADE SOUL TO LESS THAN 20 AND INCREASES THE pH OF THE SOIL TO 12.4 OR GREATER. IF THE EXPOSED SOIL HAS A NATURAL PI OF LESS THAN 20 OR CONSISTS OF BEDROCK, THEN THE LIME TREATMENT MAY BE WAIVED."

"IF ON–SITE CLAY IS UTILIZED FOR FILL GRADING, IT SHOULD BE PLACED AND COMPACTED AS DISCUSSED IN THE ON–SITE CLAY FILL SECTION OF THIS REPORT. FOR AREAS THAT REQUIRE FILL AND WHERE PAVEMENT SECTIONS WILL UTILIZE THE CLAY SUBGRADE RECOMMENDATIONS, THE FINAL 6IN. OF FILL SHOULD BE LIME TREATED (SEE LIME TREATED SUBGRADE).

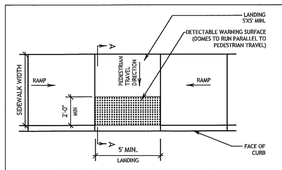
"IF FILL GRADING IS COMPLETED UTILIZING SELECT FILL IN ACCORDANCE WITH THE SELECT FILL SECTION OF THE ORIGINAL REPORT, OR IF NATIVE, INTACT ROCK IS EXPOSED PRIOR TO FILL PLACEMENT (IF NECESSARY), THE LIME TREATED SUBGRADE MAY BE ELIMINATED FROM THE PAVEMENT SECTION AND THE ROCK SUBGRADE RECOMMENDATIONS SHOULD BE UTILIZED. PER APPENDIX 10–A OF THE CITY OF SAN ANTONIO'S DESIGN GUIDANCE MANUAL A ROCK CREDIT CAN BE GIVEN TO THOSE PAVEMENT SECTIONS OVERLYING A ROCK SUBGRADE. THE ROCK CREDIT PROVIDED SHOULD BE EQUIVALENT TO A 6 IN. STRUCTURAL LAYER FOR STABILIZED SUBGRADE. THE ROCK SUBGRADE MAY ALSO BE UTILIZED FOR THOSE PAVEMENTS THAT ARE PLACED DIRECTLY OVER BOX CULVERTS."

"IF EXCAVATIONS EXTEND TO SIGNIFICANT DEPTHS INTO THE LIMESTONE FORMATION, CONSIDERATION CAN BE GIVEN TO UTILIZING THE EXCAVATED LIMESTONE AS "ALTERNATIVE SELECT FILL." HOWEVER, PROCESSING OF THE EXCAVATED MATERIAL WILL BE REQUIRED TO REDUCE THE MAXIMUM PARTICLE SIZE TO 4 IN. FURTHERMORE, SPECIAL CARE WILL BE REQUIRED DURING EXCAVATION ACTIVITIES TO SEPARATE ORGANICS AND ANY PLASTIC CLAY SEAMS ENCOUNTERED. ALTERNATIVE SELECT FILL MATERIALS SHALL HAVE A MAXIMUM LIQUID LIMIT NOT EXCEEDING 40 AND A PLASTICITY INDEX BETWEEN 7 AND 20. IN ADDITION, IF THESE MATERIALS ARE UTILIZED, GRAIN SIZE ANALYSIS AND ATTERBERG LIMITS MUST BE PERFORMED DURING PLACEMENT AT A RATE OF ONE TEST PER 5,000 CUBIC YARDS OF MATERIAL DUE TO THE HIGH DEGREE OF VARIABILITY ASSOCITED WITH PIT–RUN MATERIALS. IF ON–SITE MATERIALS CANNOT BE PROCESSED TO MEET THE REQUIRED CRITERIA, IMPORTED SELECT FILL MATERIAL SHOULD BE UTILIZED"

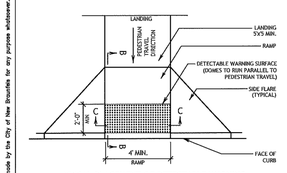
"FOR LIME TREATED SUBGRADE SOILS SHOULD BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DENSITY AT A MOISTURE CONTENT WITHIN THE RANGE OF OPTIMUM MOISTURE CONTENT TO 3 PERCENTAGE POINTS ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY TEX–113–E. BASE ON THE RESULT OF THE LIME SERIES CURVE, WE RECOMMEND THAT AT LEAST 3 PERCENT HYDRATED LIME BY WEIGHT BE USED TO REDUCE THE PI OF THE SUBGRADE CLAYS. IF DRY PLACEMENT OF LIME IS USED DURING CONSTRUCTION, AN ADDITIONAL 1 PERCENT OF LIME SHOULD BE ADDED TO ACCOUNT FOR EXPECTED LOSS."

"UPON COMPLETION OF THE PROOFROLLING OPERATIONS AND JUST PRIOR TO FILL PLACEMENT OR FOUNDATION CONSTRUCTION, THE EXPOSED CLAY SUBGRADES SHOULD BE MOISTURE CONDITIONED BY SCARIFYING TO A MINIMUM DEPTH OF 6 IN. AND RECOMPACTING TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DENSITY DETERMINED FROM TXDOT, TEX–114–E OR ASTM D698 COMPACTION TEST."

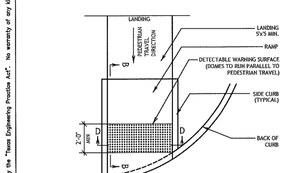
"SELECT FILL SHOULD BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8 IN. IN THICKNESS AND COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY TXDOT, TEX–113–E, COMPACTION TEST, OR 98 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY ASTM D698."



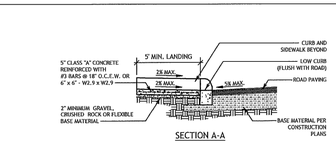
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING FOR PARALLEL CURB RAMP.



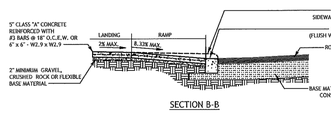
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE FOR PERPENDICULAR CURB RAMP.



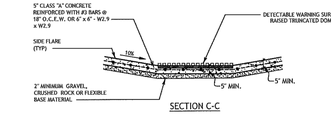
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN FOR DIRECTIONAL CURB RAMP.



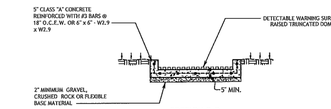
SECTION A-A



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'SQ') 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' (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 2.57% (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.

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.

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

NO.	REVISION	DATE
1	INCREASE LOCAL STREET SECTION	07/25/24

12-30-2024

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

STREET DETAILS

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GF DRAWN CA
SHEET C2.11

Date: Oct 04, 2024, 9:26am User ID: jesquivel
File: P:\300\01\73\Design\Civil\STD-30001-73.dwg

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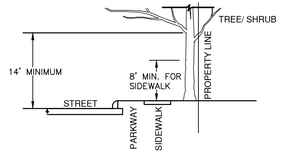
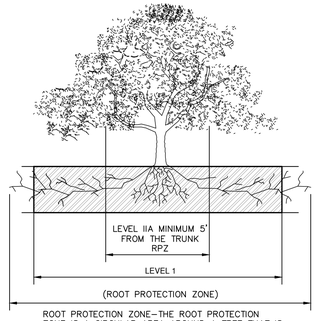


FIGURE NO. 2

A MINIMUM BRANCH CLEARANCE OF 14 FEET ABOVE STREET ELEVATION MUST BE MAINTAINED FROM THE PROPERTY LINE TO THE CURB LINE AS PRESCRIBED BY PROJECT MANAGER.

BRANCH CLEARANCE DETAIL

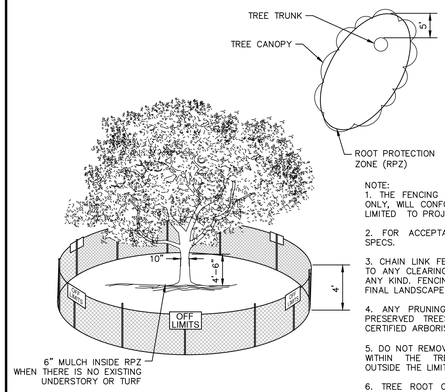
NOT TO SCALE



ROOT PROTECTION ZONE—THE ROOT PROTECTION ZONE IS A CIRCULAR AREA AROUND A TREE THAT IS BASED ON THE DIAMETER OF THE TREE. EACH 1 INCH DIAMETER OF THE TREE EQUALS 1 FOOT RADIUS FOR ROOT PROTECTION ZONE.

ELEVATION

NOT TO SCALE



NOTE:
1. THE FENCING SHOWN ABOVE IS DIAGRAMATIC ONLY, WILL CONFORM TO THE DRIP LINE AND IS LIMITED TO PROJECT BOUNDARY.

2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECS.

3. CHAIN LINK FENCE SHALL BE ERECTED PRIOR TO ANY CLEARING, GRUBBING OR SITE WORK OF ANY KIND. FENCING SHALL STAY ERECTED UNTIL FINAL LANDSCAPE OPERATIONS COMMENCE.

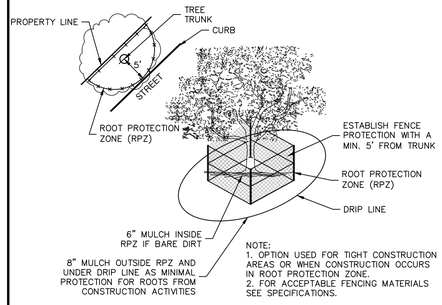
4. ANY PRUNING TO PROVIDE CLEARANCE TO PRESERVED TREES MUST BE APPROVED BY A CERTIFIED ARBORIST.

5. DO NOT REMOVE ANY TREES OVER 1" CALIPER WITHIN THE TREE PROTECTION FENCING OR OUTSIDE THE LIMITS OF CONSTRUCTION.

6. TREE ROOT CUTS SHALL BE MECHANICALLY CUT AT THE DIRECTION OF A CERTIFIED ARBORIST. CUTS SHALL BE CLEAN CUTS, WITHOUT PULLING OR TEARING.

TREE PROTECTION ZONE

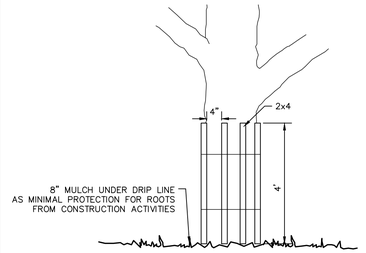
NOT TO SCALE



NOTE:
1. OPTION USED FOR TIGHT CONSTRUCTION AREAS OR WHEN CONSTRUCTION OCCURS IN ROOT PROTECTION ZONE.
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

LEVEL II A FENCE PROTECTION

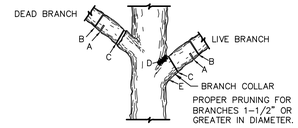
NOT TO SCALE



NOTE:
WRAP TREE TRUCK WITH 2"X4" STUDS AND ROPE OR BAND IN PLACE AS NEEDED TO PROTECT TREES IN WORK AREAS.

LEVEL II B FENCE PROTECTION

NOT TO SCALE



PROPER PRUNING FOR BRANCHES 1-1/2" OR GREATER IN DIAMETER.

NOTE:
DO NOT CUT FROM D TO E.

A. FIRST CUT – TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.
B. SECOND CUT – TO REDUCE THE WEIGHT OF BRANCH.
C. FINAL CUT – ALLOW FOR HEALING COLLAR BUT NO STUBS

FOR OAKS ONLY:
PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 20 MIN TO PREVENT THE SPREAD OF OAK WILT.

BRANCH PRUNING

NOT TO SCALE

NO.	REVISION	DATE

07-3-2024
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

STREET DETAILS

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C2.12

FOR PERMIT

Date: Jun 20, 2024, 8:35am User ID: jesquivel
File: P:\300\01\73\Design\Civil\STDT-30001-73.dwg

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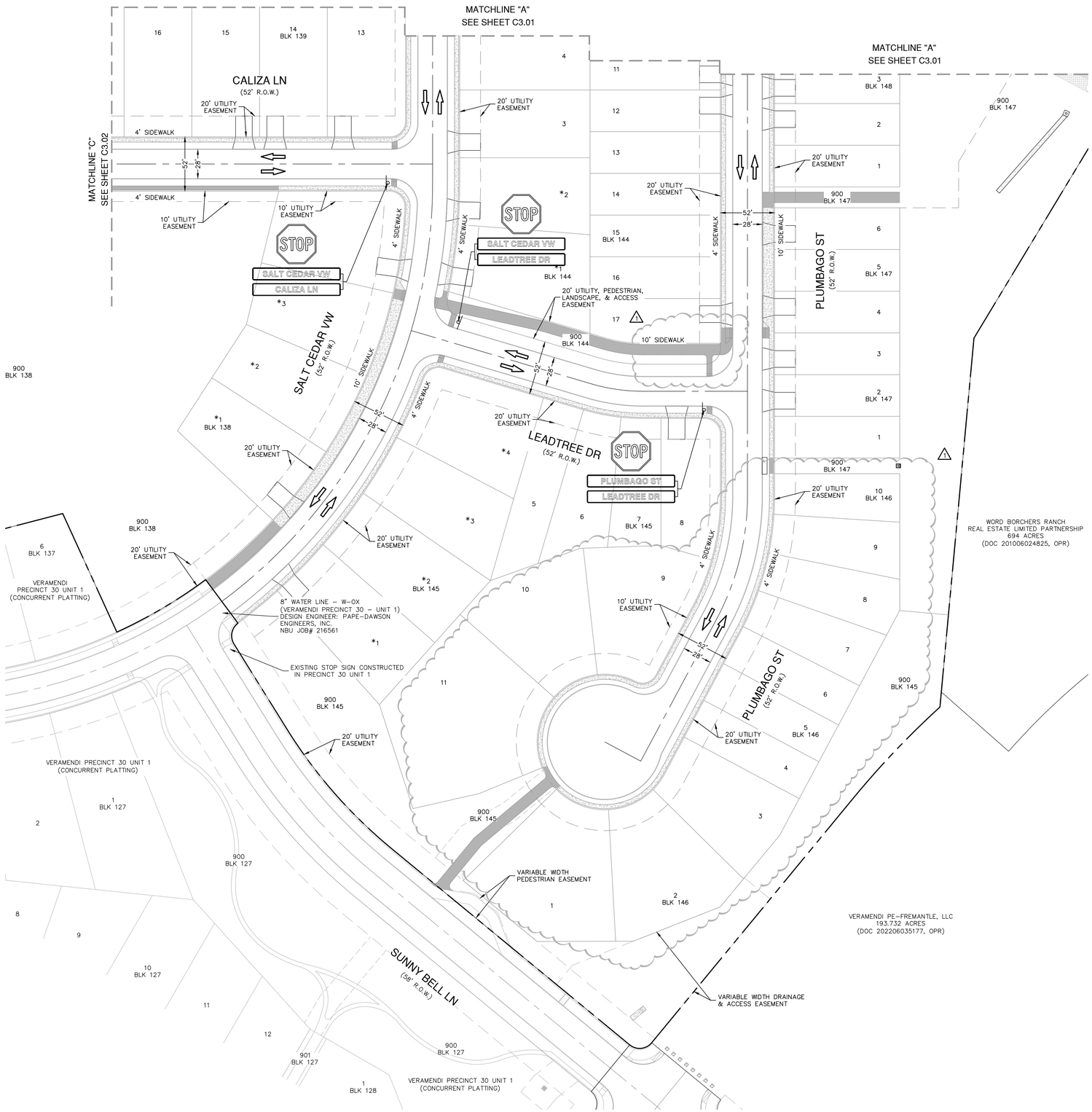
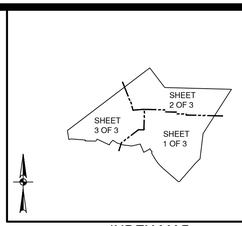
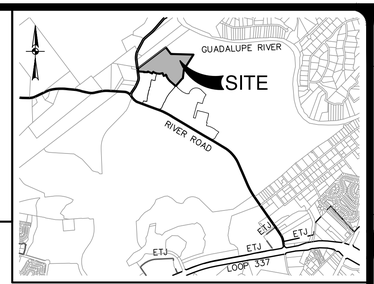




INDEX MAP
1" = 1000'



LOCATION MAP

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

LEGEND

- UNIT BOUNDARY
- CURB INLET
- TRAFFIC FLOW ARROW
- SIDEWALK (HOMEBUILDER RESPONSIBILITY)
- SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)
- Street Name — STANDARD COMAL COUNTY NAME SIGN 9XSTD (NOTE: STREETS MUST SHOW BLOCK NUMBERS)
- SPEED LIMIT 25 — R2-1 24X30
- STOP — R1-1 30"X30"
- OM4-3 END OF ROAD MARKER

SIDEWALK NOTES:

1. FOUR (4) FOOT WIDE SIDEWALK WILL BE CONSTRUCTED BY THE HOME BUILDER PER CITY STANDARDS AT THE TIME OF BUILDING CONSTRUCTION ALONG:
   a. APRENDER
   b. CALIZA LN
   c. GREY WOLF TRL
   d. LEADTREE DR
   e. PLUMBAGO ST
   f. SALT CEDAR VW
2. FOUR (4) FOOT WIDE SIDEWALK WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION STREET CONSTRUCTION ALONG:
   a. APRENDER – LOT 901, BLOCK 141; LOT 900, BLOCK 142; LOT 900, BLOCK 140; LOT 900, BLOCK 139
   b. CALIZA LN – LOT 900, BLOCK 139; LOT 900, BLOCK 140; LOT 900, BLOCK 138
   c. GREY WOLF TRL – LOT 900, BLOCK 142; LOT 900, BLOCK 139
   d. PLUMBAGO ST – LOT 900, BLOCK 147; LOT 900, BLOCK 144; LOT 900, BLOCK 145
   e. SALT CEDAR VW – LOT 900, BLOCK 144
3. TEN (10) FOOT WIDE SIDEWALK WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION CONSTRUCTION ALONG:
   a. LEADTREE DR – LOT 900, BLOCK 144
   b. SALT CEDAR VW – LOT 900, BLOCK 138
   c. PLUMBAGO ST – LOTS 4–6, BLOCK 147
4. A TEN (10) FOOT SIDEWALK WILL BE CONSTRUCTED BY THE HOME BUILDER PER CITY STANDARDS AT THE TIME OF BUILDING CONSTRUCTION ALONG:
   a. SALT CEDAR VW – LOTS 1–3, BLOCK 138
5. A TEN (10) FOOT SIDEWALK WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION CONSTRUCTION WITHIN:
   a. LOT 900, BLOCK 145
   b. LOT 900, BLOCK 147

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. COMAL 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.

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.	REMARK	DATE
1	MOVED LOT LINES AND CHANGED SIDEWALK	09/25/25

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

OVERALL SIGNAGE PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED CA DRAWN CA
SHEET C3.00

FOR PERMIT

Date: Sep 05, 2025, 2:11pm User ID: corcher
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SIDEWALK NOTES:

1. FOUR (4) FOOT WIDE SIDEWALK WILL BE CONSTRUCTED BY THE HOME BUILDER PER CITY STANDARDS AT THE TIME OF BUILDING CONSTRUCTION ALONG:
   a. APRENDER
   b. CALIZA LN
   c. GREY WOLF TRL
   d. LEADTREE DR
   e. PLUMBAGO ST
   f. SALT CEDAR VW
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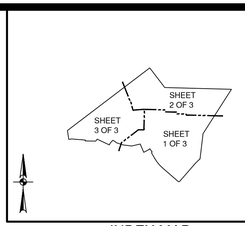
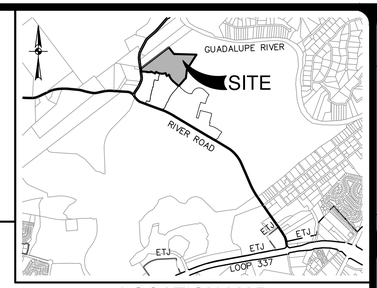
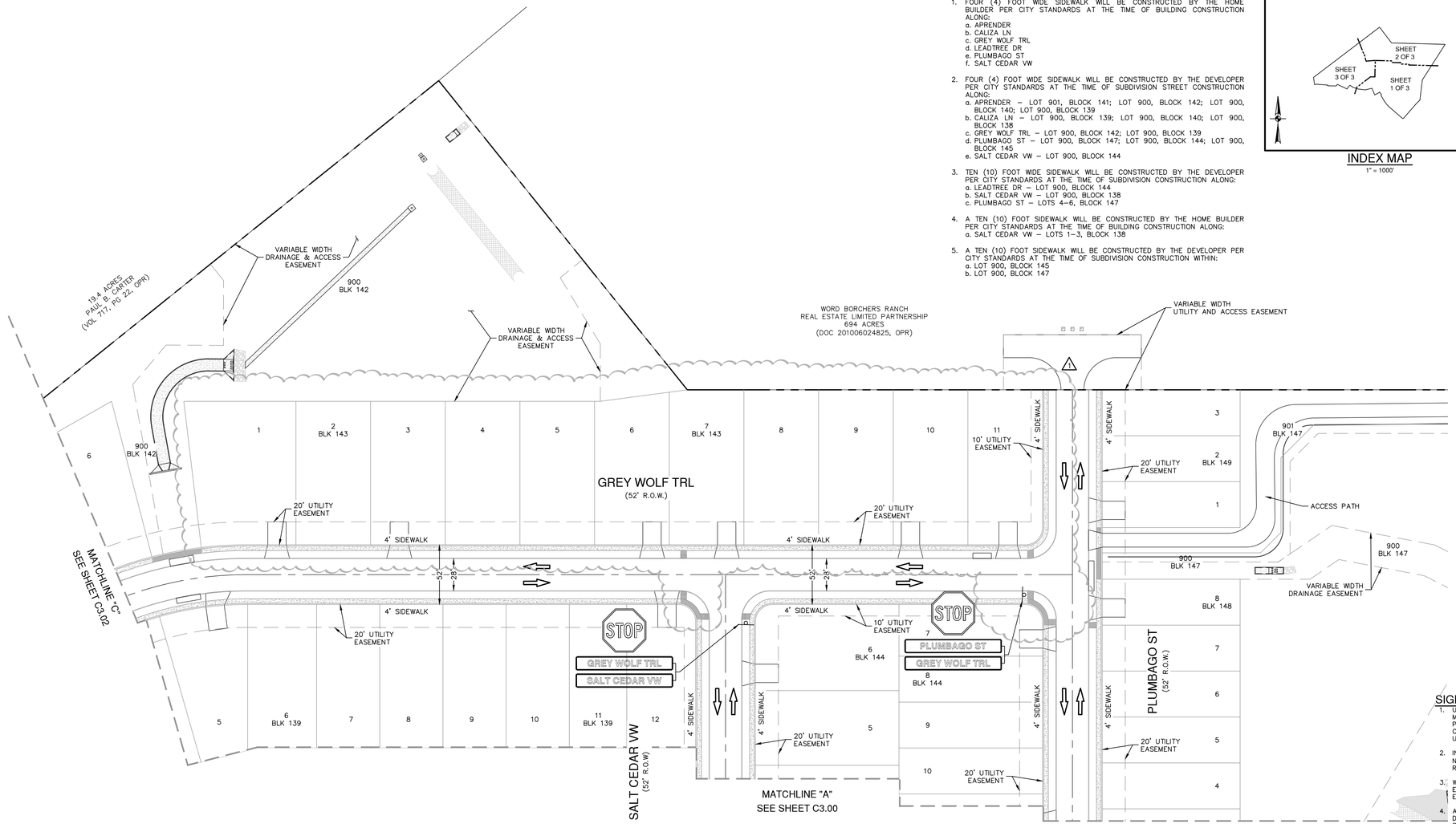


INDEX MAP
1" = 1000'



LOCATION MAP



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

LEGEND

- UNIT BOUNDARY
- CURB INLET
- TRAFFIC FLOW ARROW
- SIDEWALK (HOMEBUILDER RESPONSIBILITY)
- SIDEWALK (SITEWORK CONTRACTOR RESPONSIBILITY)
- Street Name — STANDARD COMAL COUNTY NAME SIGN 9XSTD (NOTE: STREETS MUST SHOW BLOCK NUMBERS)
- SPEED LIMIT 25 — R2-1 24X30
- STOP — R1-1 30"X30"
- OM4-3 END OF ROAD MARKER

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.
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11. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AS PER TXDOT ITEM NO. 666.
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TRENCH EXCAVATION SAFETY PROTECTION:

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NO.	REVISION	DATE
1	MOVED LOT LINES AND MOVED DRAIN INLET	09/05/25
	DEVELOPER BUILT SIDEWALKS	

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
OVERALL SIGNAGE PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C3.01

FOR PERMIT

Date: Sep 05, 2025, 2:11pm User ID: corcher
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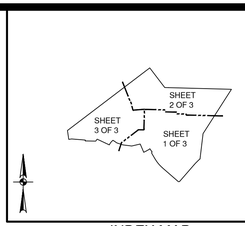

INDEX MAP
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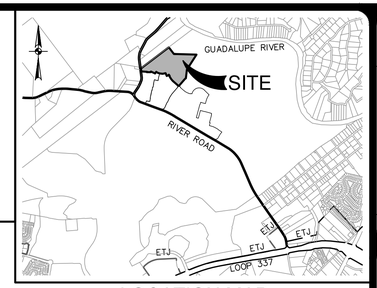

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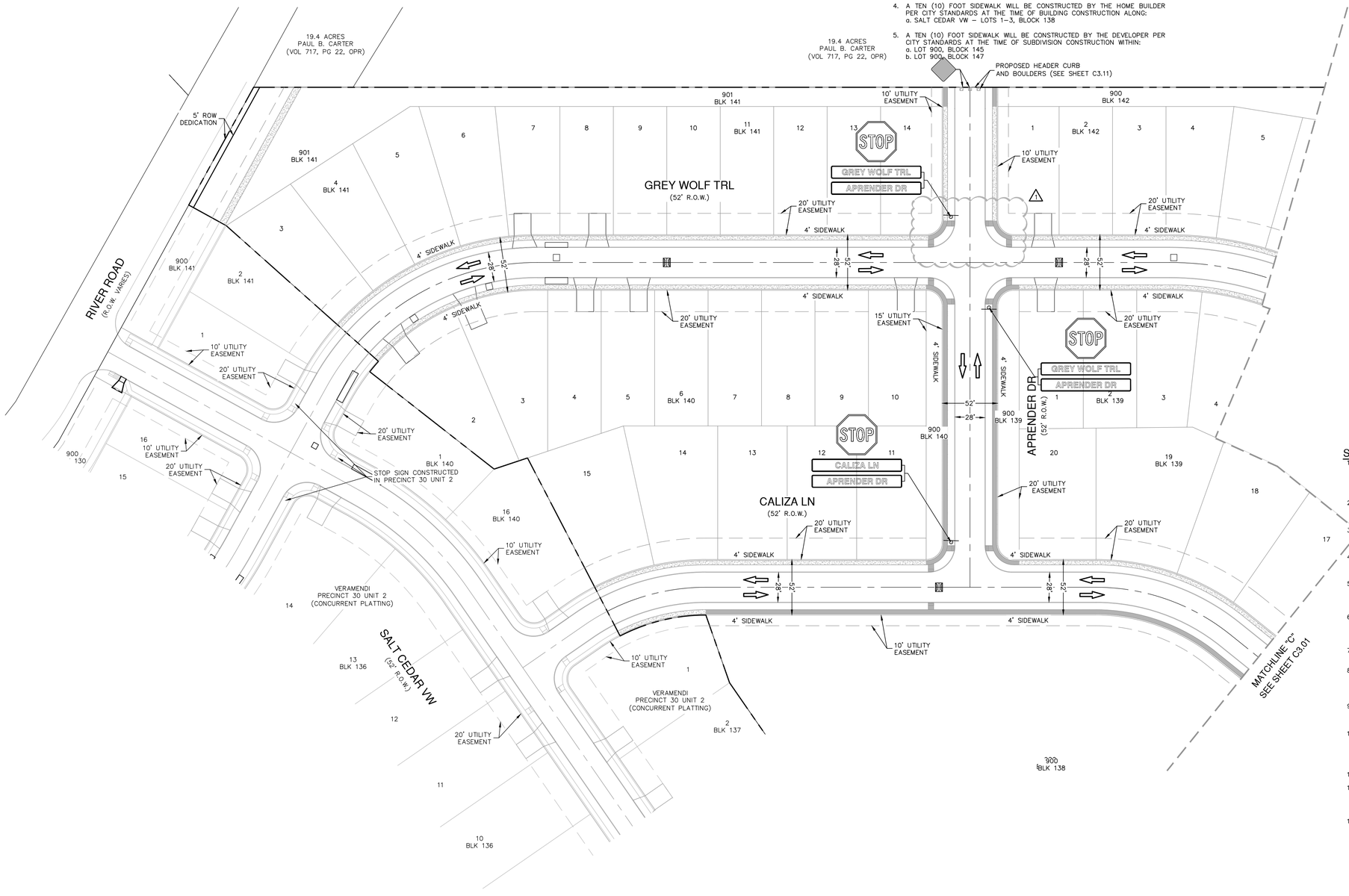

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NO.	REVISION	DATE
1	CHANGED DEVELOPER BUILT SIDEWALKS	09/05/25

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

OVERALL SIGNAGE PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C3.02

FOR PERMIT

Date: Sep 05, 2025, 2:11pm User ID: corcher
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DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by the Texas Department of Transportation for any purpose whatsoever. The Texas Department of Transportation assumes no responsibility for the completeness or accuracy of this standard and will not be responsible for any loss caused from the reuse of this standard.

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))
SCH80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

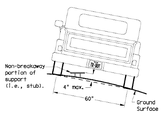
Anchor Type

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

Sign Mounting Designation

P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
IS REQUIRED
!EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
EW = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
WC = 1.12 R/FT Wing Channel (see SMD(SLIP-1) to (SLIP-3))
EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

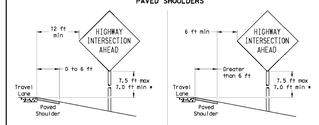
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, more than 4 inches above a 60-inch stand (i.e., typical space between wheel pads).

SIGN LOCATION

PAVED SHOULDERS



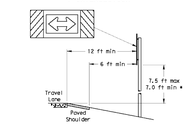
LESS THAN 6 FT. WIDE

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.

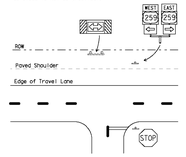
GREATER THAN 6 FT. WIDE

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.

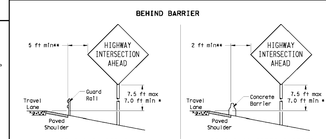
T-INTERSECTION



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 backside.

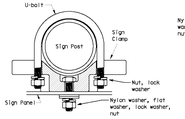
The maximum values may be increased when directed by the Engineer.

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

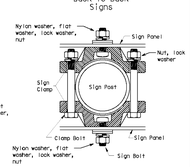
The website address is:
https://www.txdot.gov/publications/traffic.htm

TYPICAL SIGN ATTACHMENT DETAIL

Single Signs



Back-to-Back Signs



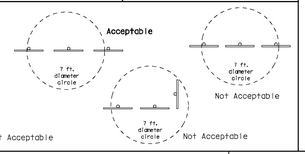
Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

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.

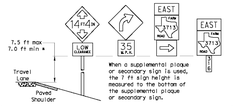
Sign clamps may be either the specific size clamp or the universal clamp.

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"

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

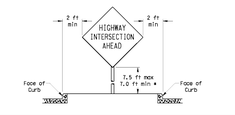


SIGNS WITH PLAQUES

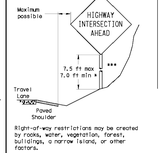


When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

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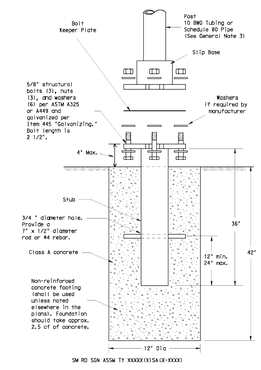
9-08 REVISIONS	DIST	COUNTY	HWY	SHEET NO.
	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

26A

TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



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

NOTE

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

GENERAL NOTES:

1. Slip base shall be permanently marked to indicate manufacturer, Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   0.134" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Outside diameter uncoated shall be within the range of 0.122" to 0.138".
   Outside diameter galvanized shall be within the range of 2.867" to 2.883"
   Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
   Schedule 80 Pipe (2.875" outside diameter)
   0.276" nominal wall thickness
   Steel tubing per ASTM A500 Gr C
   Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
   46,000 PSI minimum yield strength
   62,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is:
   http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be bolted except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

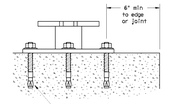
Foundation

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

Support

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

CONCRETE ANCHOR



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

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per SMD-8100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time as per manufacturer's recommendations. Top of stud shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-1)-08

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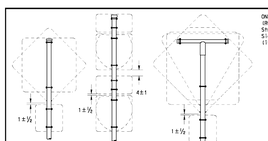
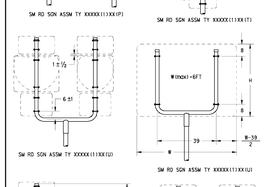
9-08 REVISIONS	DIST	COUNTY	HWY	SHEET NO.
	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

26B



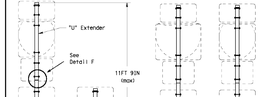
SM RD SGN ASSM TY XXXXX(1)XX(T)

SM RD SGN ASSM TY XXXXX(1)XX(U)



SM RD SGN ASSM TY SB01(1)XX(U-1EXT)

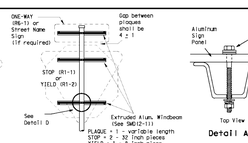
SM RD SGN ASSM TY SB01(1)XX(U-2EXT)



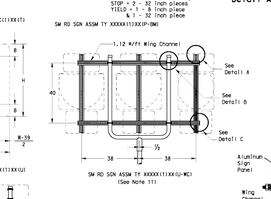
SM RD SGN ASSM TY XXXXX(1)XX(T)
(* - See Note 12)

All dimensions are in english unless detailed otherwise.

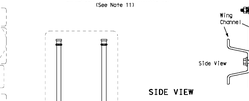
SM RD SGN ASSM TY XXXXX(1)XX(T)



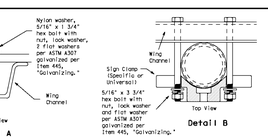
SM RD SGN ASSM TY XXXXX(1)XX(U-WC)
(See Note 11)



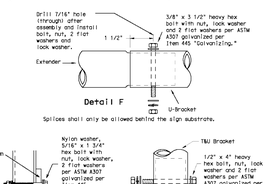
SM RD SGN ASSM TY SB01(1)XX(U-2EXT)



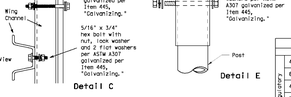
SM RD SGN ASSM TY XXXXX(2)XX(P)



Splices shall only be allowed behind the sign substrate.



SIDE VIEW



FRICTION CAP DETAIL

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

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

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

GENERAL NOTES:

1. SIGN SUPPORT | # OF POSTS | MAX. SIGN AREA
   10 BWG | 1 | 16 SF
   10 BWG | 2 | 32 SF
   Sch 80 | 1 | 32 SF
   Sch 80 | 2 | 64 SF
2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable area for the sign.
11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with friction caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY SB01(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY SB01(1)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-2)-08

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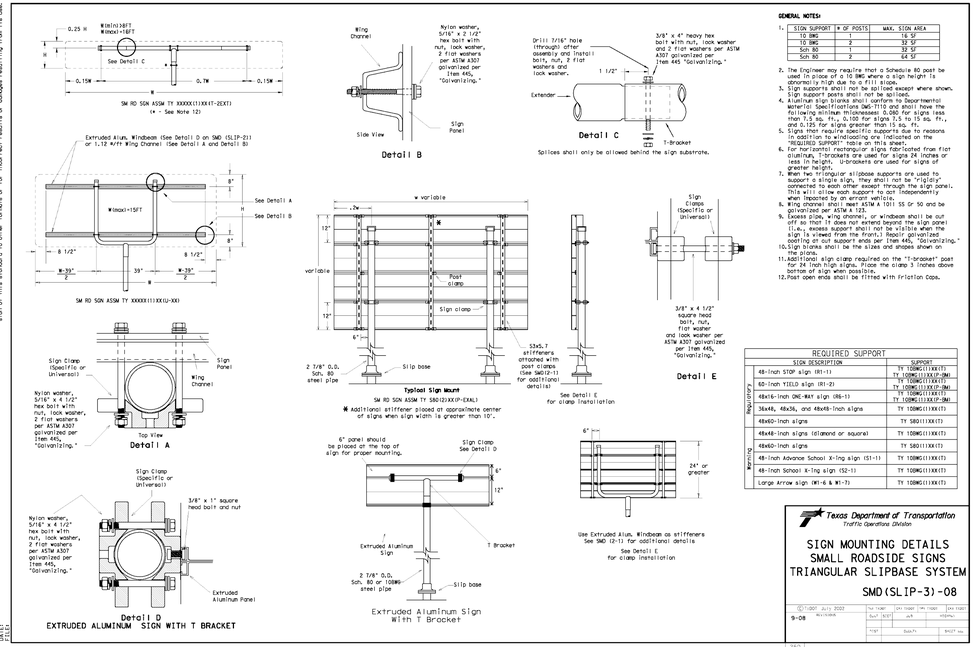
9-08 REVISIONS	DIST	COUNTY	HWY	SHEET NO.
	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

26C



SM RD SGN ASSM TY XXXXX(1)XX(T-2EXT)
(* - See Note 12)

SM RD SGN ASSM TY XXXXX(1)XX(T-EXT)

Splices shall only be allowed behind the sign substrate.

SM RD SGN ASSM TY XXXXX(1)XX(U-XXX)

Typical Sign Mount

SM RD SGN ASSM TY SBG12(XX)P-EXAL)

* Additional stiffener placed at approximate center of signs when sign width is greater than 10'.

See Detail E for clamp installation

Extruded Aluminum Sign With T Bracket

EXTRUDED ALUMINUM SIGN WITH T BRACKET

Use Extruded Alum. Windbeam as stiffeners See SMD (I2-11) for additional details

See Detail E for clamp installation

GENERAL NOTES:

1. SIGN SUPPORT | # OF POSTS | MAX. SIGN AREA
   10 BWG | 1 | 16 SF
   10 BWG | 2 | 32 SF
   Sch 80 | 1 | 32 SF
   Sch 80 | 2 | 64 SF
2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Sign blanks shall be the sizes and shapes shown on the plans.
11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with friction caps.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY SB01(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY SB01(1)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

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9-08 REVISIONS	DIST	COUNTY	HWY	SHEET NO.
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	DIST	COUNTY		SHEET NO.

26D

NO.	REVISION	DATE

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07-3-2024
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

SIGNAGE DETAILS

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C3.10

FOR PERMIT

Date: Jun 20, 2024, 8:36am User ID: jesquivel
File: P:\30001\01\73\Design\Civil\SIGDT-30001-73.dwg

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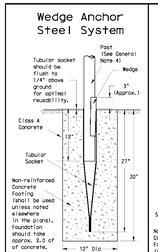
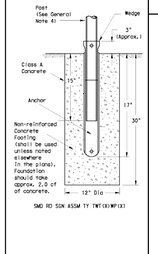
Wedge Anchor Steel System



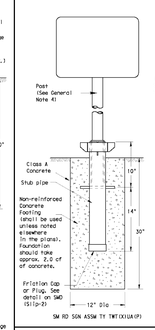
SM RD SGN ASSM TY TWT(X)WS(X)

Wedge Anchor High Density Polyethylene (HDPE) System



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

Universal Anchor System with Thin-Walled Tubing Post



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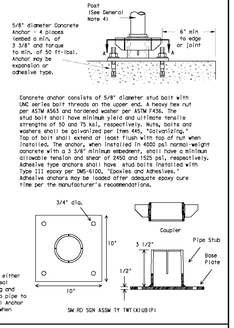
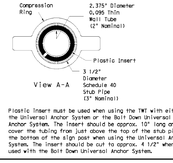




Plastic Insert must be used when using the TWT with either the Universal Anchor System or the Bolt Down Universal Anchor System. The Insert should be approx. 10" long and cover the tubing from just above the top of the stub pipe to the bottom of the sign post when using the Universal Anchor System. The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

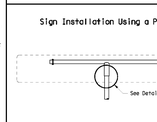
SM RD SGN ASSM TY TWT(X)U(P)

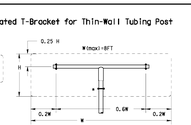
GENERAL NOTES:
1. The Wedge Anchor System and the Universal Anchor System with thin wall tubing post may be used to support up to 10 square feet of sign area.
2. The tubular socket, wedge and prefabricated T-bracket shall be permanently marked to indicate manufacturer. Method, design, and location of 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)
   0.095" nominal wall thickness
   Seamless or electric-resistance welded steel tubing
   Steel shall be HSLAS Or 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the followings
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   Wall Thickness (TWT) Tolerance
   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"
   Galvanization per ASTM 123 or ASTM A653 G210, for precoated 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. Sign 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(WEDGE)-08 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. 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.

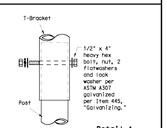
UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURE
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a 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(UEGN)-08 must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. Insert tubular post into 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.

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





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



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

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
WEDGE & UNIVERSAL ANCHOR
WITH THIN WALL TUBING POST
SMD(TWT)-08

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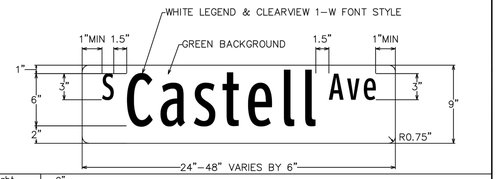
9-08	REVISIONS	CONT	SECT	JOB
		DIST	COUNTY	SHEET NO.

DATE: FILE:

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.

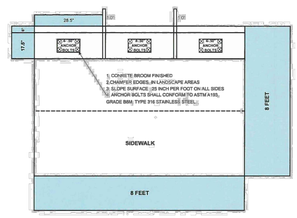
Street Sign Detail - Ground Mount			
ISSUE DATE: February 2013	DWG. NO: ST-024	SCALE: N.T.S.	
DRAWN BY: RAS	CONTACT: GF	SHEET: 1 OF 1	

City of New Braunfels

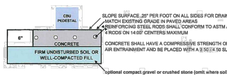
ENGINEERING DIVISION
424 S. CASTELL AVE.
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4020
FAX: 830 626 3600

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

UNITED STATES POSTAL SERVICE



1 CBU 9" DEEP X 4" WIDE TO INCLUDE SIDEWALK
2 CBU'S 9" DEEP X 9" WIDE TO INCLUDE SIDEWALK
3 CBU'S 9" DEEP X 9" WIDE TO INCLUDE SIDEWALK
4 CBU'S 9" DEEP X 11" WIDE TO INCLUDE SIDEWALK



SLOPE SURFACE .25" PER FOOT ON ALL SIDES FOR DRAINAGE
MATCH EXISTING GRADE IN PAVED AREAS
REINFORCING STEEL RODS SHALL CONFORM TO ASTM A615, GRADE 60
2 RODS ON 14.63" CENTERS MINIMUM
CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS, CONTAIN 4% - 6% MAX AIR ENTRAINMENT AND BE PLACED WITH A SLUMP IN ACCORDANCE WITH ACI 301.
*optional compact gravel or crushed stone (omit where solid rock occurs)

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

NO.	REVISION	DATE

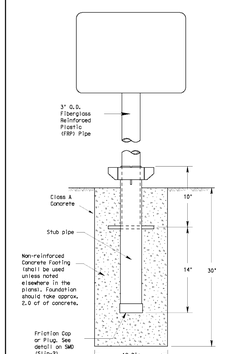
07-3-2024
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

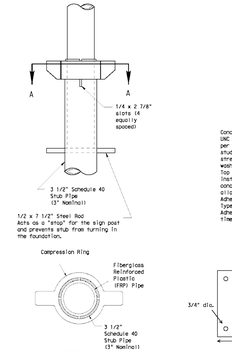
SIGNAGE DETAILS

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C3.11

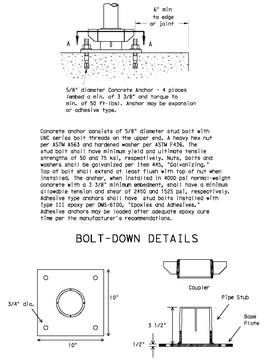
Universal Anchor System with Fiberglass Reinforced Plastic (FRP) Post



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



BOLT-DOWN DETAILS



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

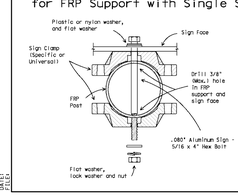
GENERAL NOTES:
1. FRP sign supports for a single type sign support may be used for signs up to and including 15 square feet. Dual post installation may be used for signs up to and including 32 square feet.
2. All nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing."
3. See the Traffic Operations Division website for detailed drawings of sign clamps. The website address is: http://www.txdot.gov/publications/traffic.htm

FRP POST REQUIREMENTS
1. Materials shall conform to the requirements of Departmental Material Specification DMS-6410 and will be furnished in a yellow or grey color as specified elsewhere in the plans.
2. Thickness of FRP sign support is 0.125" + 0.031", - 0.0".
3. FRP sign supports are prequalified by the Traffic Operations Division. Prequalification procedures are obtained by writing:
   Texas Department of Transportation
   Traffic Operations Division
   125 East 11th Street
   Austin, Texas 78701-2483

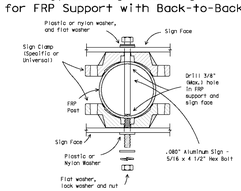
UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURES
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a 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(UEGN)-08 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. Concrete shall be Class A.
3. Insert base post in foundation hole to depths shown and fill hole with concrete. Cut base post from bottom and ensure a minimum of 18" embedment if installed in solid rock.
4. Level and plumb the base post with coupler using a torpedo level and let concrete set a minimum of 4 days, unless otherwise directed by Engineer. Bottom of base post slots shall be above the concrete footing.
5. Attach sign to FRP post.
6. Insert sign post into base post. Lower until the post comes to rest on the steel rod.
7. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
8. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

BOLT DOWN SIGN SUPPORT
1. Position base plate with coupler on existing concrete.
2. Drill holes into concrete and insert the 5/8" diameter bolts with wedge anchors, and tighten nuts.
3. Attach sign to FRP post.
4. Insert bottom of sign post into pipe stub.
5. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
6. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

Typical Sign Mounting Detail for FRP Support with Single Sign



Typical Sign Mounting Detail for FRP Support with Back-to-Back Signs



Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
UNIVERSAL ANCHOR SYSTEM
WITH FRP POST
SMD(FRP)-08

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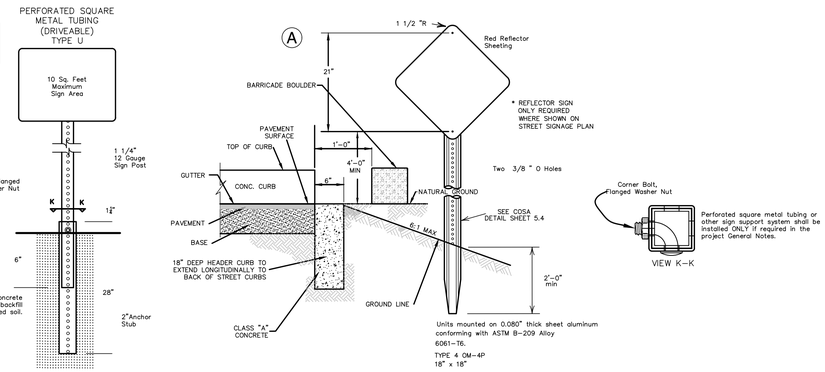
9-08	REVISIONS	CONT	SECT	JOB
		DIST	COUNTY	SHEET NO.

DATE: FILE:

NOTE: CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING STREET NAME SIGNS. CITY OF NEW BRAUNFELS IS RESPONSIBLE FOR REGULATORY SIGNS AND OTHER SIGNS.

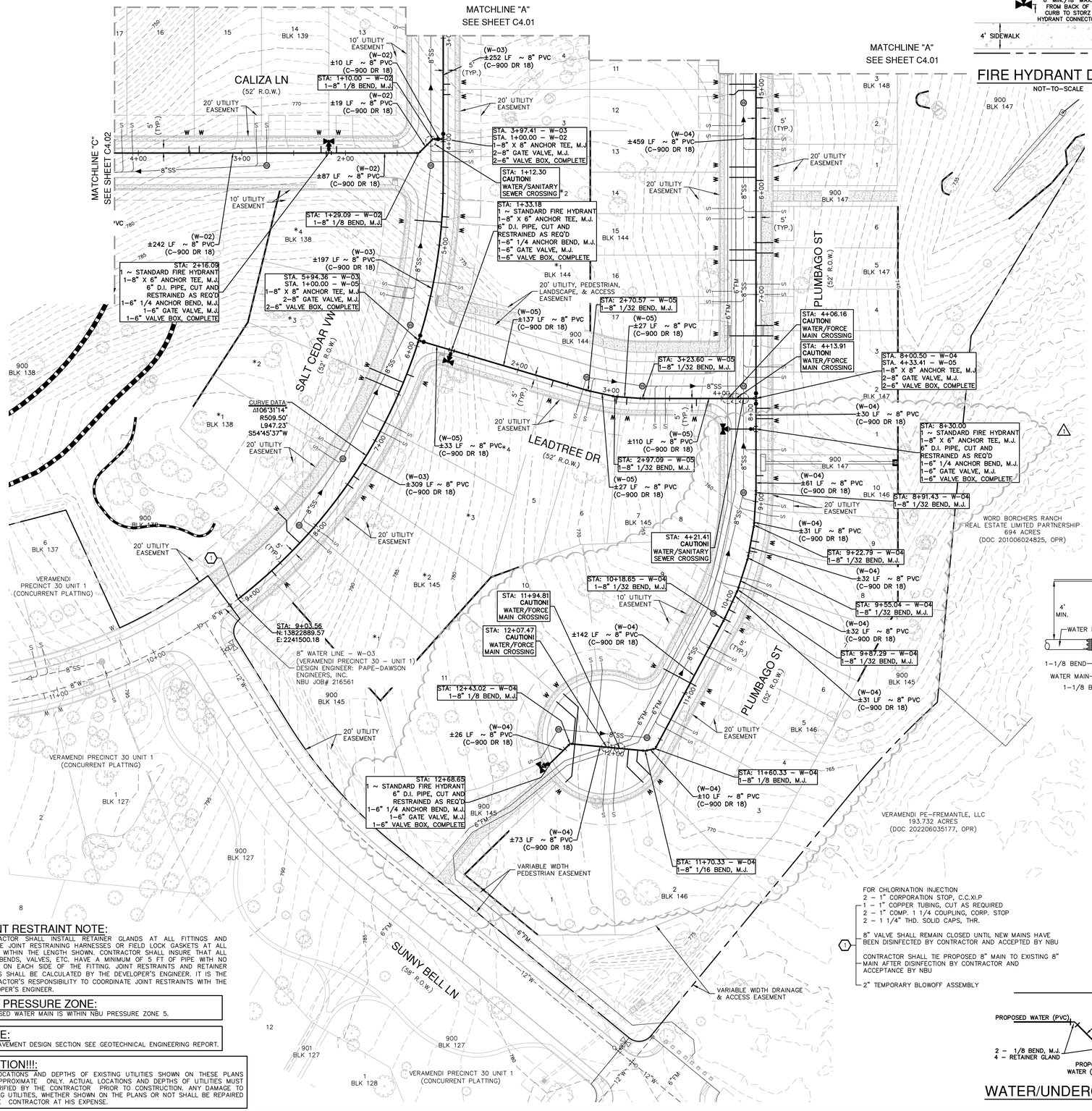


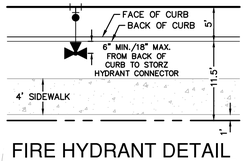
BARRICADE BOULDER AND HEADER CURB DETAIL
NOT TO SCALE

FOR PERMIT

Date: Jun 20, 2024, 8:37am User ID: jessjavel
File: P:\3001\01\73\Design\Civil\SGDT-30001-73.dwg

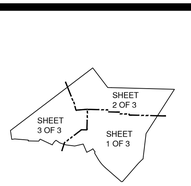
THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE© UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.





FIRE HYDRANT DETAIL

NOT–TO–SCALE



INDEX MAP

1" = 1000'

WATER (NBU JOB NO. W-246120)		
ITEM	UNIT	QUANTITY
8" WATER LINE	LF	5507
1" SINGLE SERVICE & 5/8" METER	EA	123
LUEs	EA	122
FIRE HYDRANT	EA	12
6" GATE VALVE	EA	12
8" GATE VALVE	EA	17

Pipe Restraint Length Calculations

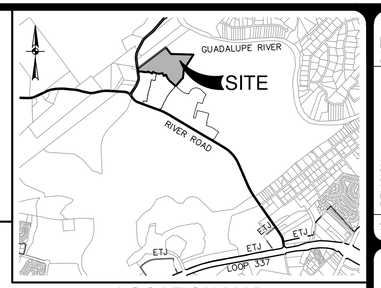
Source: EBAA Iron, Restraint Length Calculator v 7.1.2

Assumptions:

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

Minimum Restraint Lengths in Feet

	8" Waterline	
	Main	Branch
Horizontal Bends		
11.25 Degrees	3	
22.5 Degrees	6	
45 Degrees	12	
Misc. Fittings		
8"x6" Tee		59 (6" Branch)
8"x8" Tee		78
12"x6" Tee		
12"x8" Tee		78
Dead End/ Gate Val	78	
Vertical Bends (assumes low side depth of 10)		
	High Side	Low Side
11.25 Degrees	8	2
22.5 Degrees	16	3
45 Degrees	32	5



LOCATION MAP

SCALE: 1"= 50'

0' 50' 100' 150'

WATER LEGEND

- PROJECT LIMITS
- EXISTING WATER (EXISTING FIRE HYDRANT)
- EXISTING UNDERGROUND ELECTRIC (UGE)
- EXISTING GAS (G)
- EXISTING SEWER (SS, MANHOLE)
- PROPOSED SEWER (SS, FIRE HYDRANT)
- PROPOSED WATER
- PROPOSED 1" SINGLE SERVICE WITH 5/8" METER
- SINGLE IRRIGATION SERVICE (REF. PLAN VIEW FOR SIZE) (IRR)
- BOOSTER PUMP (TO BE INSTALLED BY HOMEBUILDER) *
- JOINT RESTRAINT
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS (G)
- PROPOSED UNDERGROUND ELECTRIC (UGE)
- RETAINING WALL (DESIGNED BY OTHERS)

FLOODPLAIN NOTE

1. NO PORTION OF ANY LOT ON THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HAZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0270F EFFECTIVE DATE 9/2/2009.

NOTE:

1. ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS SHALL HAVE A REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY (R/P) INSTALLED PRIOR TO PLACEMENT OF METER. ALL NEW FACILITIES ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE LATEST NBU BACKFLOW POLICY.
2. ALL GATE VALVES 16" AND SMALLER SHALL BE RESILIENT SEATED GATE VALVES.

CITY OF NEW BRAUNFELS NOTES

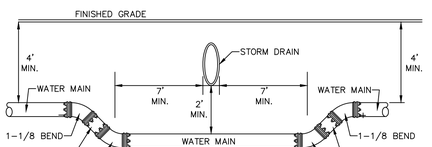
1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5–FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS 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.
4. 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.

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 "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

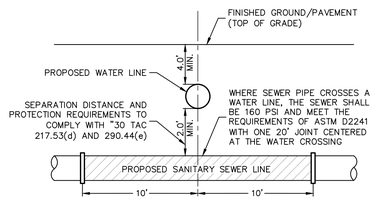
TRENCH EXCAVATION SAFETY PROTECTION:

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.



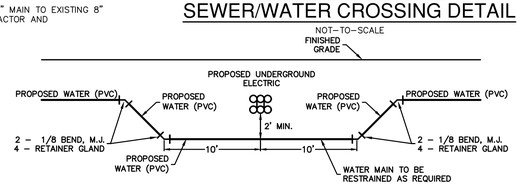
WATER/ STORM DRAIN CROSSING DETAIL "A"

NOT–TO–SCALE



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT–TO–SCALE



WATER/UNDERGROUND ELECTRIC CROSSING DETAIL

NOT–TO–SCALE

FOR CHLORINATION INJECTION
2 – 1" CORPORATION STOP, C.C.XI.P
1 – 1" COPPER TUBING, CUT AS REQUIRED
2 – 1" COMP. 1 1/4 COUPLING, CORP. STOP
2 – 1 1/4" THD. SOLID CAPS, THR.

8" VALVE SHALL REMAIN CLOSED UNTIL NEW MAINS HAVE BEEN DISINFECTED BY CONTRACTOR AND ACCEPTED BY NBU

CONTRACTOR SHALL TIE PROPOSED 8" MAIN TO EXISTING 8" MAIN AFTER DISINFECTION BY CONTRACTOR AND ACCEPTANCE BY NBU

2" TEMPORARY BLOWOFF ASSEMBLY

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.

NBU PRESSURE ZONE:

PROPOSED WATER MAIN IS WITHIN NBU PRESSURE ZONE 5.

NOTE:

FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

CAUTION!!!:

THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

NO.	REMARK	DATE
1	MOVED LOT LINES AND CHANGED QUANTITIES	09/05/25

9–5–2025

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE–DAWSON
1672 INDEPENDENCE DR. STE 102 I NEW BRAUNFELS, TX 78132 I 830.632.5533
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

OVERALL WATER DISTRIBUTION PLAN

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED JL DRAWN CA
SHEET C4.00

FOR PERMIT

Date: Sep 05, 2025, 2:16pm User ID: carcher
File: P:\300\01\73\design\Civil\WTOA–30001–73.dwg

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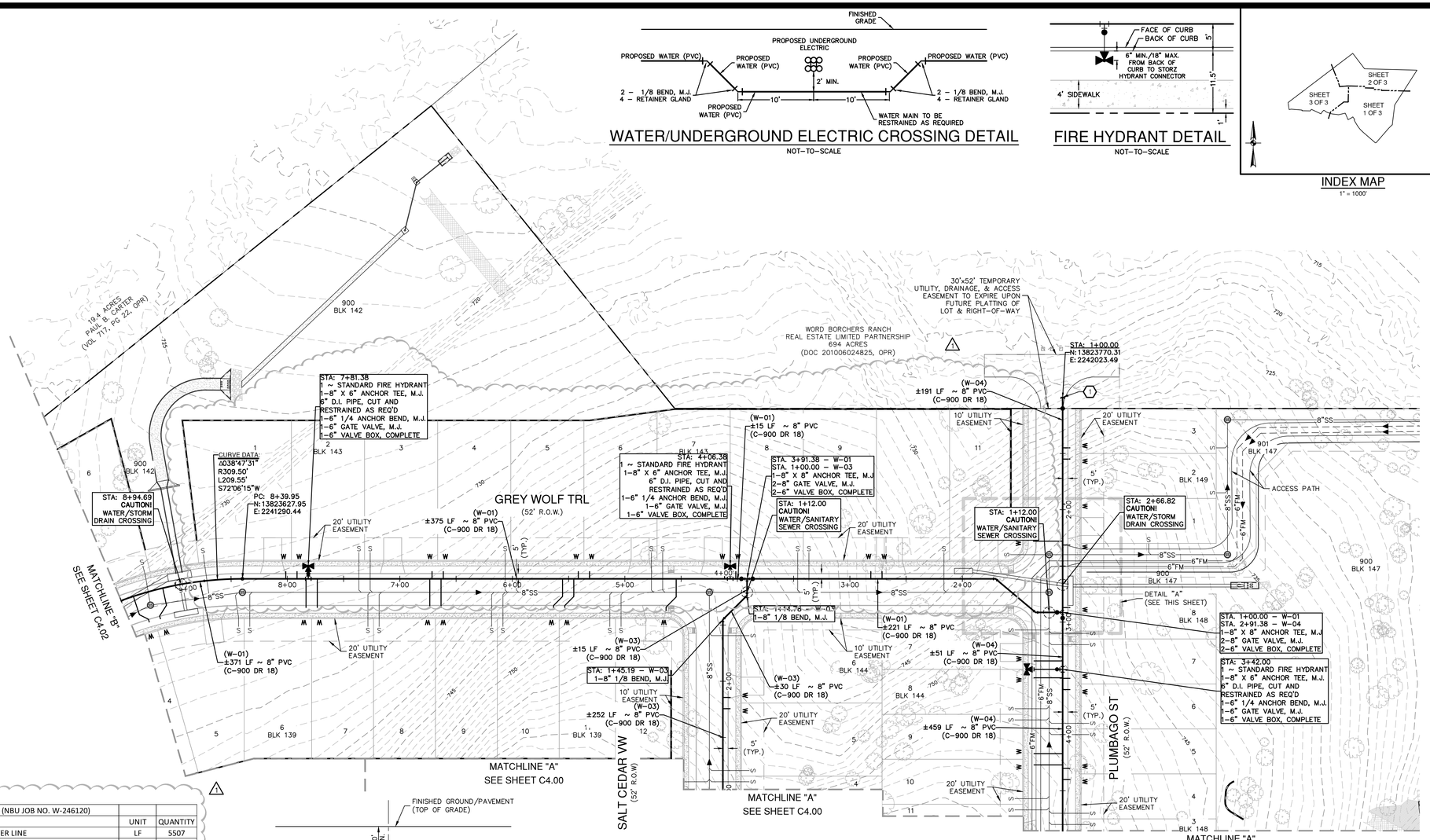


WATER/UNDERGROUND ELECTRIC CROSSING DETAIL

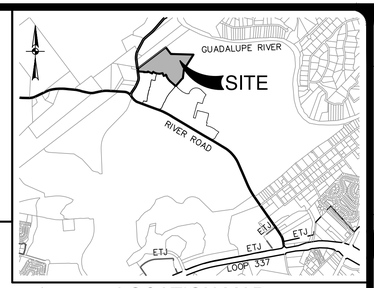
NOT-TO-SCALE

FIRE HYDRANT DETAIL

NOT-TO-SCALE

INDEX MAP

1" = 1000'



LOCATION MAP

SCALE: 1"= 50'

0' 50' 100' 150'

WATER (NBU JOB NO. W-246120)		
ITEM	UNIT	QUANTITY
8" WATER LINE	LF	5507
1" SINGLE SERVICE & 5/8" METER	EA	123
LUEs	EA	122
FIRE HYDRANT	EA	12
6" GATE VALVE	EA	12
8" GATE VALVE	EA	17

Pipe Restraint Length Calculations

Source: EBAA Iron, Restraint Length Calculator v 7.1.2

Assumptions:

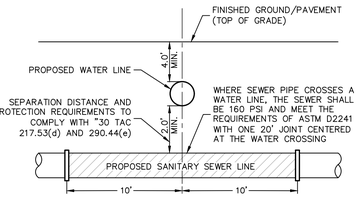
Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure
CH	1.5 to 1.0	5	4 ft	200 psi

Minimum Restraint Lengths in Feet

	8" Waterline	
	Main	Branch
Horizontal Bends		
11.25 Degrees	3	
22.5 Degrees	6	
45 Degrees	12	
Misc. Fittings		
8"x6" Tee		59 (6" Branch)
8"x8" Tee		78
12"x6" Tee		
12"x8" Tee		78
Dead End/ Gate Val	78	
Vertical Bends (assumes low side depth of 10)		
	High Side	Low Side
11.25 Degrees	8	2
22.5 Degrees	16	3
45 Degrees	32	5

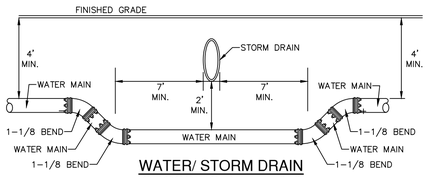
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

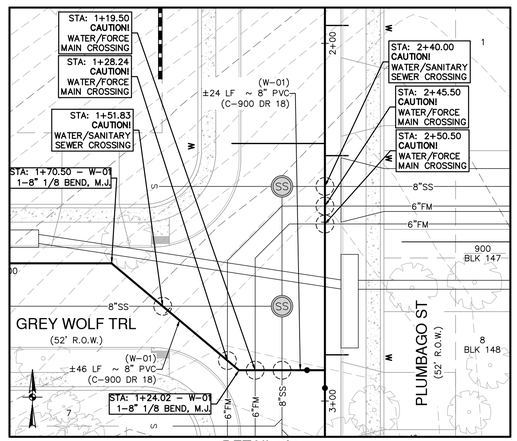
NOT-TO-SCALE



WATER/ STORM DRAIN CROSSING DETAIL "A"

NOT-TO-SCALE





DETAIL "A"

1" = 20'

WATER LEGEND

- PROJECT LIMITS
- EXISTING WATER (EXISTING FIRE HYDRANT)
- EXISTING UNDERGROUND ELECTRIC (UGE)
- EXISTING GAS (G)
- EXISTING SEWER (SS, MANHOLE)
- PROPOSED SEWER (SS)
- PROPOSED WATER (FIRE HYDRANT, W)
- PROPOSED 1" SINGLE SERVICE WITH 5/8" METER
- SINGLE IRRIGATION SERVICE (REF. PLAN VIEW FOR SIZE) (IRR)
- BOOSTER PUMP (TO BE INSTALLED BY HOMEBUILDER) (*)
- JOINT RESTRAINT (⊠)
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS (G)
- PROPOSED UNDERGROUND ELECTRIC (UGE)
- RETAINING WALL (DESIGNED BY OTHERS)

1–8" SOLID CAP, M.J.
1–8" GATE VALVE, M.J.
1–6" VALVE BOX, COMPLETE
2" PERMANENT BLOWOFF ASSEMBLY (SEE NBU STD DWG 251)

FLOODPLAIN NOTE

1. NO PORTION OF ANY LOT ON THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HAZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0270F EFFECTIVE DATE 9/2/2009.

NOTE:

1. ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS SHALL HAVE A REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY (R/P) INSTALLED PRIOR TO PLACEMENT OF METER. ALL NEW FACILITIES ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE LATEST NBU BACKFLOW POLICY.
2. ALL GATE VALVES 16" AND SMALLER SHALL BE RESILIENT SEATED GATE VALVES.

CITY OF NEW BRAUNFELS 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.
4. 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.

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 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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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.

NBU PRESSURE ZONE:

PROPOSED WATER MAIN IS WITHIN NBU PRESSURE ZONE 5.

NOTE:

FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

CAUTION!!!:

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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.

NO.	REMARK	DATE
1	MOVED LOT LINES AND UTILITY SERVICES	09/05/25

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
1672 INDEPENDENCE DR. STE 102 I NEW BRAUNFELS, TX 78132 I 830.632.5533
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

OVERALL WATER DISTRIBUTION PLAN

PLAT NO. _____
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JC DRAWN CA
SHEET C4.01

FOR PERMIT

Date: Sep 05, 2025, 2:12pm User ID: corcher
File: P:\300\01\73\Design\Civil\WTOA-30001-73.dwg

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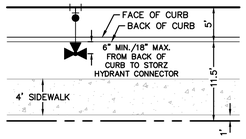
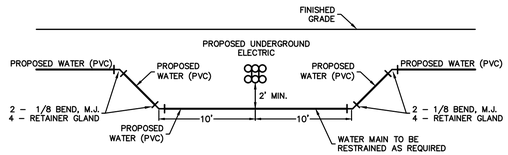
1–8" SOLID CAP, M.J.
1–8" GATE VALVE, M.J.
1–6" VALVE BOX, COMPLETE
2" PERMANENT BLOWOFF ASSEMBLY (SEE NBU STD DWG 251)

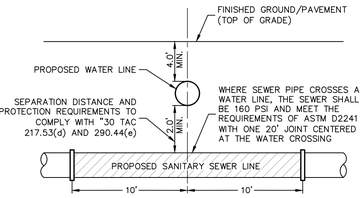
NOTE: IF PRECINCT 30 UNIT 2 CONSTRUCTION IS CONCURRENT, 8" SOLID CAP & 2" PERMANENT BLOWOFF WILL NOT BE NECESSARY



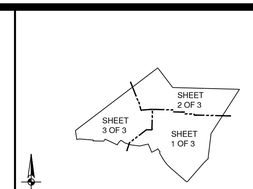
FIRE HYDRANT DETAIL
NOT-TO-SCALE



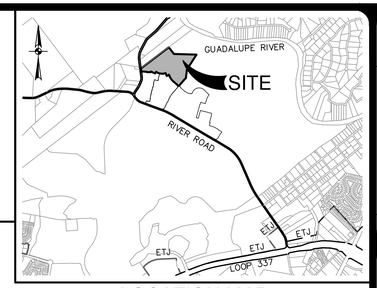
WATER/UNDERGROUND ELECTRIC CROSSING DETAIL
NOT-TO-SCALE



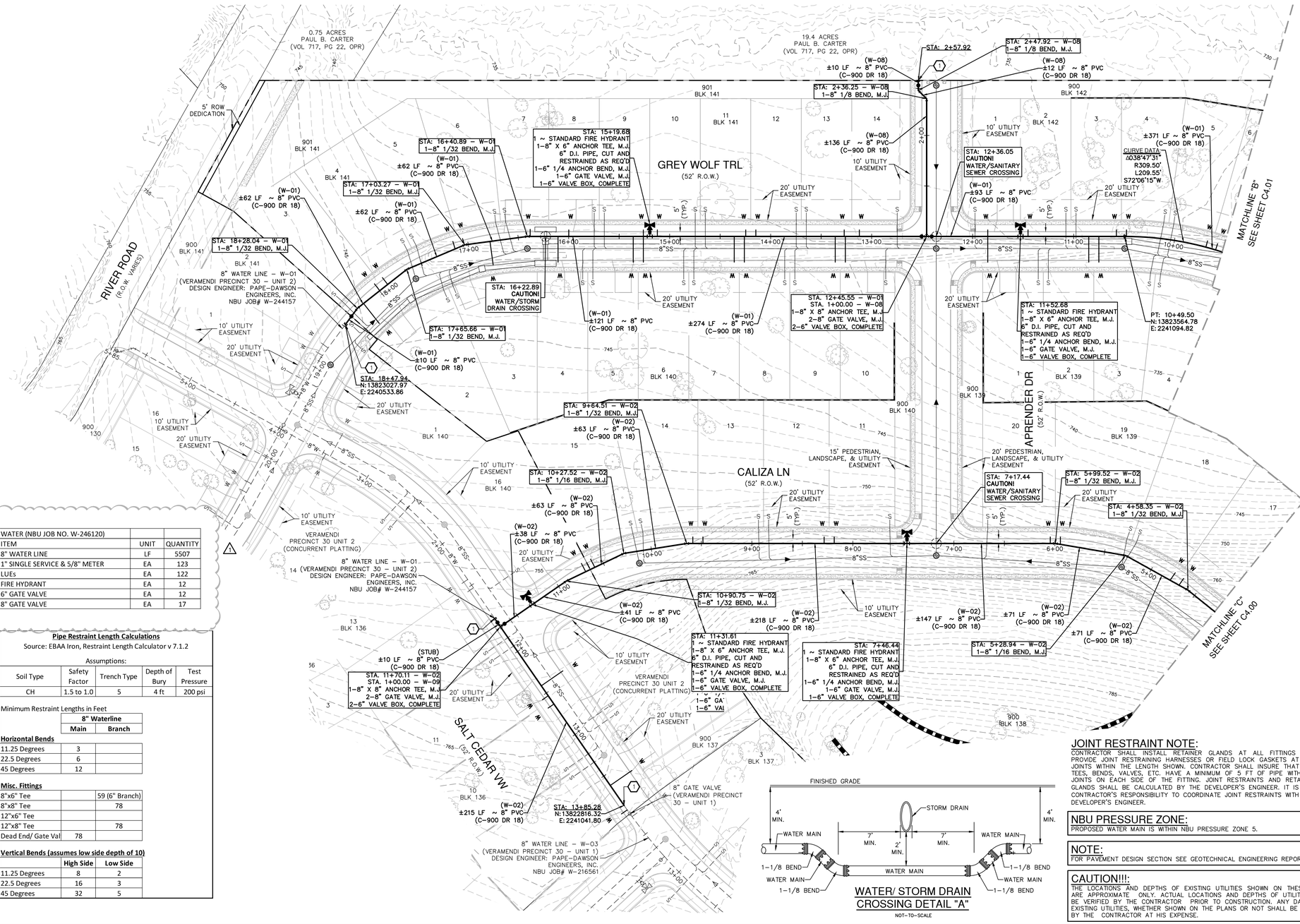
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
NOT-TO-SCALE



INDEX MAP
1" = 1000'



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



WATER (NBU JOB NO. W-246120)		
ITEM	UNIT	QUANTITY
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1" SINGLE SERVICE & 5/8" METER	EA	123
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Pipe Restraint Length Calculations
Source: EBAA Iron, Restraint Length Calculator v 7.1.2

Assumptions:

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Dead End/ Gate Val	78	
Vertical Bends (assumes low side depth of 10)		
	High Side	Low Side
11.25 Degrees	8	2
22.5 Degrees	16	3
45 Degrees	32	5

WATER LEGEND

PROJECT LIMITS	
EXISTING WATER	EXISTING FIRE HYDRANT, W
EXISTING UNDERGROUND ELECTRIC	UGE
EXISTING GAS	G
EXISTING SEWER	SS, MANHOLE
PROPOSED SEWER	SS
PROPOSED WATER	FIRE HYDRANT, W
PROPOSED 1" SINGLE SERVICE WITH 5/8" METER	
SINGLE IRRIGATION SERVICE (REF. PLAN VIEW FOR SIZE)	IRR
BOOSTER PUMP (TO BE INSTALLED BY HOMEBUILDER)	*
JOINT RESTRAINT	⊠
PROPOSED STORM DRAIN	
EXISTING STORM DRAIN	
PROPOSED GAS	G
PROPOSED UNDERGROUND ELECTRIC	UGE
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FLOODPLAIN NOTE
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TRENCH EXCAVATION SAFETY PROTECTION:
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NBU PRESSURE ZONE:
PROPOSED WATER MAIN IS WITHIN NBU PRESSURE ZONE 5.

NOTE:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

CAUTION!!!:
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WATER/ STORM DRAIN CROSSING DETAIL "A"
NOT-TO-SCALE

NO.	REMARK	DATE
1	CHANGED QUANTITES	09/05/25

9–5–2025
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER

PAPE–DAWSON
1672 INDEPENDENCE DR. STE 102 I NEW BRAUNFELS, TX 78132 I 830.632.5533
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

OVERALL WATER DISTRIBUTION PLAN

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C4.02

FOR PERMIT

Date: Sep 05, 2025, 2:12pm User ID: corcher
File: P:\300\01\73\design\civil\WTOA–30001–73.dwg

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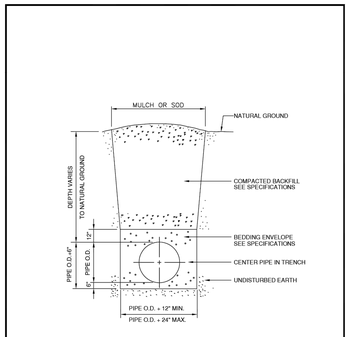
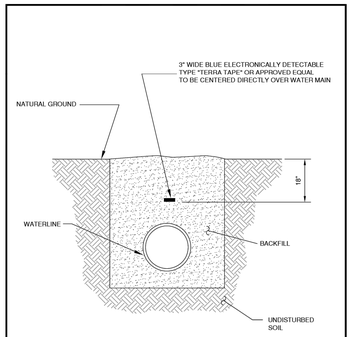


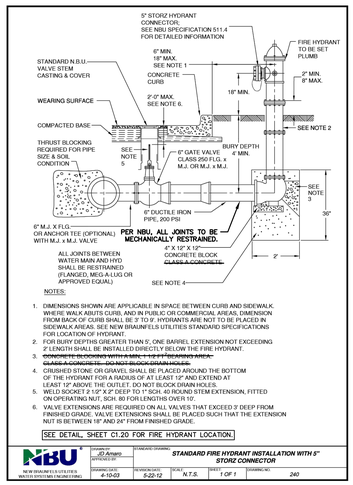
WATER PIPE LAID IN TRENCH
(OUTSIDE OF PAVEMENT)

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: H Shadrock	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

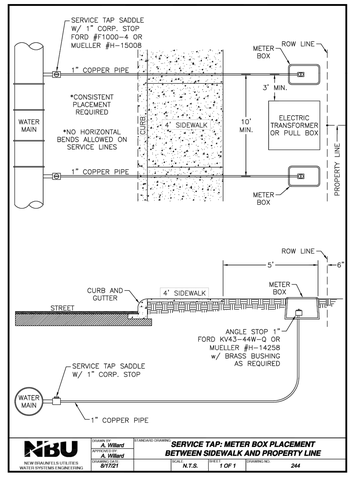
NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: H Shadrock	APPROVED BY:	STANDARD DRAWING:	PLACEMENT OF INDUCTIVE TRACER DETECTION TAPE	
	UPDATED: 5-23-03	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO.: 424	



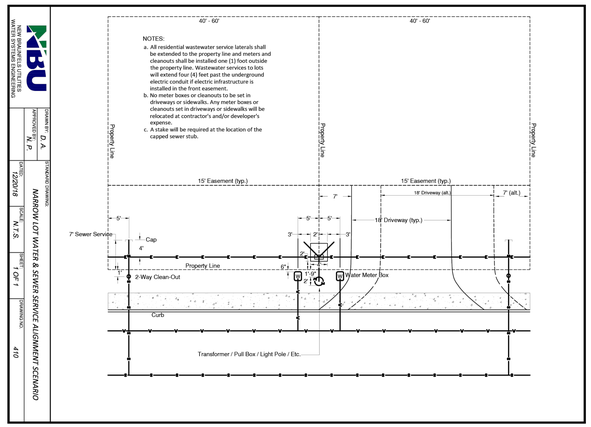
NOTES:
1. DIMENSIONS SHOWN ARE APPLICABLE IN SPACE BETWEEN CURB AND SIDEWALK WHERE WALK ABUTS CURB, AND IN PUBLIC OR COMMERCIAL AREAS, DIMENSION FROM BACK OF CURB SHALL BE 3' TO 9'. HYDRANTS ARE NOT TO BE PLACED IN SIDEWALK AREAS. SEE NEW BRAUNFELS UTILITIES STANDARD SPECIFICATIONS FOR LOCATION OF HYDRANT.
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'-0" 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.

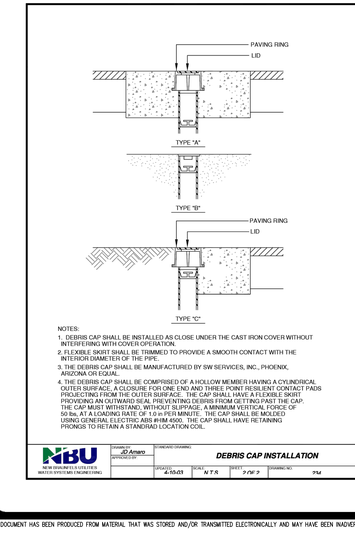
SEE DETAIL, SHEET C1.20 FOR FIRE HYDRANT LOCATION.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: JD Amaro	APPROVED BY:	STANDARD DRAWING:	STANDARD FIRE HYDRANT INSTALLATION WITH 5" STORZ CONNECTOR	
	DRAWING DATE: 4-10-03	SCALE/REVISED: 5-23-12	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO.: 240

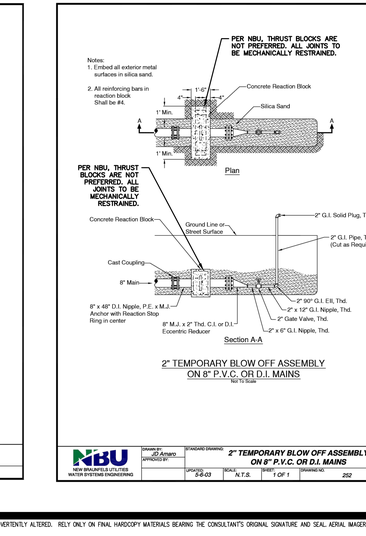


NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: A. Willard	APPROVED BY: A. Willard	STANDARD DRAWING:	SERVICE TAP; METER BOX PLACEMENT BETWEEN SIDEWALK AND PROPERTY LINE	
	DRAWING DATE: 8/17/21	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO.: 244	

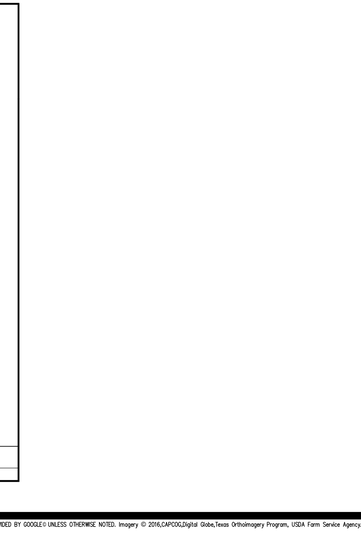




NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: JD Amaro	APPROVED BY:	STANDARD DRAWING:	CONCRETE ENCASEMENT-WATER	
	UPDATED: 4-10-03	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO.: 220	



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.: 234	



VERTICAL VALVE

HORIZONTAL VALVE
USE ONLY WHEN SPECIFIED IN DRAWINGS

NOTES:
1. WELD SOCKET 2⅝" 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	
	DRAWING DATE: 8/17/21	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO.: 230	

WATER SERVICE TAP PROFILE VIEW

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	
	DRAWING DATE: 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)

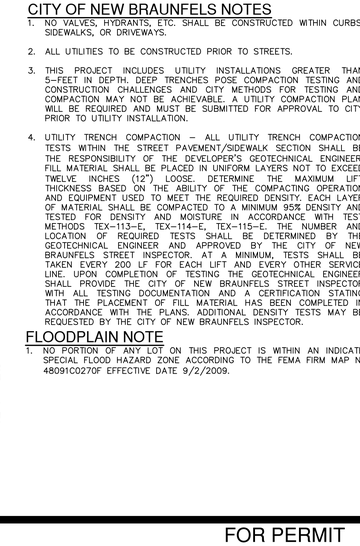
MATERIALS TO BE INSTALLED BY PLUMBER:

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-G
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	
	DRAWING DATE: 8/17/21	SCALE: N.T.S.	SHEET: 2 OF 2	DRAWING NO.: 202	



Elevation

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

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: JD Amaro	APPROVED BY:	STANDARD DRAWING:	2" PERMANENT BLOW OFF ASSEMBLY ON 8" P.V.C. OR D.I. MAINS	
	UPDATED: 5-8-03	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO.: 251	

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 MUST WITHSTAND, WITHOUT SLIPPAGE, A MINIMUM VERTICAL FORCE OF 50 lbs. AT A LOADING RATE OF 1.0 in PER MINUTE. THE CAP SHALL BE MOLDED USING GENERAL ELECTRIC ABS #HM 4500. THE CAP SHALL HAVE RETAINING PRONGS TO RETAIN A STANDARD 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: 2 OF 2	DRAWING NO.: 234	

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

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: JD Amaro	APPROVED BY:	STANDARD DRAWING:	2" TEMPORARY BLOW OFF ASSEMBLY ON 8" P.V.C. OR D.I. MAINS	
	UPDATED: 5-8-03	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO.: 252	

PAVEMENT SECTION
LOCAL "A"
3" TYPE D HMAC
12" FLEXIBLE BASE, TYPE A, GRADE 1 OR 2
TOTAL = 15"

NOTES:

PER NBU WATER NOTES (DATED 5/16/19)
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 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.

CITY OF NEW BRAUNFELS 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.
4. 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.

FLOODPLAIN NOTE

1. NO PORTION OF ANY LOT ON THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HAZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0270F EFFECTIVE DATE 9/2/2009.

NO.	REVISION	DATE

6–25–2025
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
WATER DISTRIBUTION DETAILS

PLAT NO. _____
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED DRAWN CA
SHEET C4.10

FOR PERMIT

Date: Jun 25, 2025, 5:43pm User ID: Robert Ewert
File: P:\30001\01\73\Design\Civil\WTDT-30001-73.dwg
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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.

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

FLOODPLAIN NOTE

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NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
6-5-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

WATER DISTRIBUTION NOTES

PLAT NO.
JOB NO. 30001-73
DATE 06-05-2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C4.11

Date: Jun 05, 2024, 2:46pm User ID: bhughey
File: P:\3001\01\73\Design\Civil\WNT-30001-73.dwg

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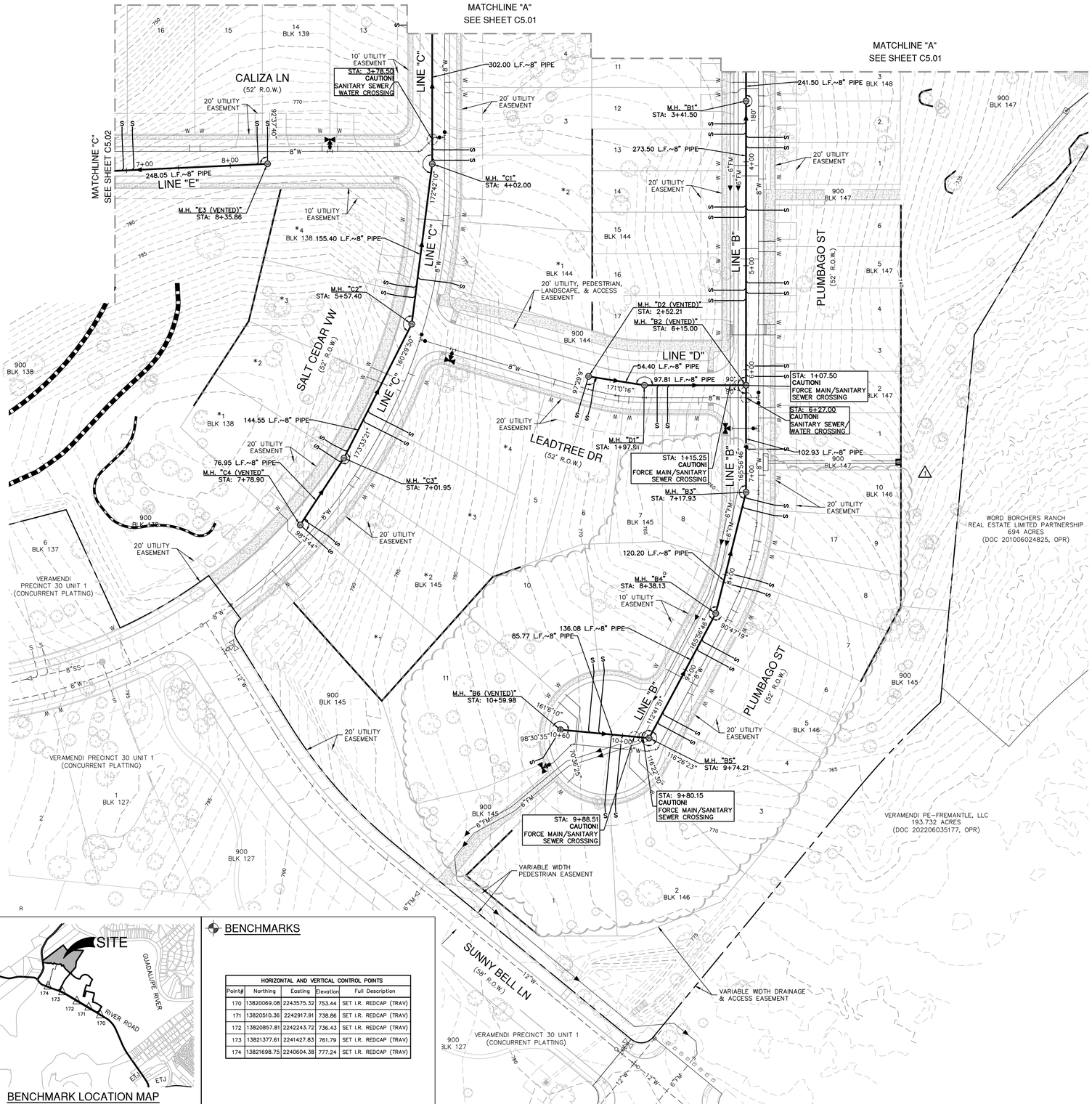
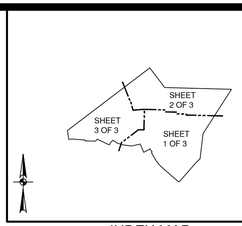
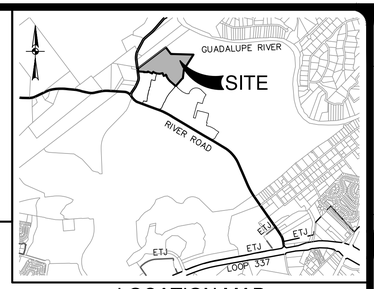




INDEX MAP

1" = 1000'

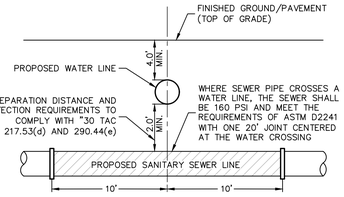


LOCATION MAP

WASTEWATER (NBU JOB NO. WW-246124)		
ITEM	UNIT	QUANTITY
8" SANITARY SEWER PIPE	LF	5,061
LUEs	EA	122
6" WASTEWATER SERVICE	EA	122
48" MANHOLES	EA	29

SCALE: 1"= 50'

0' 50' 100' 150'



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

SEWER LEGEND

PROJECT LIMITS
EXISTING FIRE HYDRANT
EXISTING WATER — W —
EXISTING UNDERGROUND ELECTRIC — UGE —
EXISTING GAS — G —
EXISTING SEWER — SS —
PROPOSED SEWER — SS — MANHOLE
PROPOSED WATER — W — FIRE HYDRANT
PROPOSED SEWER LATERAL — S —
FINISHED FLOOR ELEVATION FOR SEWER — FF = XXXX.XX
PROPOSED STORM DRAIN
EXISTING STORM DRAIN
PROPOSED GAS — G —
PROPOSED UNDERGROUND ELECTRIC — UGE —
RETAINING WALL (DESIGNED BY OTHERS)

NOTE

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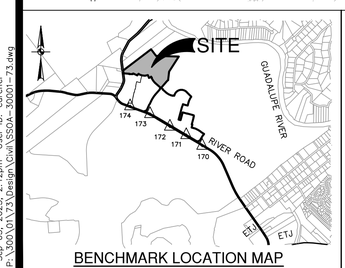

BENCHMARK LOCATION MAP

NOT TO SCALE

BENCHMARKS

HORIZONTAL AND VERTICAL CONTROL POINTS				
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174	13821698.75	2240604.38	777.24	SET I.R. REDCAP (TRAV)

NO.	REVISION	DATE
1	MOVED LOT LINES AND UTILITY SERVICES, CHANGED QUANTITIES	09/05/25

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

OVERALL SANITARY SEWER PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C5.00

FOR PERMIT

Date: Sep 05, 2025, 2:12pm User ID: corcher
File: P:\300\01\73\design\Civil\SSOA-30001-73.dwg

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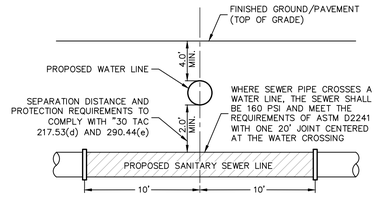
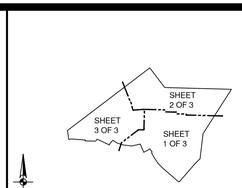


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE



INDEX MAP
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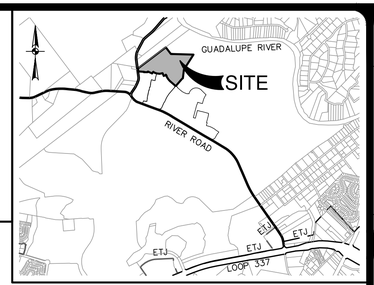

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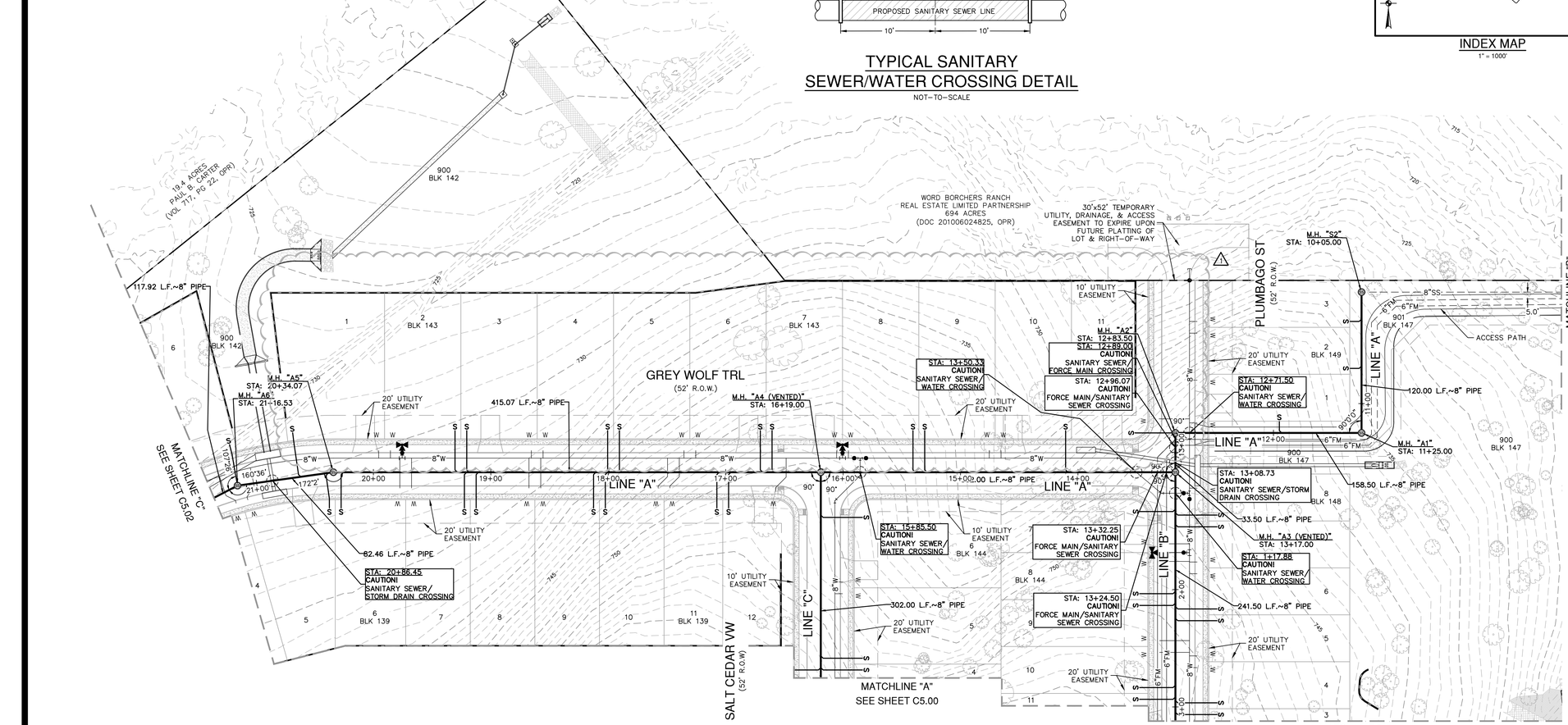

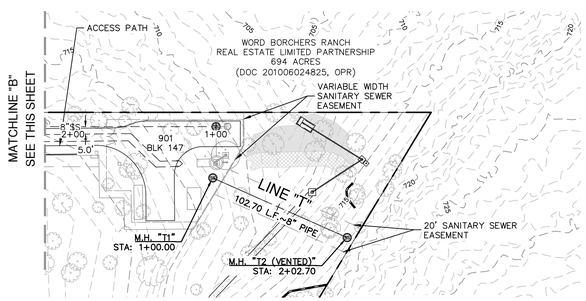

SEWER LEGEND

- PROJECT LIMITS
- EXISTING FIRE HYDRANT
- EXISTING WATER
- EXISTING UNDERGROUND ELECTRIC
- EXISTING GAS
- EXISTING SEWER
- PROPOSED SEWER
- MANHOLE
- PROPOSED WATER
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- PROPOSED SEWER LATERAL
- FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
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- EXISTING STORM DRAIN
- PROPOSED GAS
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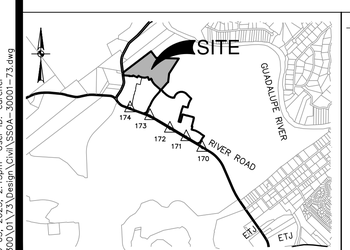

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NO.	REMARK	DATE
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STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
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VERAMENDI PRECINCT 30 - UNIT 3
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OVERALL SANITARY SEWER PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C5.01

FOR PERMIT

Date: Sep 05, 2025, 2:13pm User ID: corcher
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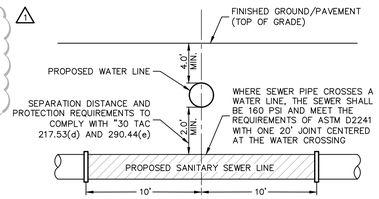

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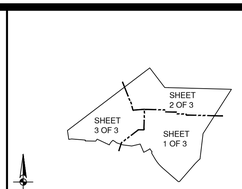

INDEX MAP

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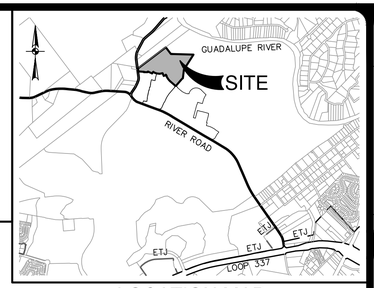

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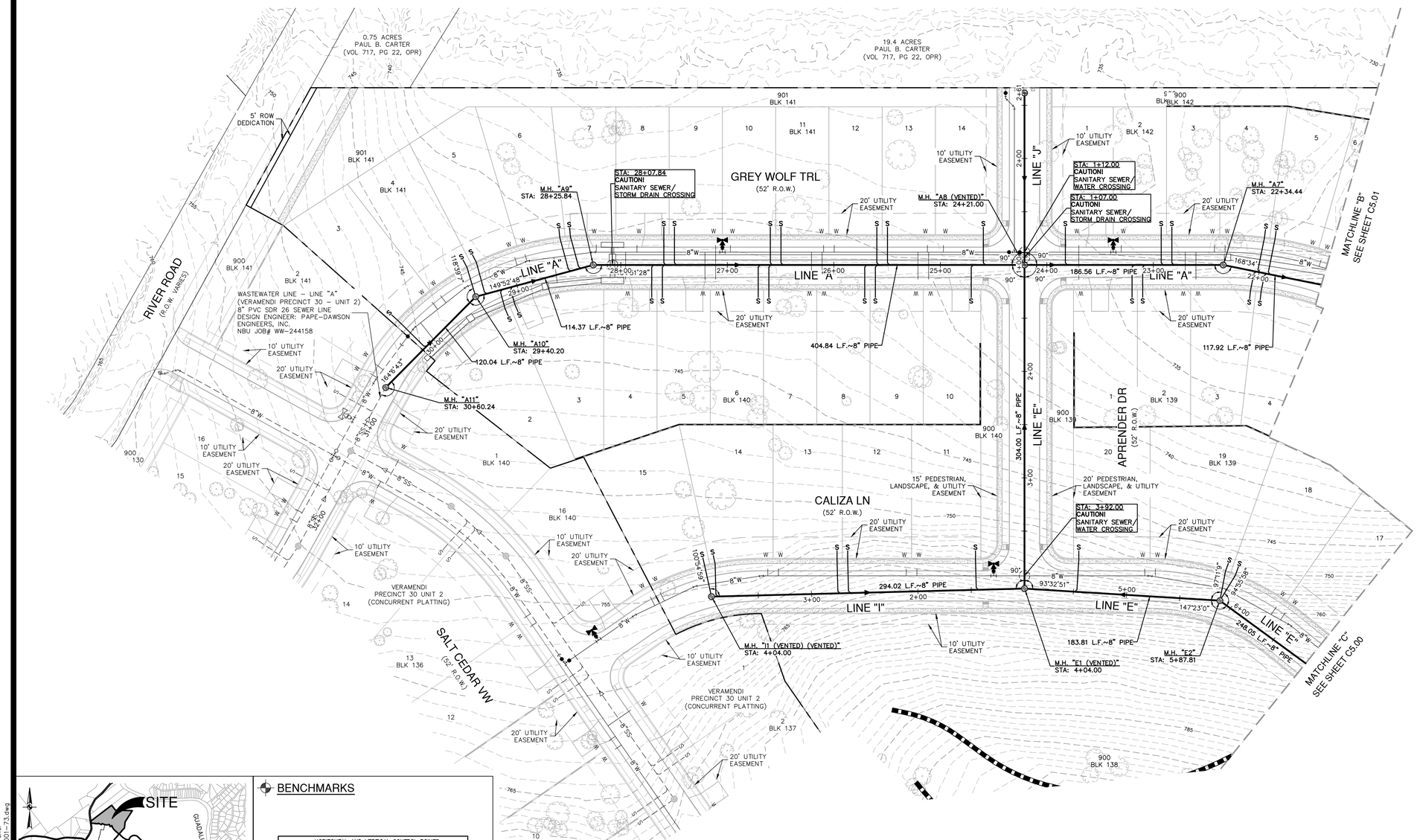

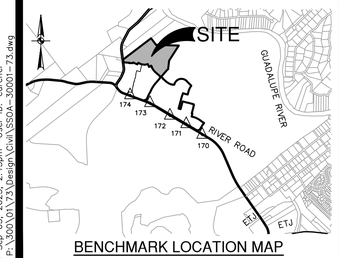

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- PROPOSED GAS — G —
- PROPOSED UNDERGROUND ELECTRIC — UGE —

NOTE

ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.

FLOODPLAIN NOTE

1. NO PORTION OF ANY LOT ON THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HAZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0270F EFFECTIVE DATE 9/2/2009.

CITY OF NEW BRAUNFELS 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.
4. 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.

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 "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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
1	CHANGED QUANTITIES	09/05/25

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
1672 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

OVERALL SANITARY SEWER PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C5.02

FOR PERMIT

Date: Sep 05, 2025, 2:13pm User ID: carcher
File: P:\30001\01\73\Design\Civil\SS0A-30001-73.dwg

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CITY OF NEW BRAUNFELS NOTES

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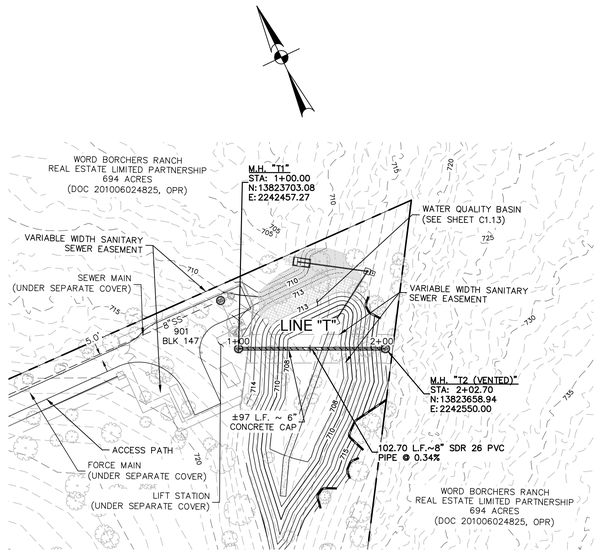

SCALE: 1"= 50'
0' 50' 100' 150'

SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER (EXISTING FIRE HYDRANT)
- EXISTING UNDERGROUND ELECTRIC (UGE)
- EXISTING GAS (G)
- EXISTING SEWER (SS, MANHOLE)
- PROPOSED SEWER (SS, MANHOLE, FIRE HYDRANT)
- PROPOSED WATER (W)
- PROPOSED SEWER LATERAL (S)
- FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS (G)
- PROPOSED UNDERGROUND ELECTRIC (UGE)

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 C5.23)
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 SHALL HAVE A MINIMUM SLOPE OF 2%.
13. WASTEWATER LATERALS SHALL BE LAID WITH A MINIMUM OF 36 INCHES OF COVER.
14. NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL, THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
15. 48" MANHOLES ARE REQUIRED FOR ALL MAINS UP TO 18" IN DIAMETER.

NOTE:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

FLOODPLAIN NOTE

1. NO PORTION OF ANY LOT ON THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HARZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0270F EFFECTIVE DATE 9/2/2009.

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 "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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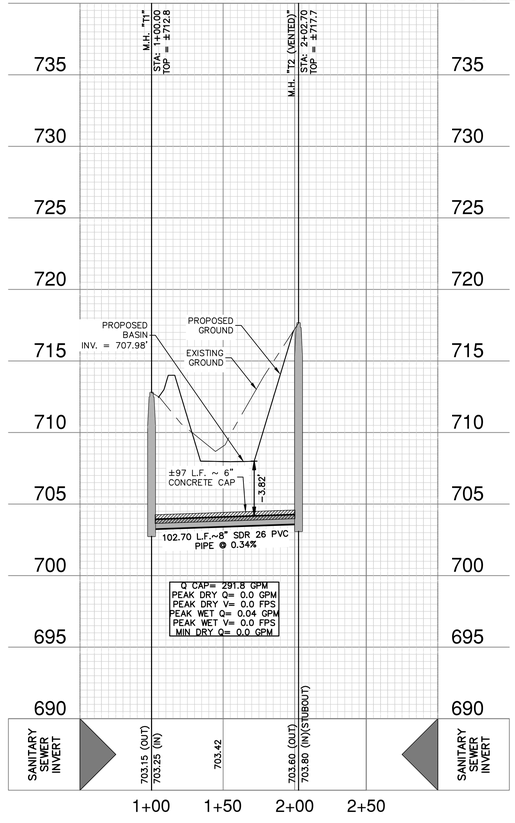
SANITARY SEWER LINE "T"
STA. 1+00.00 TO 2+02.70

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



DATE | NO. | REVISION

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
6–25–2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE T- PLAN & PROFILE
STA. 1+00.00 TO 2+02.70

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED DRAWN JE
SHEET C5.03

FOR PERMIT

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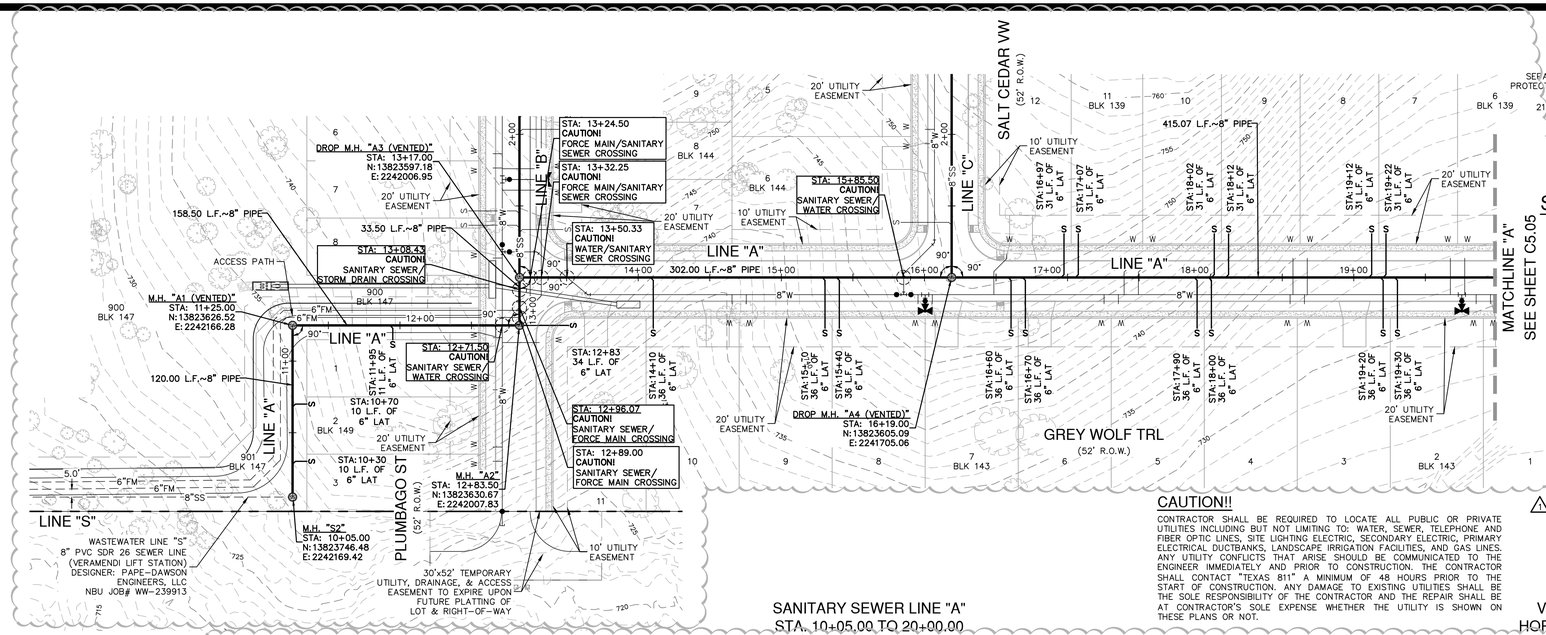

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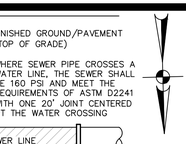

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

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

SEWER LEGEND

PROJECT LIMITS
EXISTING WATER (EXISTING FIRE HYDRANT)
EXISTING UNDERGROUND ELECTRIC
EXISTING GAS
EXISTING SEWER (MANHOLE)
PROPOSED SEWER
PROPOSED WATER (FIRE HYDRANT)
PROPOSED SEWER LATERAL
FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
PROPOSED STORM DRAIN
EXISTING STORM DRAIN
PROPOSED GAS
PROPOSED UNDERGROUND ELECTRIC

NOTES

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NOTE:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

FLOODPLAIN NOTE

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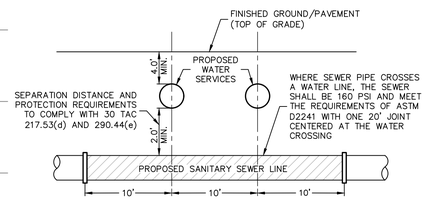
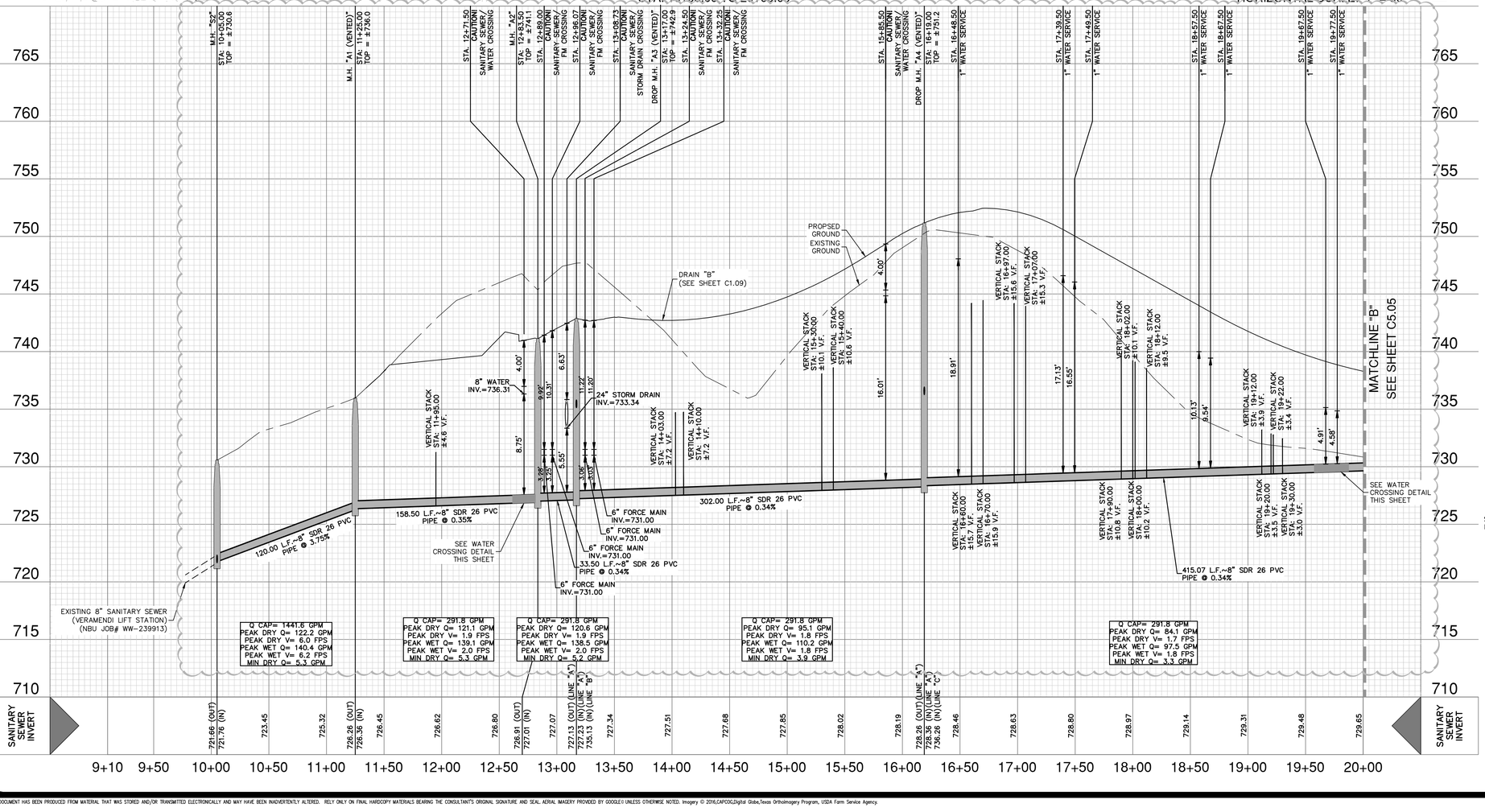


TYPICAL SANITARY SEWER/DOUBLE WATER SERVICE CROSSING DETAIL

NOT-TO-SCALE

SANITARY SEWER LINE "A" STA. 10+05.00 TO 20+00.00

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



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NO.	REMISION	DATE
1	MOVED SEWER ALIGNMENT	09/25/25

JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
1672 INDEPENDENCE DR. STE 102 I NEW BRAUNFELS, TX 78132 I 830.632.5533
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE A - PLAN & PROFILE
STA. 10+05.00 TO 20+00.00

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C5.04

FOR PERMIT

Date: Sep 05, 2025, 2:13pm User ID: carcher
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CITY OF NEW BRAUNFELS NOTES

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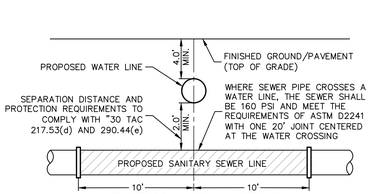
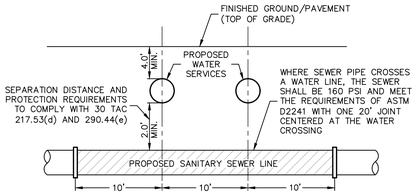
4. UTILITY TRENCH COMPACTION – ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS 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.



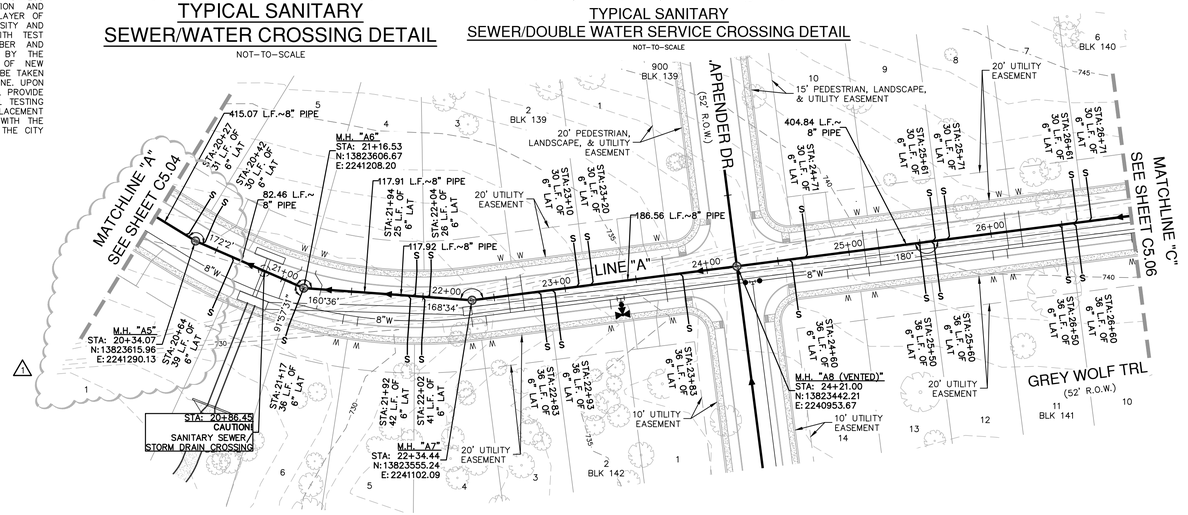
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT–TO–SCALE



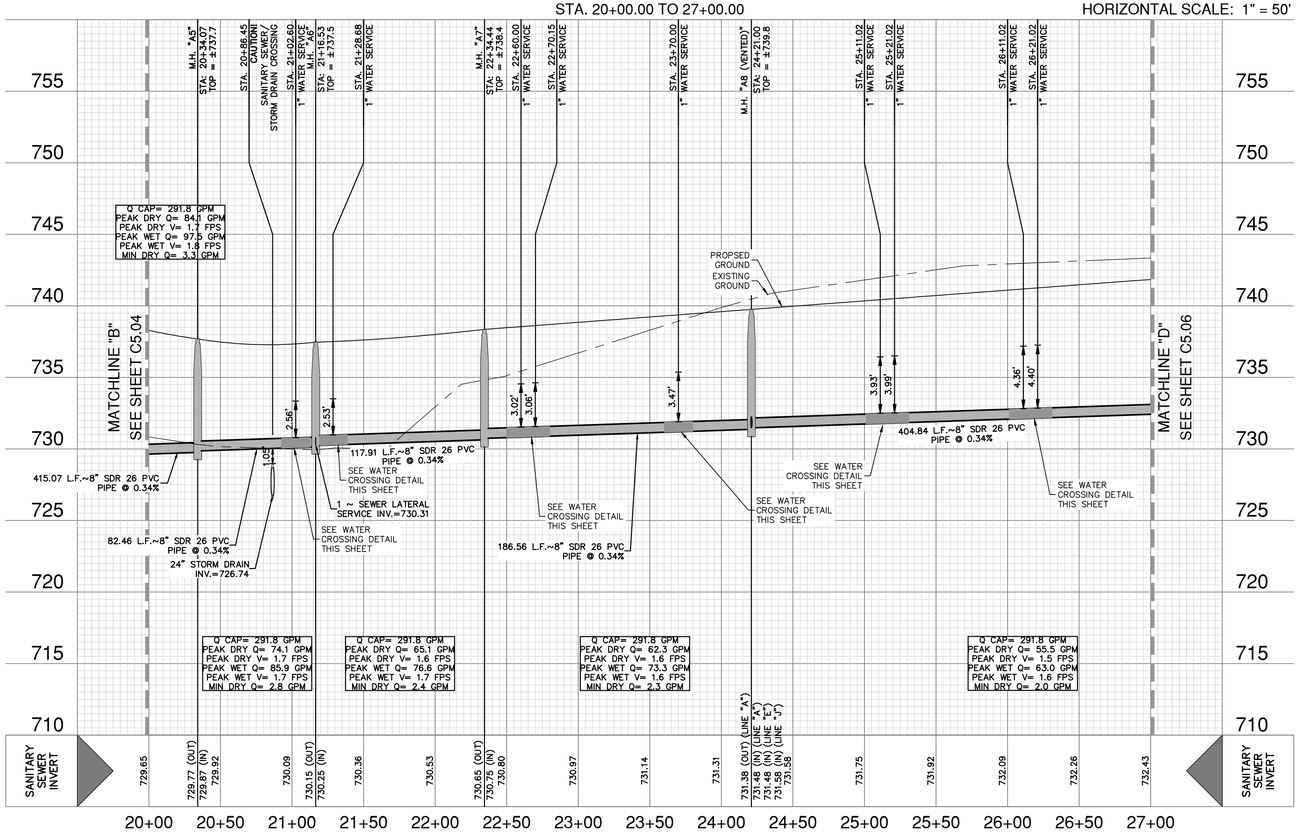
TYPICAL SANITARY SEWER/DOUBLE WATER SERVICE CROSSING DETAIL

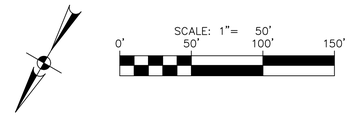
NOT–TO–SCALE



SANITARY SEWER LINE "A"
STA. 20+00.00 TO 27+00.00

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





SEWER LEGEND

PROJECT LIMITS
EXISTING WATER (EXISTING FIRE HYDRANT)
EXISTING UNDERGROUND ELECTRIC (UGE)
EXISTING GAS (G)
EXISTING SEWER (SS, MANHOLE)
PROPOSED SEWER
PROPOSED WATER (FIRE HYDRANT)
PROPOSED SEWER LATERAL
FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
PROPOSED STORM DRAIN
EXISTING STORM DRAIN
PROPOSED GAS (G)
PROPOSED UNDERGROUND ELECTRIC (UGE)

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 C5.23)
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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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.
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15. 48" MANHOLES ARE REQUIRED FOR ALL MAINS UP TO 18" IN DIAMETER.

NOTE:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

FLOODPLAIN NOTE

1. NO PORTION OF ANY LOT ON THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HARZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0270F EFFECTIVE DATE 9/2/2009.

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 "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION:

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NO.	REMISION	DATE
1	MOVED SEWER LATERALS	09/05/25

9–5–2025

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER

PAPE–DAWSON
1672 INDEPENDENCE DR. STE 102 I NEW BRAUNFELS, TX 78132 I 830.632.5533
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE A - PLAN & PROFILE
STA. 20+00.00 TO 27+00.00

PLAT NO. ____
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED ____ DRAWN CA
SHEET C5.05

Date: Sep 05, 2025, 2:13pm User ID: carcher
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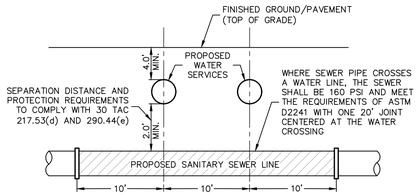
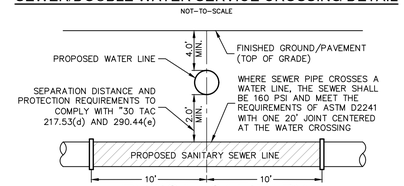


TYPICAL SANITARY SEWER/DOUBLE WATER SERVICE CROSSING DETAIL

NOT–TO–SCALE



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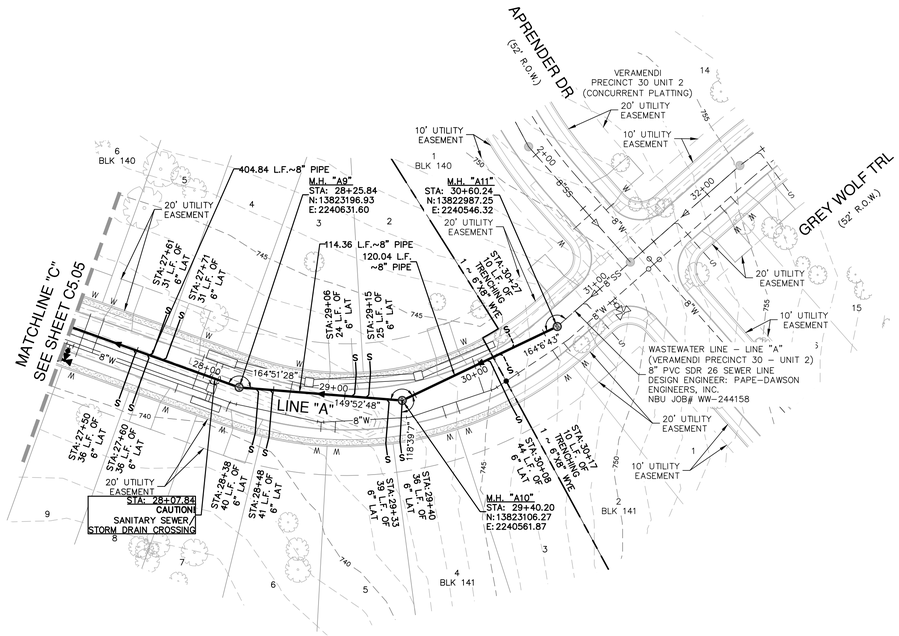

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STA. 27+00.00 TO 30+60.24

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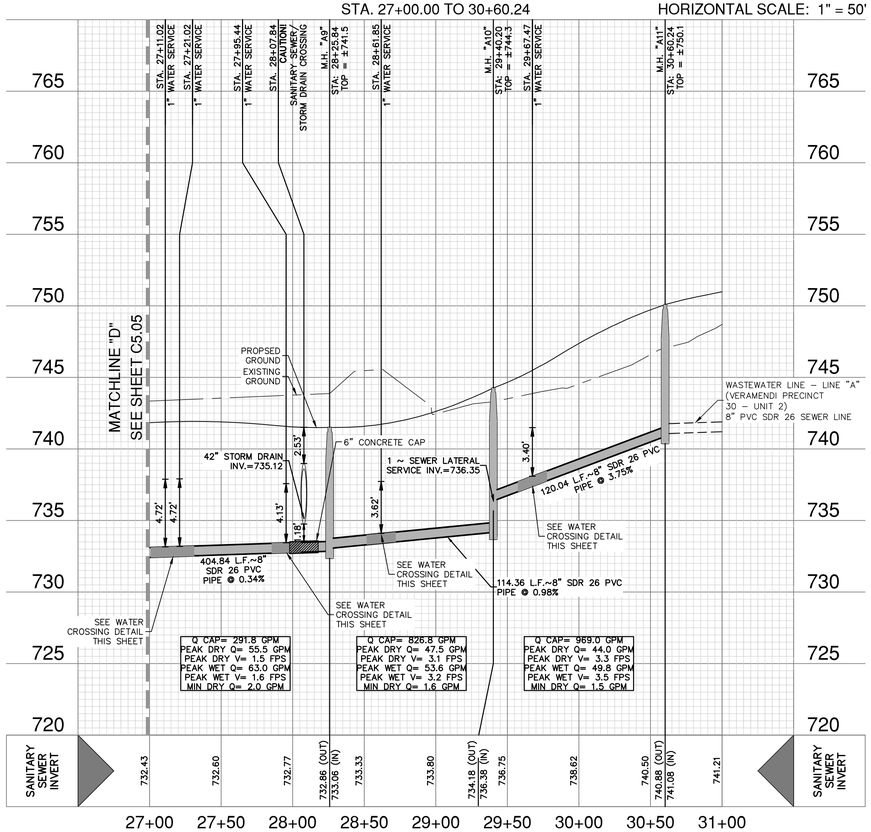

SEWER LEGEND

- PROJECT LIMITS
- EXISTING FIRE HYDRANT
- EXISTING WATER — W —
- EXISTING UNDERGROUND ELECTRIC — UGE —
- EXISTING GAS — G —
- EXISTING SEWER — SS — MANHOLE
- PROPOSED SEWER — SS —
- PROPOSED WATER — W — FIRE HYDRANT
- PROPOSED SEWER LATERAL
- FINISHED FLOOR ELEVATION FOR SEWER — FF = XXXX.XX
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NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
7–25–2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE A - PLAN & PROFILE
STA. 27+00.00 TO 30+60.24

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C5.06

Date: Jul 25, 2024, 10:28am User ID: bhughey
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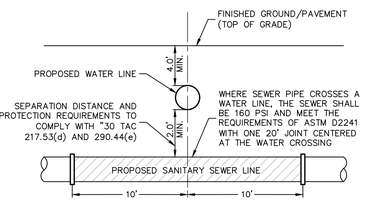
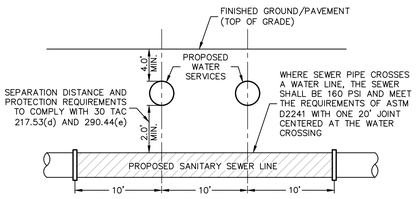


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT–TO–SCALE



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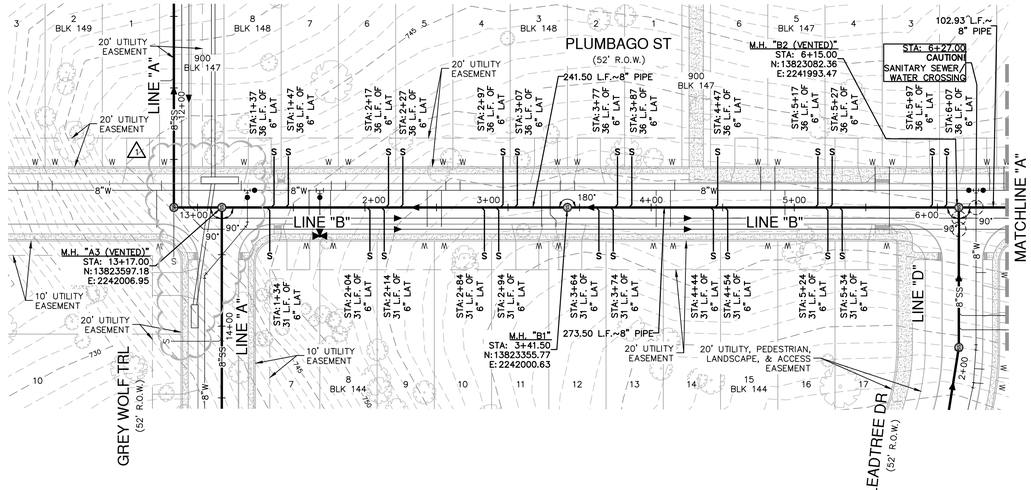
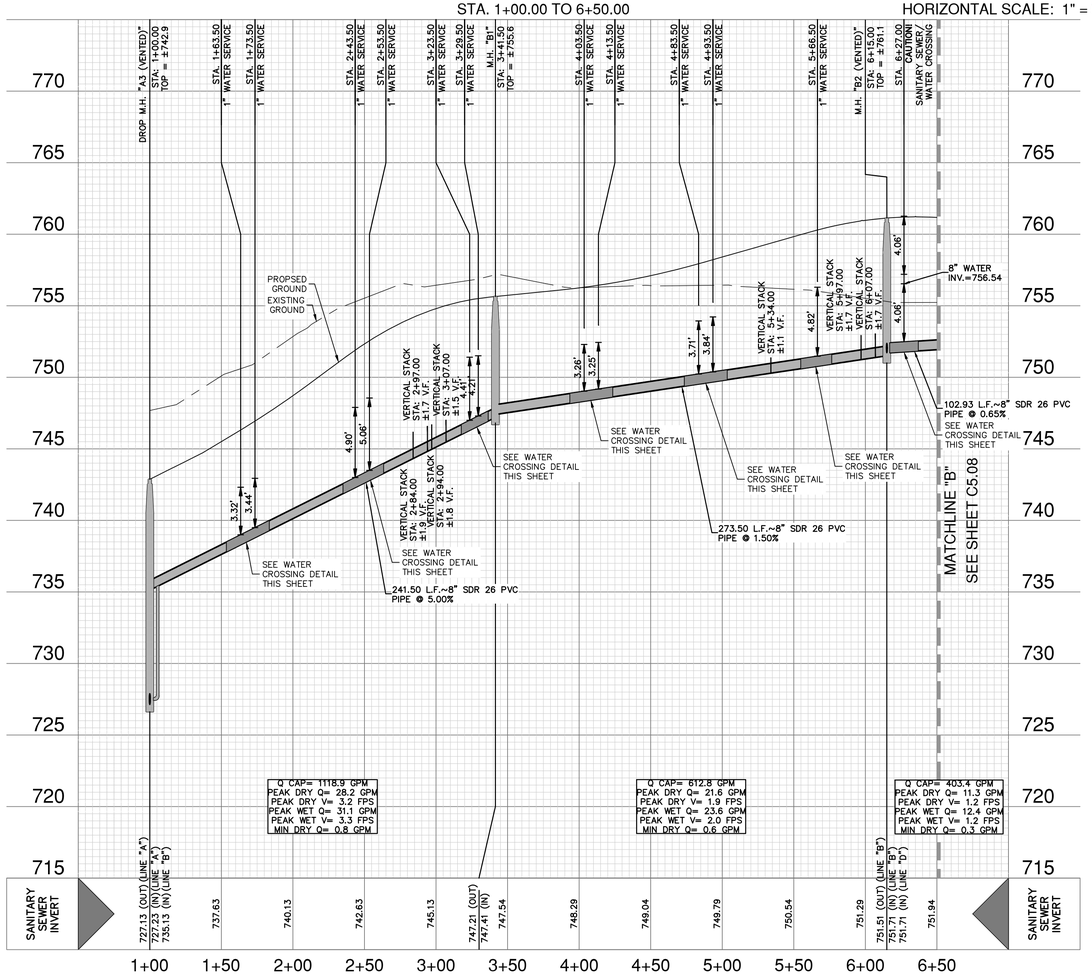
NOT–TO–SCALE



SANITARY SEWER LINE "B" STA. 1+00.00 TO 6+50.00

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



SEWER LEGEND

PROJECT LIMITS
EXISTING WATER (EXISTING FIRE HYDRANT)
EXISTING UNDERGROUND ELECTRIC
EXISTING GAS
EXISTING SEWER (MANHOLE)
PROPOSED SEWER
PROPOSED WATER (FIRE HYDRANT)
PROPOSED SEWER LATERAL
FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
PROPOSED STORM DRAIN
EXISTING STORM DRAIN
PROPOSED GAS
PROPOSED UNDERGROUND ELECTRIC

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 C5.23)
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 SHALL HAVE A MINIMUM SLOPE OF 2%.
13. WASTEWATER LATERALS SHALL BE LAID WITH A MINIMUM OF 36 INCHES OF COVER.
14. NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL, THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
15. 48" MANHOLES ARE REQUIRED FOR ALL MAINS UP TO 18" IN DIAMETER.

NOTE:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

FLOODPLAIN NOTE

1. NO PORTION OF ANY LOT ON THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HARZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0270F EFFECTIVE DATE 9/2/2009.

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 "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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.	REMISION	DATE
1	MOVED DRAIN "B"	09/25/25

9–5–2025

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE–DAWSON
1672 INDEPENDENCE DR., STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE B - PLAN & PROFILE
STA. 1+00.00 TO 6+50.00

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C5.07

FOR PERMIT

Date: Sep 05, 2025, 2:14pm User ID: corcher
File: P:\300\01\73\Design\Civil\SSB–30001–73.dwg

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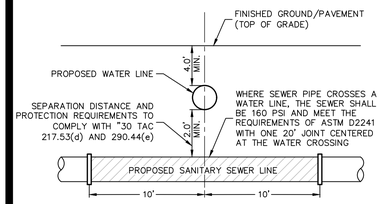
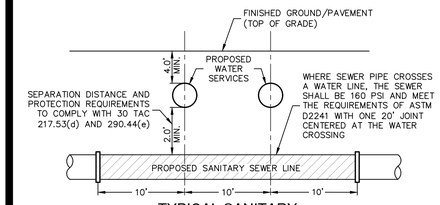
CITY OF NEW BRAUNFELS NOTES

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.
4. 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.



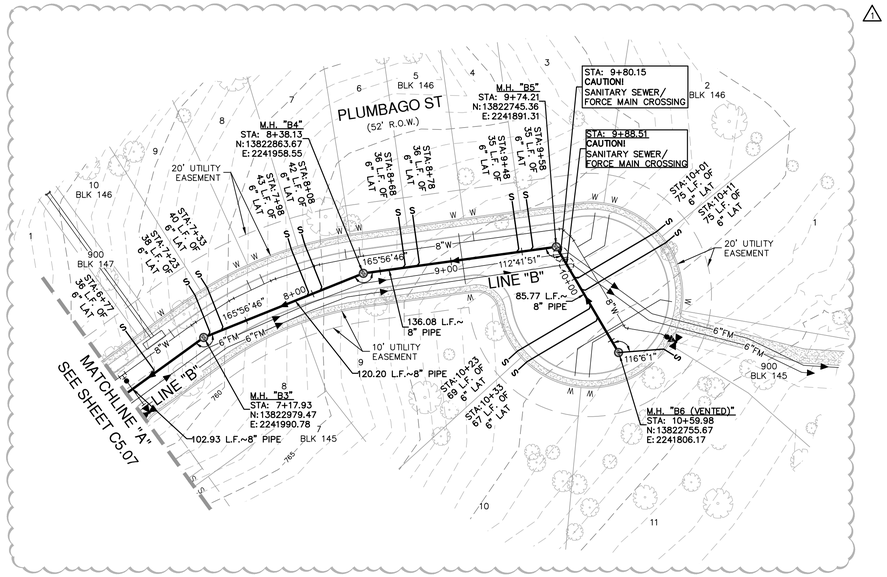
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

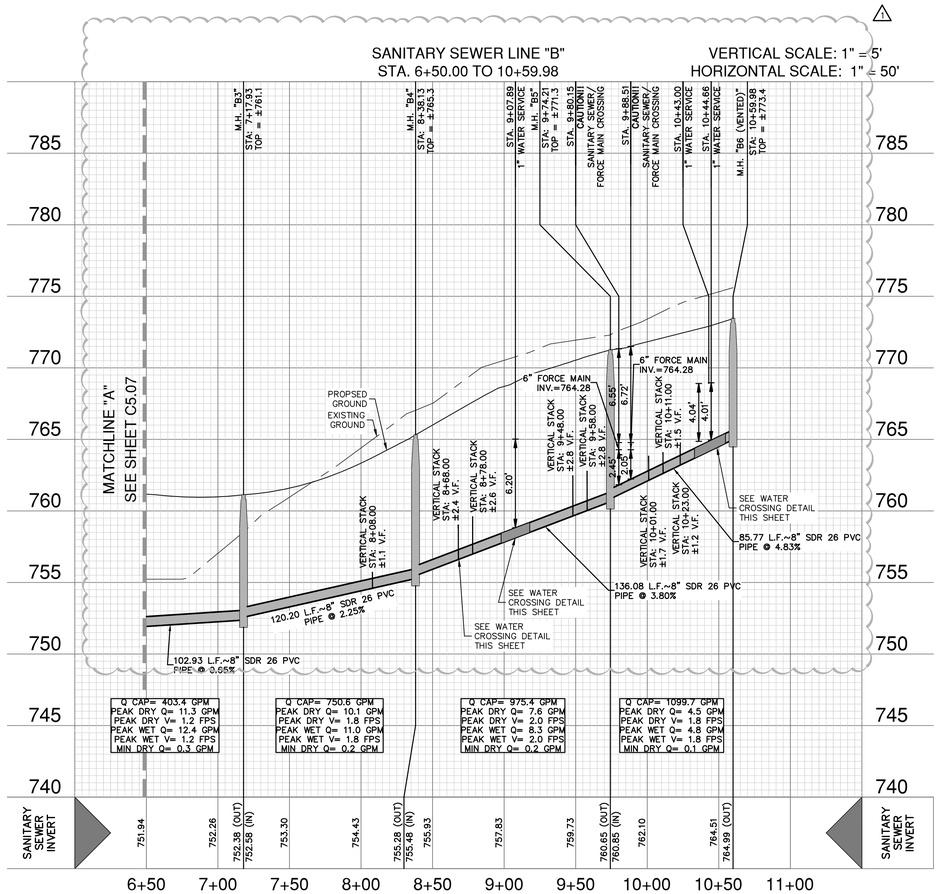
NOT–TO–SCALE

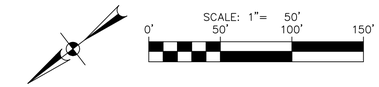


TYPICAL SANITARY SEWER/DOUBLE WATER SERVICE CROSSING DETAIL

NOT–TO–SCALE







SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER (EXISTING FIRE HYDRANT)
- EXISTING UNDERGROUND ELECTRIC (UGE)
- EXISTING GAS (G)
- EXISTING SEWER (MANHOLE)
- PROPOSED SEWER
- PROPOSED WATER (FIRE HYDRANT)
- PROPOSED SEWER LATERAL
- FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS (G)
- PROPOSED UNDERGROUND ELECTRIC (UGE)

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 C5.23)
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:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

FLOODPLAIN NOTE

1. NO PORTION OF ANY LOT ON THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HARZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0270F EFFECTIVE DATE 9/2/2009.

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 "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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NO.	REMISION	DATE
1	MOVED LOT LINES AND SEWER LATERALS	09/05/25

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
9–5–2025

PAPE–DAWSON
1672 INDEPENDENCE DR. STE 102 I NEW BRAUNFELS, TX 78132 I 830.632.5533
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE B - PLAN & PROFILE
STA. 6+50.00 TO 10+59.98

PLAT NO. ____
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C5.08

FOR PERMIT

Date: Sep 05, 2025, 2:14pm User ID: carcher
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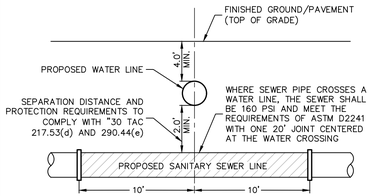
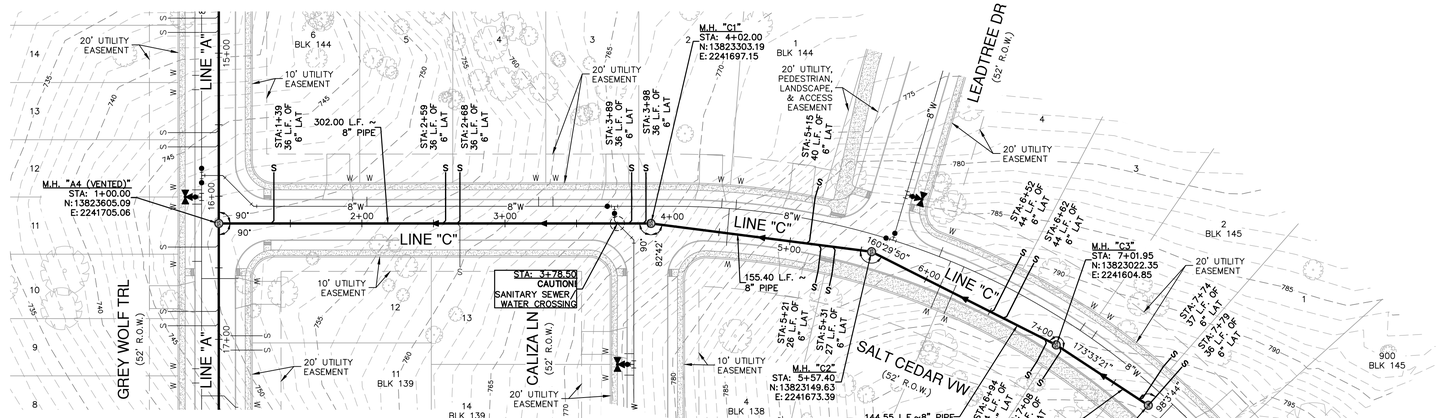
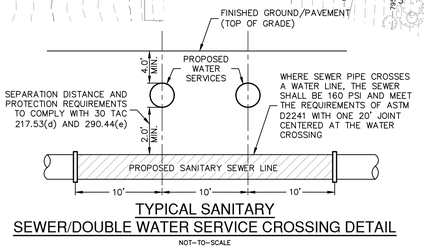


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT–TO–SCALE





TYPICAL SANITARY SEWER/DOUBLE WATER SERVICE CROSSING DETAIL

NOT–TO–SCALE

SCALE: 1"= 50'

0' 50' 100' 150'

SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER (EXISTING FIRE HYDRANT)
- EXISTING UNDERGROUND ELECTRIC (UGE)
- EXISTING GAS (G)
- EXISTING SEWER (MANHOLE)
- PROPOSED SEWER
- PROPOSED WATER (FIRE HYDRANT)
- PROPOSED SEWER LATERAL
- FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS (G)
- PROPOSED UNDERGROUND ELECTRIC (UGE)

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 C5.22)
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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12. ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE AND SHALL HAVE A MINIMUM SLOPE OF 2%.
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NOTE:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

FLOODPLAIN NOTE

1. NO PORTION OF ANY LOT ON THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HARZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0270F EFFECTIVE DATE 9/2/2009.

CAUTION!!

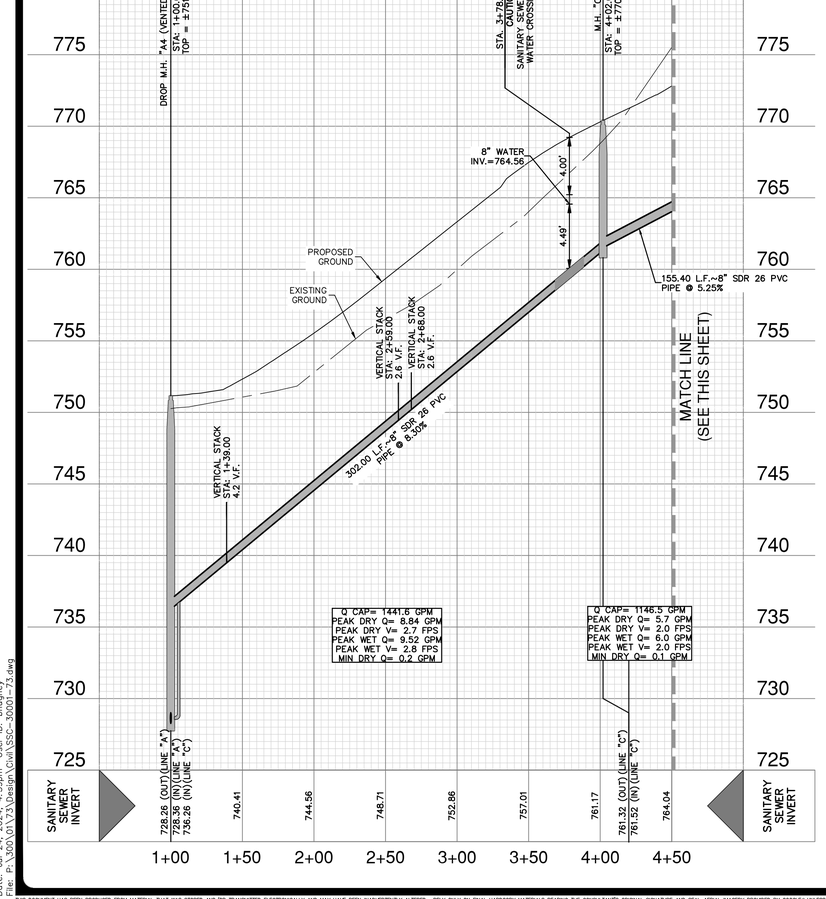
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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.

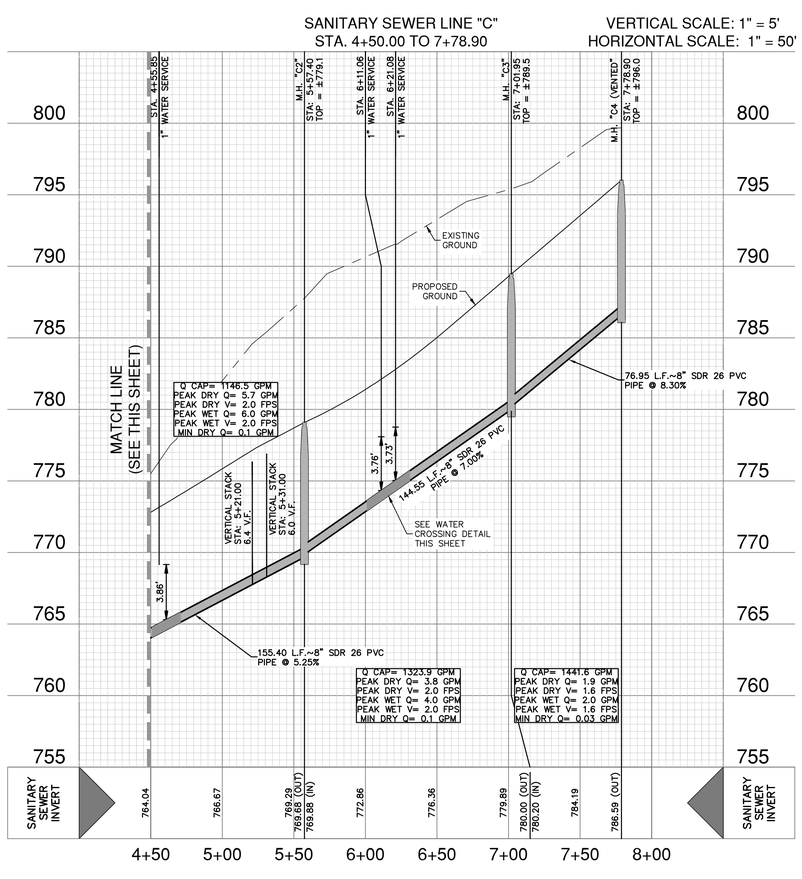
SANITARY SEWER LINE "C"
STA. 1+00.00 TO 4+50.00

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



SANITARY SEWER LINE "C"
STA. 4+50.00 TO 7+78.90

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



FOR PERMIT

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
7–24–2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE C - PLAN & PROFILE
STA. 1+00.00 TO 7+78.90

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C5.09

Date: Jul 24, 2024, 4:59pm User ID: bhughey
File: P:\3001\01\73\Design\Civil\SSC–30001–73.dwg

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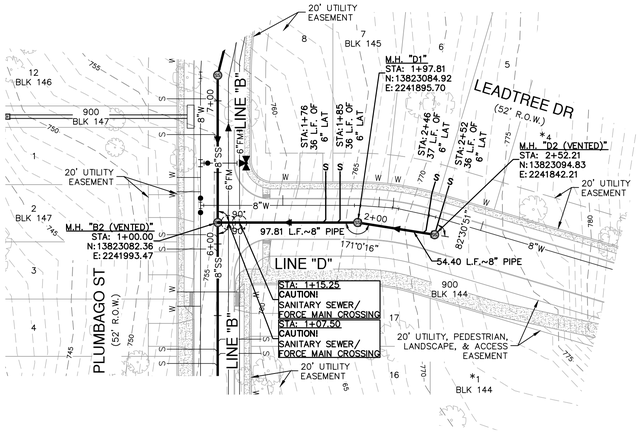
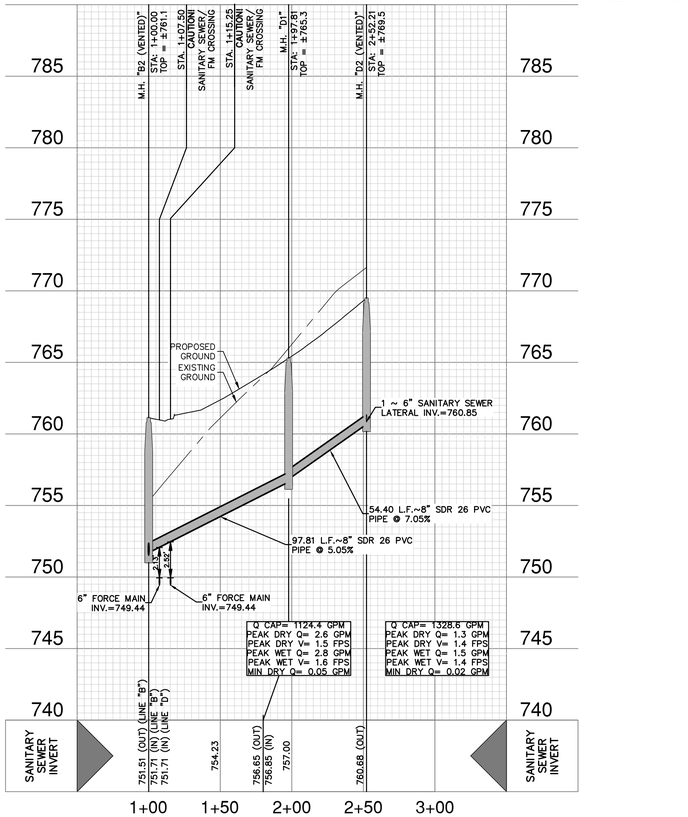
CITY OF NEW BRAUNFELS NOTES

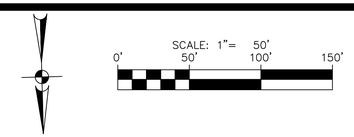
1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5–FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS 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.
4. 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 "D"
STA. 1+00.00 TO 2+52.21

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





SEWER LEGEND

PROJECT LIMITS
EXISTING WATER (EXISTING FIRE HYDRANT)
EXISTING UNDERGROUND ELECTRIC (UGE)
EXISTING GAS (G)
EXISTING SEWER (SS, MANHOLE)
PROPOSED SEWER (SS, MANHOLE)
PROPOSED WATER (FIRE HYDRANT, W)
PROPOSED SEWER LATERAL (S)
FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
PROPOSED STORM DRAIN
EXISTING STORM DRAIN
PROPOSED GAS (G)
PROPOSED UNDERGROUND ELECTRIC (UGE)

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 C5.23)
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 SHALL HAVE A MINIMUM SLOPE OF 2%.
13. WASTEWATER LATERALS SHALL BE LAID WITH A MINIMUM OF 36 INCHES OF COVER.
14. NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL, THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
15. 48" MANHOLES ARE REQUIRED FOR ALL MAINS UP TO 18" IN DIAMETER.

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NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
6–26–2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE D - PLAN & PROFILE
STA. 1+00.00 TO 2+52.21

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNED GDL
CHECKED JP DRAWN CA
SHEET C5.10

FOR PERMIT

Date: Jun 26, 2025, 11:31am User ID: jesquivel
File: P:\300\01\73\Design\Civil\SSD–30001–73.dwg

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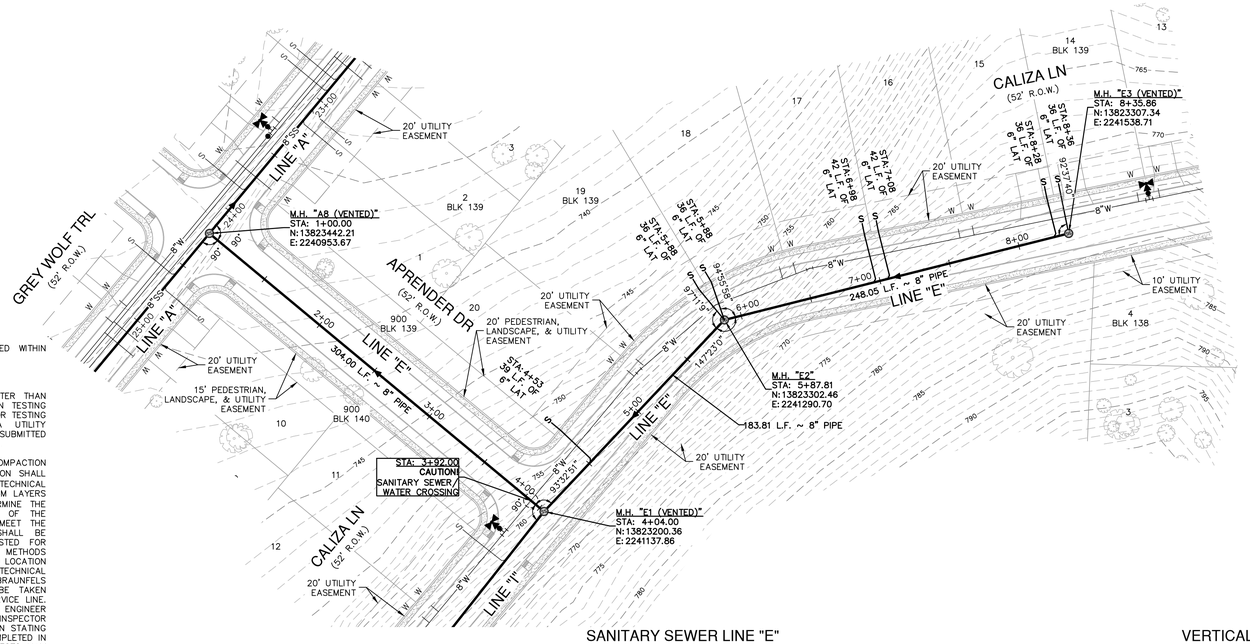

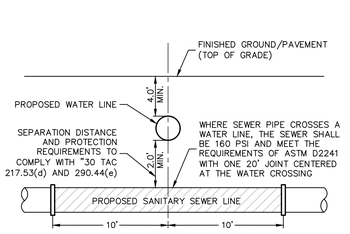

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

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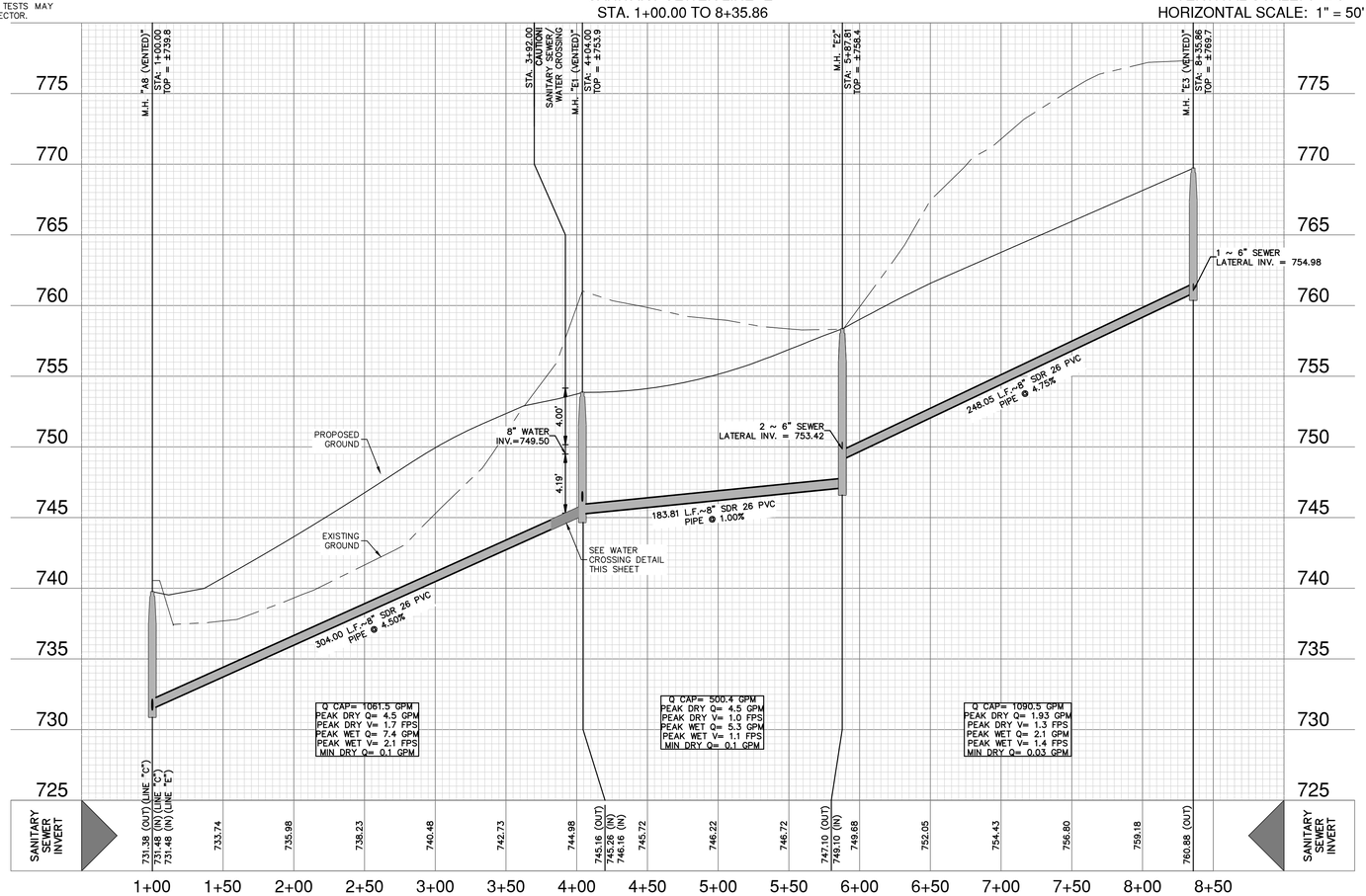
SANITARY SEWER LINE "E"
STA. 1+00.00 TO 8+35.86

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



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

SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER (EXISTING FIRE HYDRANT)
- EXISTING UNDERGROUND ELECTRIC (UGE)
- EXISTING GAS (G)
- EXISTING SEWER (SS, MANHOLE)
- PROPOSED SEWER (SS, MANHOLE)
- PROPOSED WATER (FIRE HYDRANT)
- PROPOSED SEWER LATERAL (S)
- FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
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- PROPOSED GAS (G)
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NOTES

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NO.	REVISION	DATE

7-24-2024
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE E - PLAN & PROFILE
STA. 1+00.00 TO 8+35.86

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C5.11

FOR PERMIT

Date: Jul 24, 2024, 5:09pm User ID: bhughey
File: P:\300\01\73\Design\Civil\SSE-30001-73.dwg

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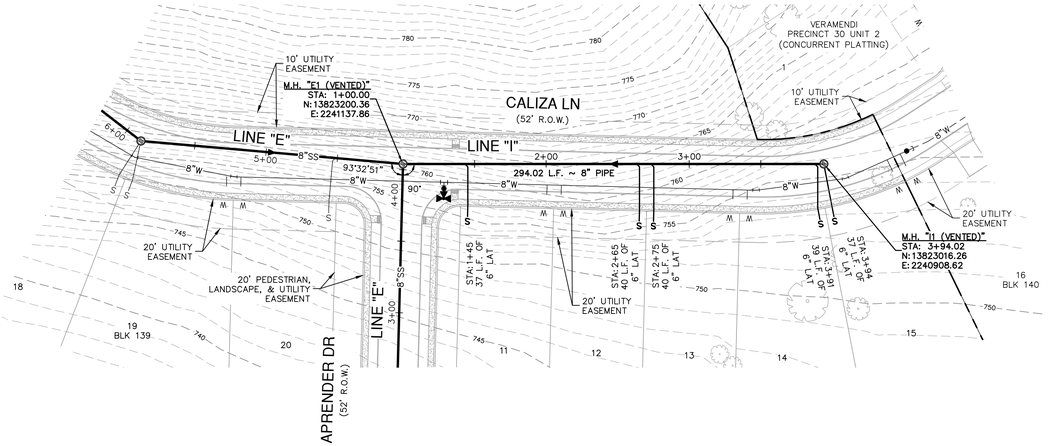
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

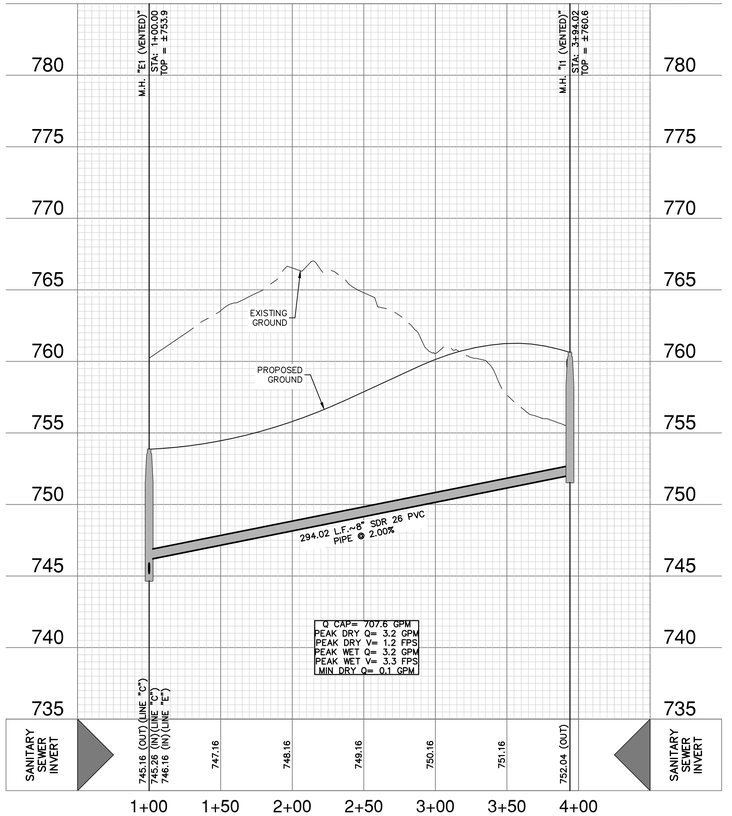
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5–FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

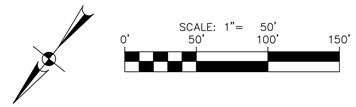
4. UTILITY TRENCH COMPACTION – ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS 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 "I"
STA. 1+00.00 TO 3+94.02

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





SEWER LEGEND

PROJECT LIMITS

EXISTING WATER — EXISTING FIRE HYDRANT

EXISTING UNDERGROUND ELECTRIC — UGE

EXISTING GAS — G

EXISTING SEWER — SS — MANHOLE

PROPOSED SEWER — SS — MANHOLE

PROPOSED WATER — FIRE HYDRANT

PROPOSED SEWER LATERAL

FINISHED FLOOR ELEVATION FOR SEWER — FF = XXXX.XX

PROPOSED STORM DRAIN

EXISTING STORM DRAIN

PROPOSED GAS — G

PROPOSED UNDERGROUND ELECTRIC — UGE

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 C5.22)

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 SHALL HAVE A MINIMUM SLOPE OF 2%.

13. WASTEWATER LATERALS SHALL BE LAID WITH A MINIMUM OF 36 INCHES OF COVER.

14. NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL, THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.

15. 48" MANHOLES ARE REQUIRED FOR ALL MAINS UP TO 18" IN DIAMETER.

NOTE:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

FLOODPLAIN NOTE

1. NO PORTION OF ANY LOT ON THIS PROJECT IS WITHIN AN INDICATED SPECIAL FLOOD HARZARD ZONE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0270F EFFECTIVE DATE 9/2/2009.

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 "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 CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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

7–24–2024

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE I - PLAN & PROFILE
STA. 1+00.00 TO 3+94.02

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C5.12

FOR PERMIT

Date: Jul 24, 2024, 5:01pm User ID: bhughey
File: P:\300\01\73\Design\Civil\SS–30001–73.dwg

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CITY OF NEW BRAUNFELS 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.
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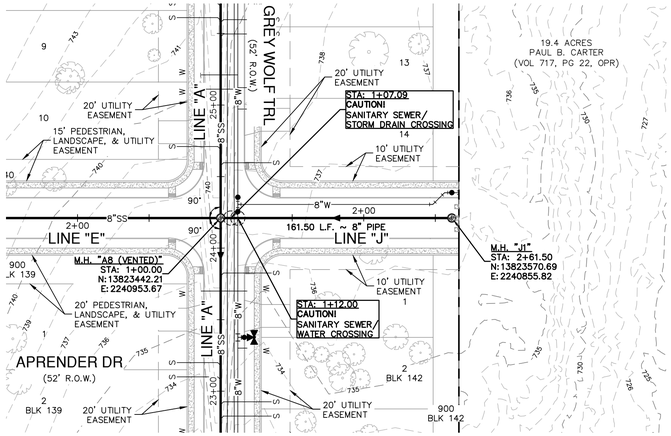

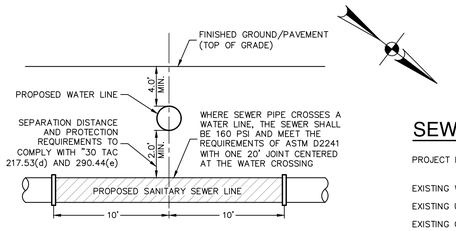

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

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

SEWER LEGEND

- PROJECT LIMITS
- EXISTING WATER (EXISTING FIRE HYDRANT)
- EXISTING UNDERGROUND ELECTRIC (UGE)
- EXISTING GAS (G)
- EXISTING SEWER (SS, MANHOLE)
- PROPOSED SEWER (SS, MANHOLE)
- PROPOSED WATER (FIRE HYDRANT, W)
- PROPOSED SEWER LATERAL (S)
- FINISHED FLOOR ELEVATION FOR SEWER (FF = XXXX.XX)
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS (G)
- PROPOSED UNDERGROUND ELECTRIC (UGE)

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.
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CAUTION!!

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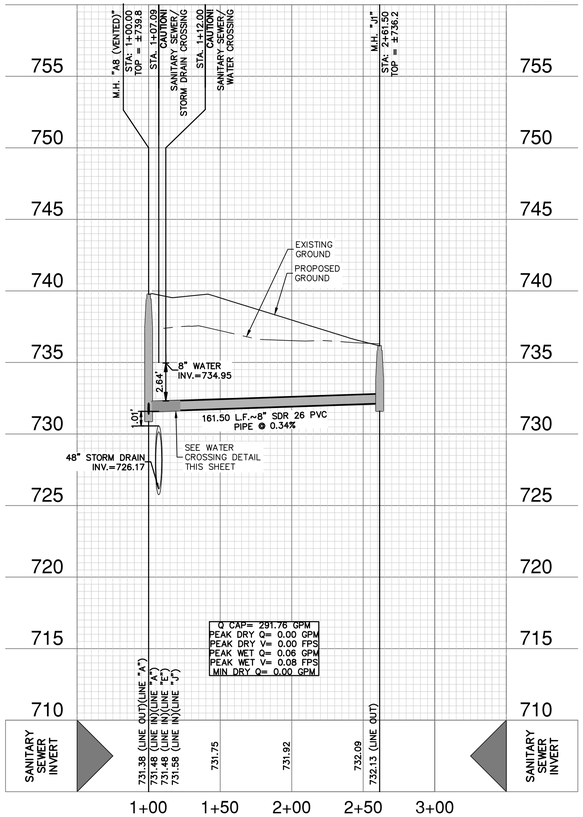
SANITARY SEWER LINE "J" VERTICAL SCALE: 1" = 5'
STA. 1+00.00 TO 2+61.50 HORIZONTAL SCALE: 1" = 50'



NO.	REVISION	DATE

12-30-2024
STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE J - PLAN & PROFILE
STA. 1+00.00 TO 2+61.50

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C5.13

FOR PERMIT

Date: Jan 06, 2025, 9:53am User ID: glattimer
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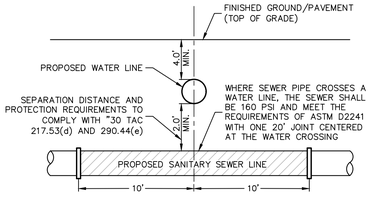
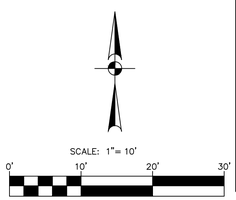
Point Table			
Point #	Northing	Easting	Description
39	13823632.07	2242145.61	ROAD PC
40	13823622.89	2242035.96	CONCRETE DRIVEWAY/ROAD
41	13823620.24	2242024.06	CONCRETE DRIVEWAY
42	13823634.93	2242036.45	CONCRETE DRIVEWAY/ROAD
43	13823638.24	2242024.54	CONCRETE DRIVEWAY
49	13823638.95	2242020.09	1" WATER LINE SERVICE CONNECTION
52	13823637.99	2242060.54	WATER METER
65	13823635.67	2242156.51	END 1" WATER LINE (INSTALL PLUG)
66	13823634.24	2242156.48	END ACCESS DRIVE
67	13823621.29	2242156.14	END 6" FM (INSTALL PLUG)
68	13823616.29	2242156.01	END 6" FM (INSTALL PLUG)
69	13823619.79	2242156.10	END ACCESS DRIVE

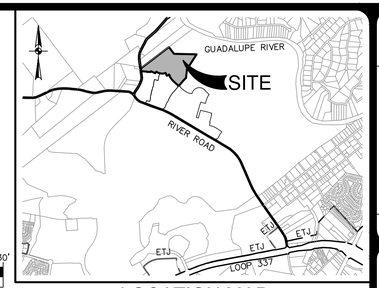
ITEM	UNIT	QUANTITY
1" Meter	EA	1



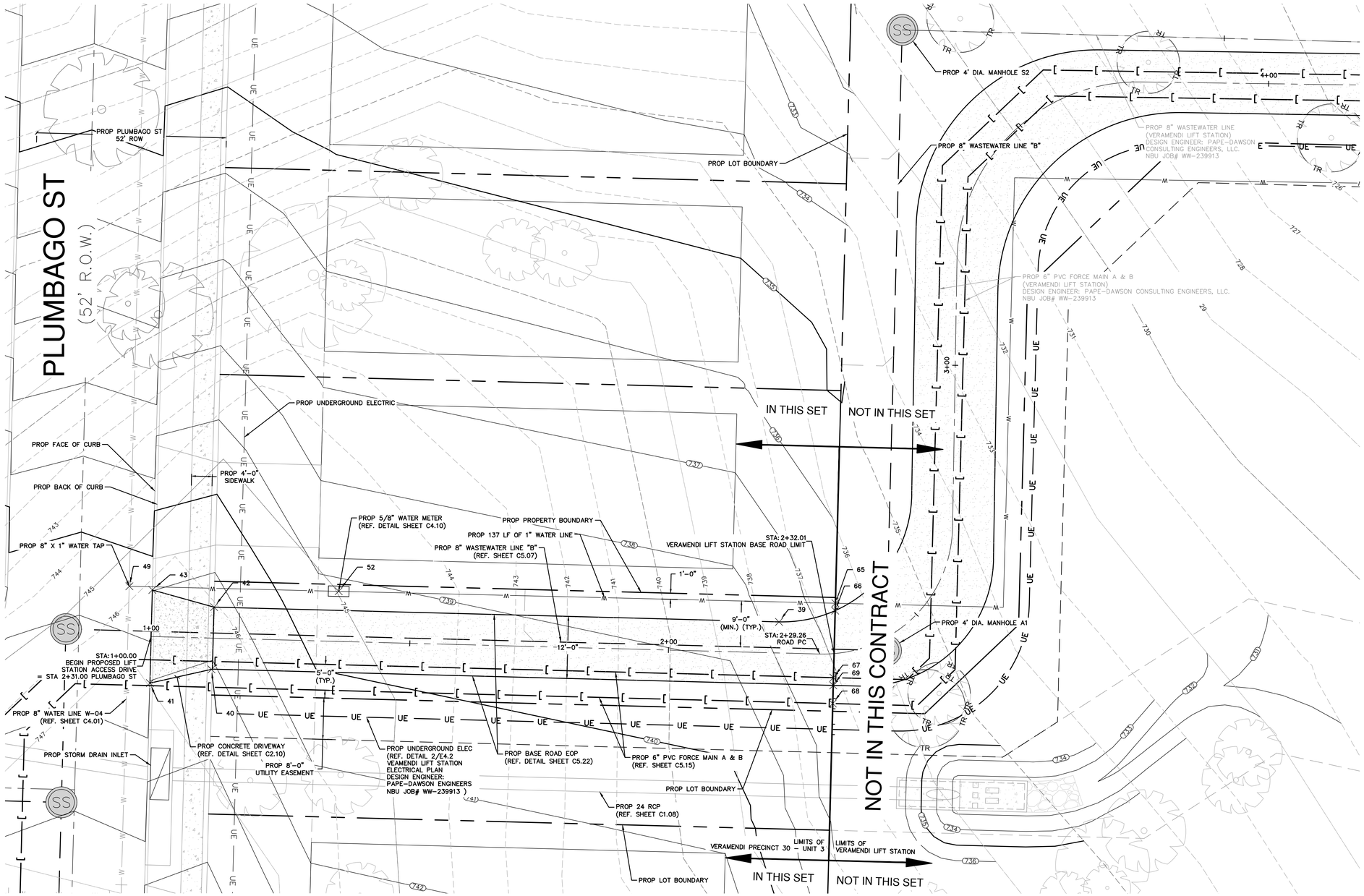
TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE





LOCATION MAP



WASTEWATER LEGEND

- PROPERTY LINE
- EXISTING WATER
- EXISTING WASTEWATER
- SANITARY SEWER EASEMENT
- PROPOSED WASTEWATER & MH
- PROPOSED FORCE MAIN
- PROPOSED WATER
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED FENCE
- PROPOSED CONTOURS
- EXISTING CONTOURS
- TREES TO BE REMOVED
- TREES TO REMAIN

LIFT STATION NOTES:

1. ALL SUPPORT BRACKETS, HARDWARE, ANCHORS, BOLTS, ETC. INSIDE WET WELL SHALL BE TYPE 316 STAINLESS STEEL.
2. ALL GRAVITY PVC PIPE TO BE ASTM D3034 SDR 26 PIPING WITH TRACER TAPE. ALL FM PVC PIPE TO BE ASTM D2241 SDR 26 (CLASS 200) WITH TRACER TAPE.
3. ALL MECHANICAL JOINT FITTINGS TO BE RESTRAINED USING SERIES 1100 OR 2000PV MEGALUG JOINT RESTRAINTS.
4. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. CONTRACTOR TO GRADE SITE TO DRAIN TOWARDS ROAD RIGHT-OF-WAY OR THE PROPOSED DETENTION POND. CONTRACTOR TO TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
5. PRECAST MANHOLES SHALL BE PROVIDED PER NEW BRAUNFELS UTILITIES SPECIFICATIONS.
6. ALL WATER SERVICES SHALL CONFORM TO NBU STANDARD DETAILS.
7. WATER LINE SHALL HAVE A MINIMUM COVER OF 4'. CONTRACTOR TO AVOID HIGH POINTS DURING INSTALLATION.
8. WATER LINE SHALL BE ASTM B88 TYPE K ANNEALED SEAMLESS COPPER TUBING.

NO.	REVISION	DATE

STATE OF TEXAS
FRANCISCO C. GUERRERO
85464
LICENSED PROFESSIONAL ENGINEER
6/25/2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

LIFT STATION BASE ROAD PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER LL
CHECKED FG DRAWN JL
SHEET C5.14

Date: Jun 25, 2025, 4:08pm User ID: JLing
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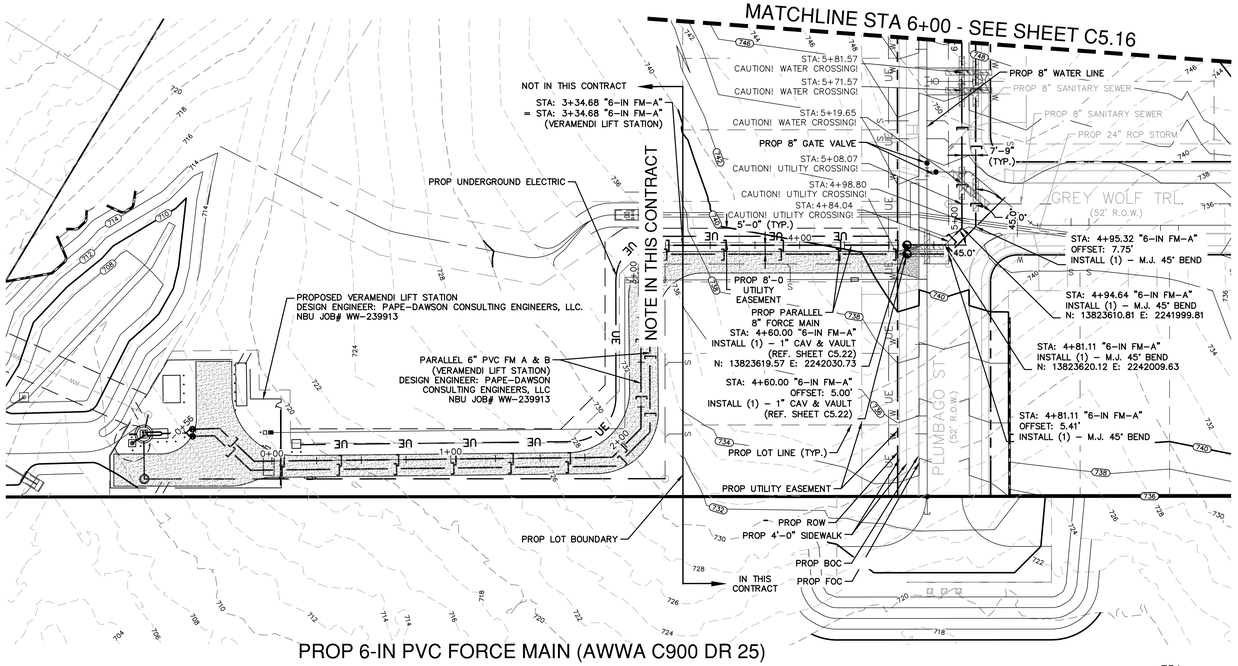
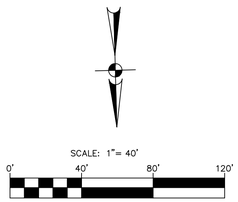
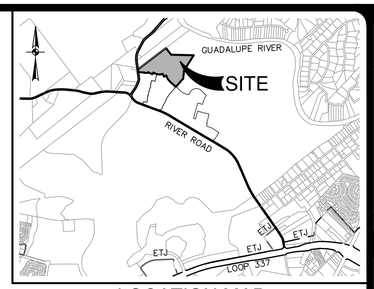
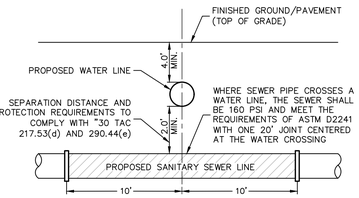






LOCATION MAP



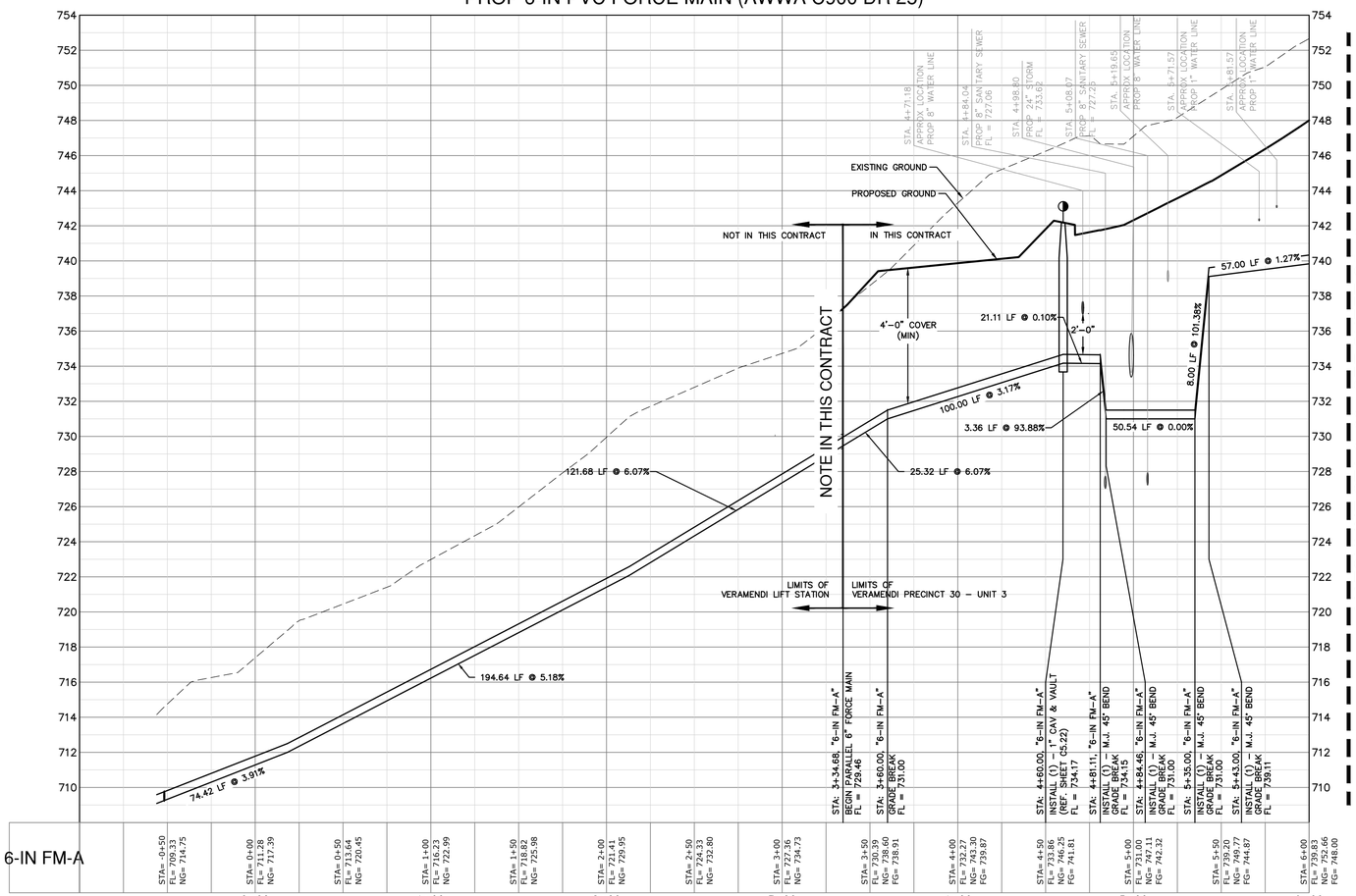
TYPICAL SANITARY
SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

LEGEND

- PROPERTY LINE
- PROPOSED FORCE MAIN
- PROPOSED SANITARY SEWER
- PROPOSED WATER
- PROPOSED SANITARY SEWER (BY OTHERS)
- PROPOSED S.S. SERVICE LINE (BY OTHERS) — S
- PROPOSED WATER (BY OTHERS)
- PROPOSED WATER SERVICE LINE (BY OTHERS) — W
- PROPOSED STORM DRAIN (BY OTHERS)
- PROPOSED MAJOR CONTOURS — 745
- PROPOSED MINOR CONTOURS — 744
- EXISTING MAJOR CONTOURS — 735
- EXISTING MINOR CONTOURS — 734
- WATER/SEWER CROSSING (REF. DETAIL)

PROP 6-IN PVC FORCE MAIN (AWWA C900 DR 25)



MATCHLINE STA 6+00 - SEE SHEET C5.16

NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE ASSOCIATED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. 2' MINIMUM VERTICAL CLEARANCE BETWEEN WATERLINE AND SANITARY SEWER CROSSING OR 6" MINIMUM VERTICAL CLEARANCE WHEN USING PRESSURIZED SANITARY SEWER RATED AT LEAST 150 PSI AND SANITARY SEWER IS UNDER WATER LINE.
3. SANITARY SEWER FORCE MAIN SHALL BE CONSTRUCTED OF AWWA C900 DR 25 (COLOR GREEN, CLASS 160) WITH TRACER PIPE.
4. PLUG VALVE TO BE FLANGED WITH EXTENSION STEM HOUSED IN A CONCRETE VALVE BOX WITH LID.
5. BENDS SHOWN ON FORCE MAIN ARE GRAPHICAL IN NATURE ONLY. CONTRACTOR TO INSTALL SWEEPS AT ALL BEND LOCATIONS.
6. TREES GREATER THAN 6" IN DIAMETER SHALL REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL CONDUCT THE NECESSARY PRECAUTIONS TO PRESERVE THE INTEGRITY OF THE TREES. TRESS TO REMAIN SHALL BE FLAGGED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.
7. ALL PIPE JOINTS TO BE RESTRAINED.

NO.	REVISION	DATE

STATE OF TEXAS
FRANCISCO C. GUERRERO
85464
LICENSED
PROFESSIONAL ENGINEER
6/25/2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5833
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

FM PLAN AND PROFILE 3+34.68 - 6+00.00

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER LL
CHECKED FG DRAWN JL
SHEET C5.15

FOR PERMIT

Date: Jun 25, 2025, 3:53pm User ID: JLing
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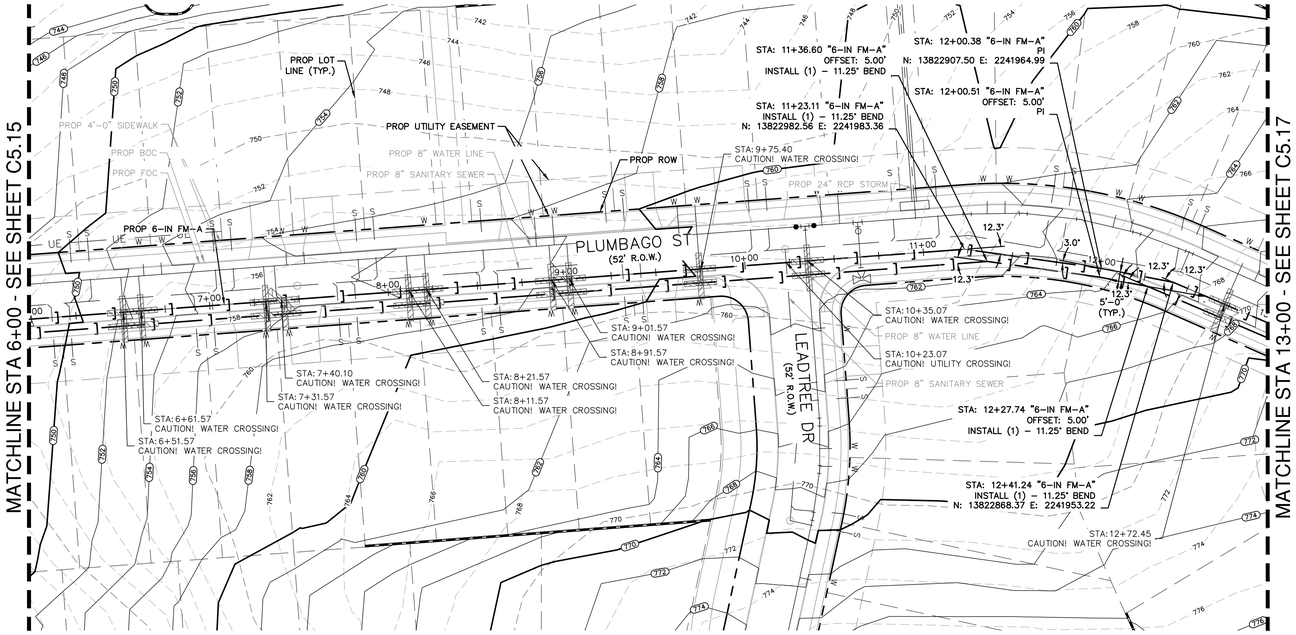
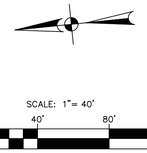
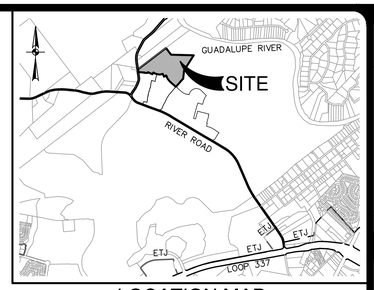
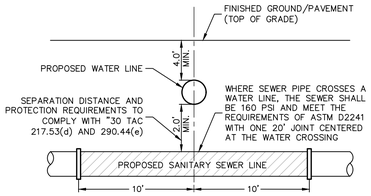






LOCATION MAP

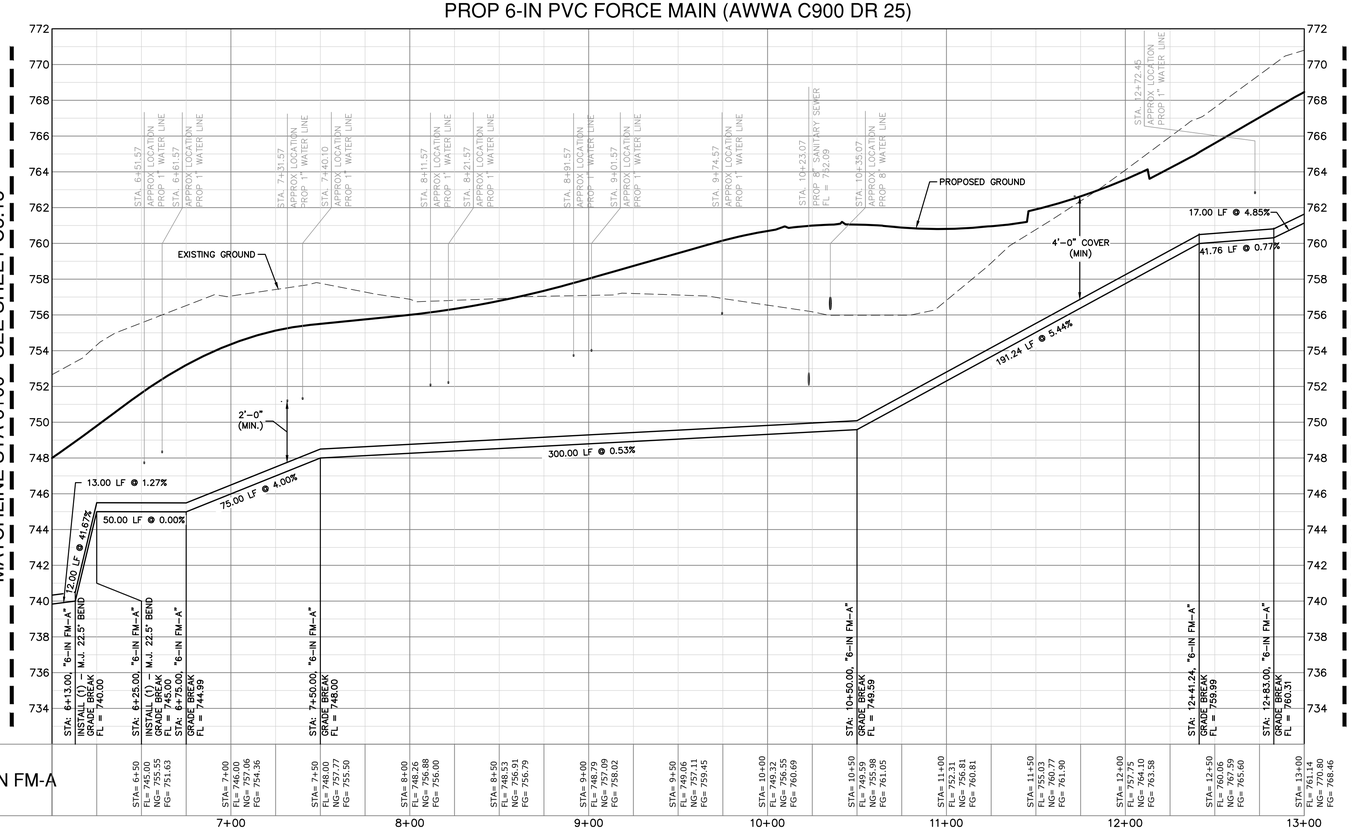


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

LEGEND

- PROPERTY LINE
- PROPOSED FORCE MAIN
- PROPOSED SANITARY SEWER
- PROPOSED WATER
- PROPOSED SANITARY SEWER (BY OTHERS)
- PROPOSED S.S. SERVICE LINE (BY OTHERS) — S
- PROPOSED WATER (BY OTHERS)
- PROPOSED WATER SERVICE LINE (BY OTHERS) — W
- PROPOSED STORM DRAIN (BY OTHERS)
- PROPOSED MAJOR CONTOURS (745)
- PROPOSED MINOR CONTOURS (744)
- EXISTING MAJOR CONTOURS (735)
- EXISTING MINOR CONTOURS (734)
- WATER/SEWER CROSSING (REF. DETAIL)



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3. SANITARY SEWER FORCE MAIN SHALL BE CONSTRUCTED OF ASTM D2241 SDR 26 PVC (COLOR GREEN, CLASS 160) WITH TRACER PIPE.
4. PLUG VALVE TO BE FLANGED WITH EXTENSION STEM HOUSED IN A CONCRETE VALVE BOX WITH LID.
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6. TREES GREATER THAN 6" IN DIAMETER SHALL REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL CONDUCT THE NECESSARY PRECAUTIONS TO PRESERVE THE INTEGRITY OF THE TREES. TRESS TO REMAIN SHALL BE FLAGGED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.
7. ALL JOINTS TO BE RESTRAINED ON BOTH SIDE OF THE VERTICAL BEND. ALL HORIZONTAL BEND SHALL USE THRUST BLOCK. (REF. DETAIL SHEET C5.22)
8. WHERE PI'S ARE SHOWN ON THE PLAN AND A FITTING IS NOT INDICATED TO BE INSTALLED,THEIR TRANSITION SHALL BE ACHIEVED BY DEFLECTING THE PIPE JOINT. THE LAYING SCHEDULE PROVIDED BY THE PIPE MANUFACTURER SHALL PROVIDE REVISED FLOW LINE ELEVATIONS TO MAKE THIS TRANSITION BASED ON ACTUAL JOINT LOCATIONS. THE CONTRACTOR IS TO PROVIDE PIPE JOINT DEFLECTIONS TO ACHIEVE PI OR GRADE BREAK CHANGES PER THE TABLES BELOW:

JOINT DEFLECTIONS (3° MAX)		
PIPE JOINT DEFLECTION	VERTICAL DEFLECTION (%)	HORIZONTAL DEFLECTION (°)
1 JOINT	0–5%	0–3
2 JOINT	5–10%	3–6
3 JOINT	10–15%	6–9

RESTRAINED JOINT DEFLECTIONS (2° MAX)		
PIPE JOINT DEFLECTION	VERTICAL DEFLECTION (%)	HORIZONTAL DEFLECTION (°)
1 JOINT	0–3.3%	0–2
2 JOINT	3.3–6.7%	2–4
3 JOINT	6.7–10%	4–6

9. IF CONTRACTOR SELECTS RESTRAINED JOINT PIPE WITH MAX DEFLECTION LESS THAN 2 DEGREES, CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING LAYING LENGTHS TO MEET PI'S, GRADE, BREAKS AND CURVES.

NO.	REVISION	DATE

STATE OF TEXAS
FRANCISCO C. GUERRERO
85464
LICENSED PROFESSIONAL ENGINEER
6/25/2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5833
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

FM PLAN AND PROFILE 6+00 - 13+00

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER LL
CHECKED FG DRAWN JL
SHEET C5.16

FOR PERMIT

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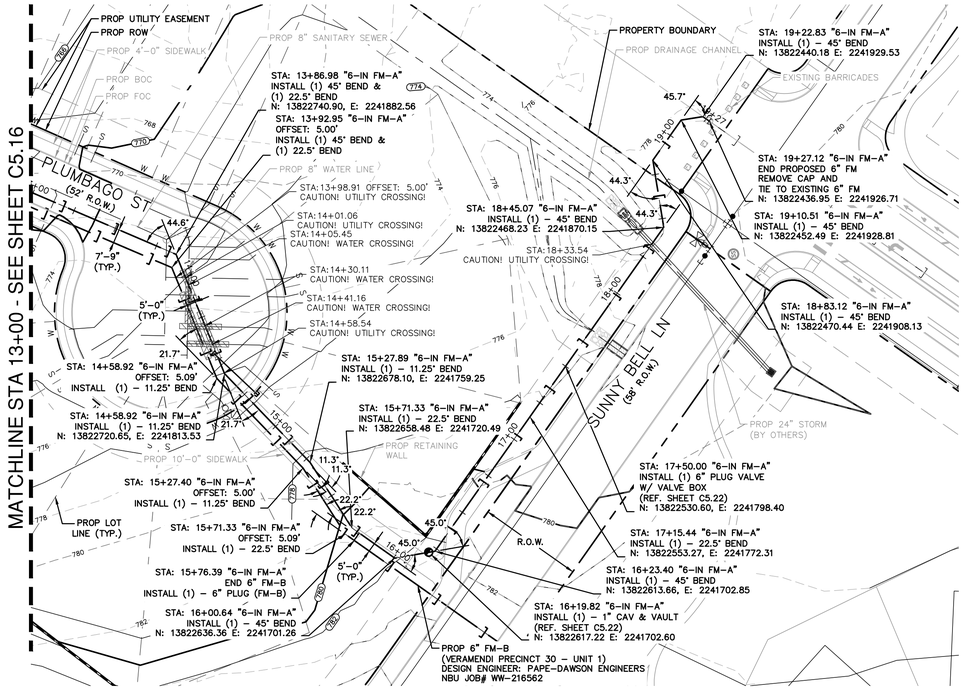
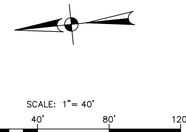
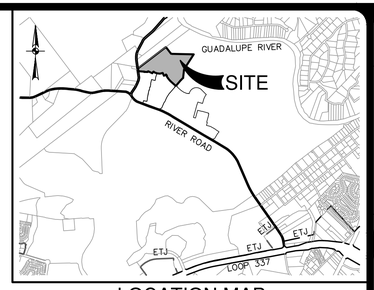
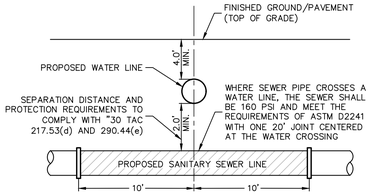






LOCATION MAP



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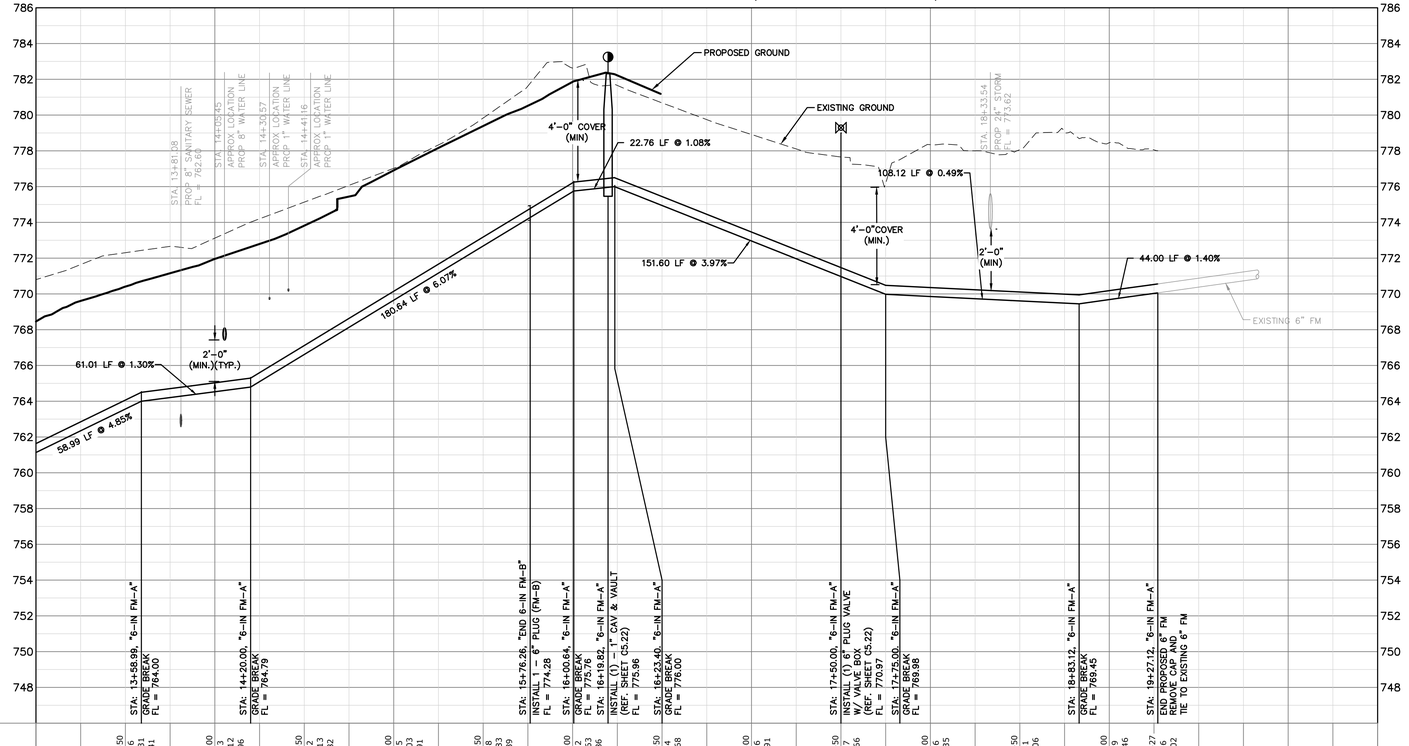

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NO.	REVISION	DATE

STATE OF TEXAS
FRANCISCO C. GUERRERO
85464
LICENSED PROFESSIONAL ENGINEER
6/25/2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

FM PLAN AND PROFILE 13+00 - END

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER LL
CHECKED FG DRAWN JL
SHEET C5.17

FOR PERMIT

Date: Jun 25, 2025, 4:17pm User ID: JLing
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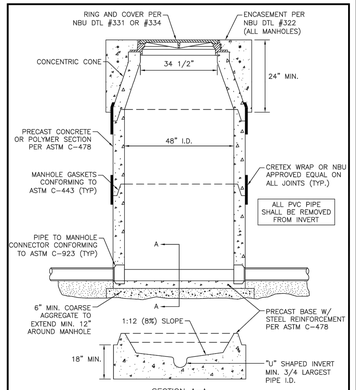
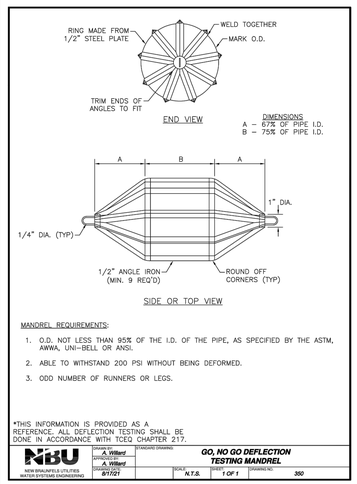
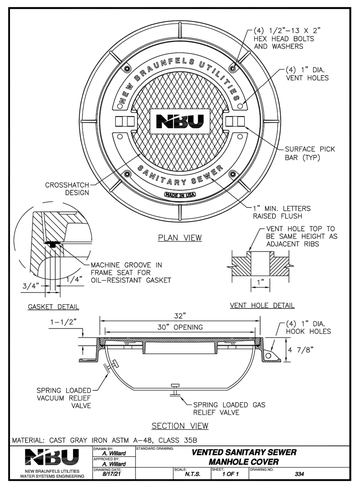
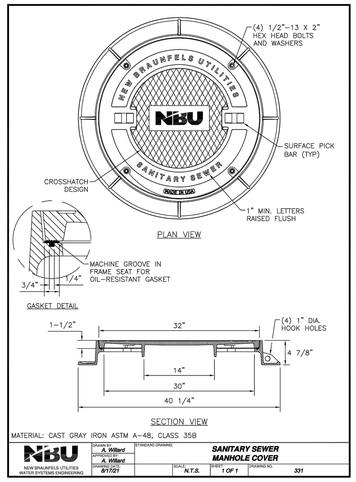
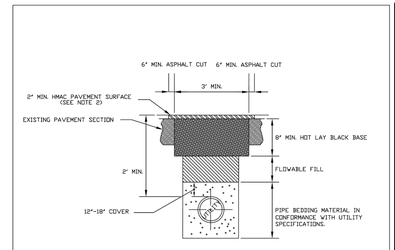






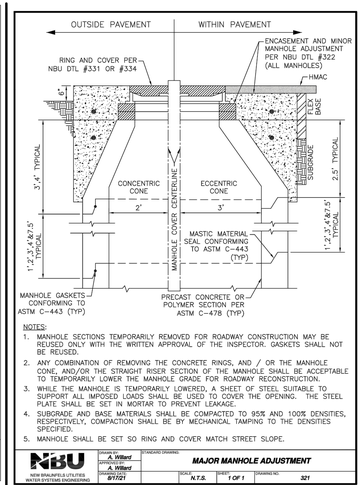




NOTES:
1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE AT A MINIMUM OF 12" WIDER THAN UNDISTURBED SIDES OF THE TRENCH SYMMETRICAL ABOUT THE CENTERLINE OF THE EXCAVATION.
2. REPLACEMENT HMAC SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION.
   A) MIN.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

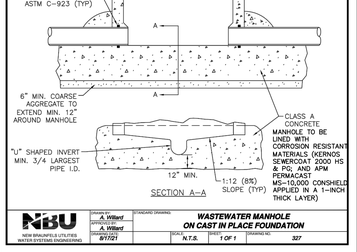
TRENCH REPAIR DETAIL	CITY OF NEW BRAUNFELS ENGINEERING DIVISION
ISSUE DATE: APRIL 2015	SCALE: N.T.S
DRAWN BY: AHF	CONTACT: GF

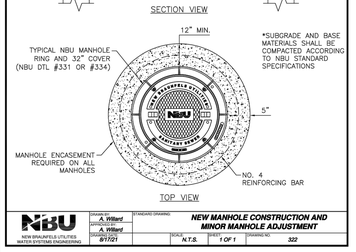
SANITARY SEWER PIPE LAID IN TRENCH
(WITHIN PAVEMENT)
NOT TO SCALE

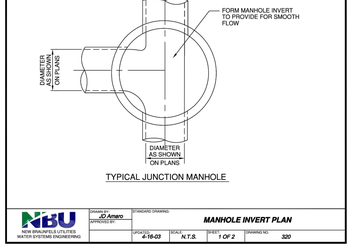


NOTES:
1. MANHOLE SECTIONS TEMPORARILY REMOVED FOR ROADWAY CONSTRUCTION MAY BE REUSED ONLY WITH THE WRITTEN APPROVAL OF THE INSPECTOR. GASKETS SHALL NOT BE REUSED.
2. ANY COMBINATION OF REMOVING THE CONCRETE RINGS, AND / OR THE MANHOLE CONE, AND/OR THE STRAIGHT RISER SECTION OF THE MANHOLE SHALL BE ACCEPTABLE TO TEMPORARILY LOWER THE MANHOLE GRADE FOR ROADWAY RECONSTRUCTION.
3. WHILE THE MANHOLE IS TEMPORARILY LOWERED, A SHEET OF STEEL SUITABLE TO SUPPORT ALL IMPOSED LOADS SHALL BE USED TO COVER THE OPENING. THE STEEL PLATE SHALL BE SET IN MORTAR TO PREVENT LEAKAGE.
4. SUBGRADE AND BASE MATERIALS SHALL BE COMPACTED TO 95% AND 100% DENSITIES, RESPECTIVELY, COMPACTION SHALL BE BY MECHANICAL TAMPING TO THE DENSITIES SPECIFIED.
5. MANHOLE SHALL BE SET SO RING AND COVER MATCH STREET SLOPE.

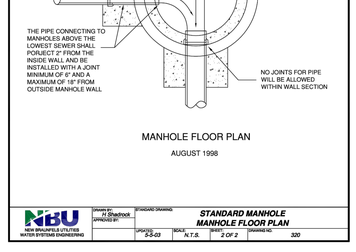
MAJOR MANHOLE ADJUSTMENT
A. Willard
6/17/21
N.T.S.
1 OF 1
321



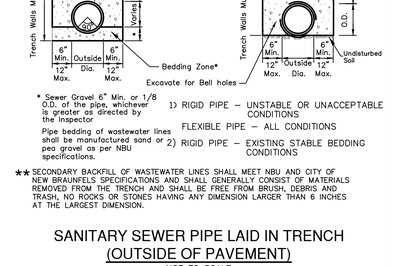




MANHOLE INVERT PLAN
JC Amaro
4/16/03
N.T.S.
1 OF 2
320



STANDARD MANHOLE
MANHOLE FLOOR PLAN
H.Shadrock
2-2-03
N.T.S.
2 OF 2
320



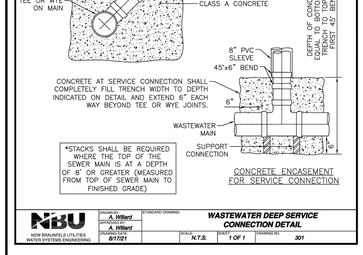
* Sewer Gravel 6" Min. or 1/8 O.D. of the pipe, whichever is greater as directed by the Inspector

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

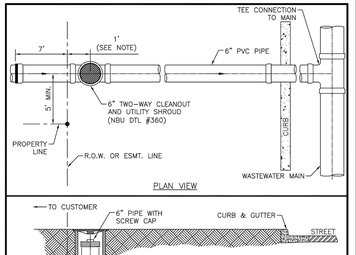
1) RIGID PIPE – UNSTABLE OR UNACCEPTABLE CONDITIONS
FLEXIBLE PIPE – ALL CONDITIONS
2) RIGID PIPE – EXISTING STABLE BEDDING CONDITIONS

** 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



WASTEWATER DEEP SERVICE CONNECTION DETAIL
A. Willard
8/17/21
N.T.S.
1 OF 1
301

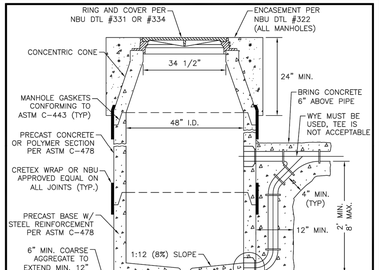


*CLEANOUT SHALL NOT BE PLACED WITHIN SIDEWALK OR DRIVEWAY. IF SIDEWALK EXISTS AT EDGE OF PROPERTY LINE, CLEANOUT CAN BE LOCATED UP TO 1' WITHIN PROPERTY. CONSISTENT PLACEMENT IS REQUIRED.

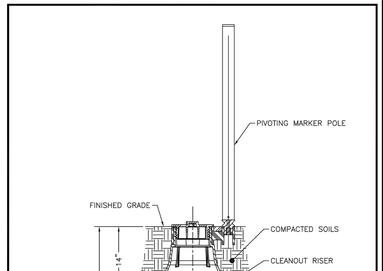
SINGLE WASTEWATER SERVICE CONNECTION DETAIL
A. Willard
8/17/21
N.T.S.
1 OF 2
302

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%, 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.

SINGLE WASTEWATER SERVICE CONNECTION DETAIL
A. Willard
8/17/21
N.T.S.
2 OF 2
302



WASTEWATER MANHOLE W/ DROP INLET ON PRECAST BASE
A. Willard
8/17/21
N.T.S.
1 OF 1
325



UTILITY SHROUD FOR SEWER CLEANOUT ASSEMBLY
A. Willard
8/17/21
N.T.S.
1 OF 1
360

CITY OF NEW BRAUNFELS 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.
4. 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
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
6-5-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
SANITARY SEWER DETAILS

PLAT NO.
JOB NO. 30001-73
DATE 06-05-2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C5.20

Date: Jun 05, 2024, 2:58pm User ID: bhughey
File: P:\3001\01\73\Design\Civil\SSDT-30001-73.dwg

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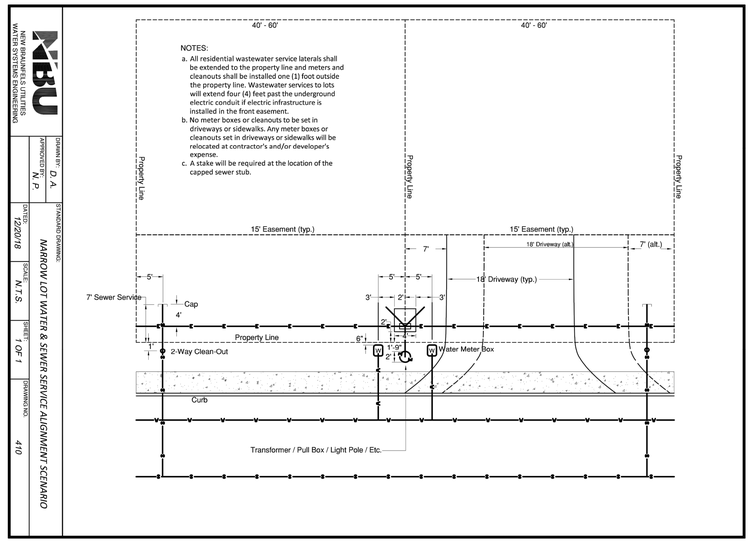

CITY OF NEW BRAUNFELS NOTES

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NO.	REVISION	DATE

6–5–2024

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

SANITARY SEWER DETAILS

PLAT NO.
JOB NO. 30001–73
DATE 06–05–2024
DESIGNER GDL
CHECKED JL DRAWN CA
SHEET C5.21

FOR PERMIT

Date: Jun 05, 2024, 2:59pm User ID: bhughey
File: P:\300\01\73\Design\Civil\SSDT-30001-73.dwg
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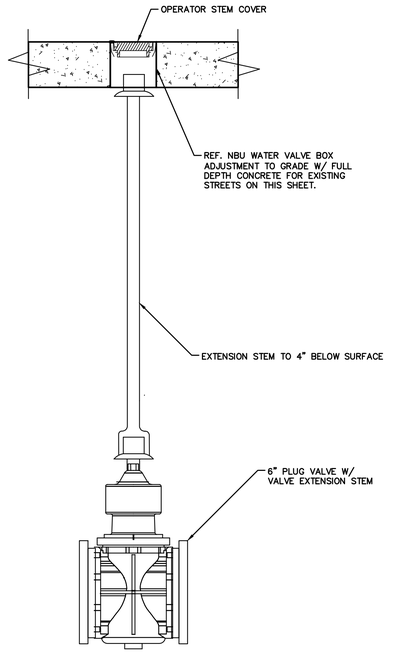
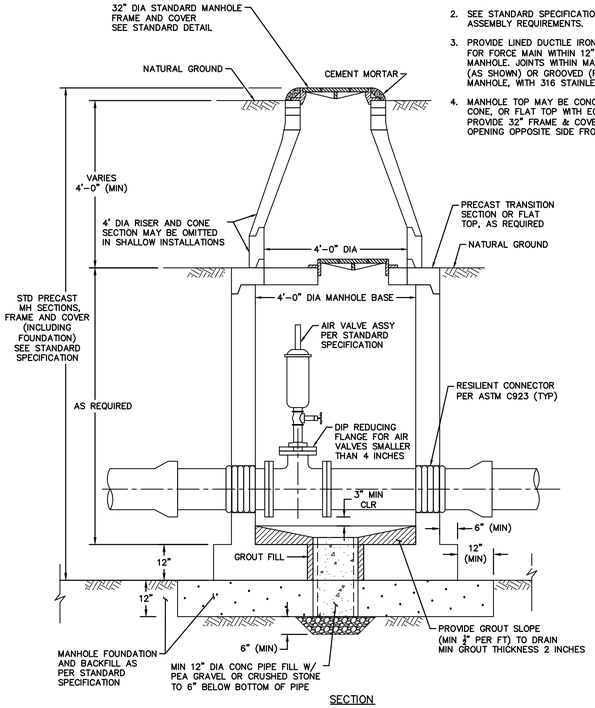


PLUG VALVE W/ VALVE EXTENSION STEM AND VALVE BOX

SCALE: N.T.S.



NOTES:

1. AIR VALVE MAY BE AIR RELEASE OR AIR AND VACUUM RELEASE VALVE AS NOTED ON PLAN AND PROFILE SHEET.
2. SEE STANDARD SPECIFICATIONS FOR AIR VALVE ASSEMBLY REQUIREMENTS.
3. PROVIDE LINED DUCTILE IRON PIPE, THICK. CLASS 53, FOR FORCE MAIN WITHIN 12" OF OUTSIDE FACE OF MANHOLE. JOINTS WITHIN MANHOLE MAY BE FLANGED (AS SHOWN) OR GROOVED (PER ASTM 606) WITHIN MANHOLE, WITH 316 STAINLESS STEEL BOLTS.
4. MANHOLE TOP MAY BE CONCENTRIC CONE, ECCENTRIC CONE, OR FLAT TOP WITH ECCENTRIC OPENING. PROVIDE 32" FRAME & COVER. ORIENT ECCENTRIC OPENING OPPOSITE SIDE FROM AIR VALVE.

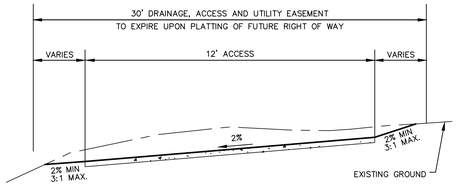
SECTION

SANITARY SEWER AIR RELEASE OR AIR/VACUUM RELEASE VALVE MANHOLE

SCALE: N.T.S.

NOTES:

1. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
2. CONTRACTOR SHALL ENSURE NATURAL DRAINAGE PATTERNS AND UNDISTURBED AFTER COMPLETION OF ACCESS ROAD.

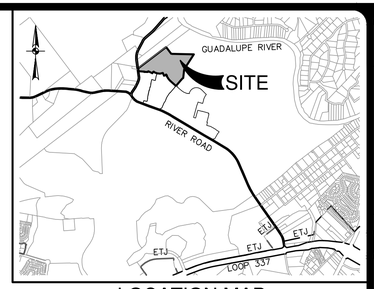


SECTION

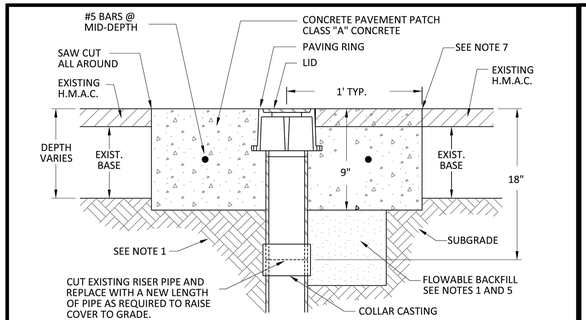
NOT-TO-SCALE

ACCESS ROAD DETAIL

NOT-TO-SCALE



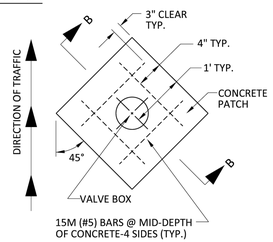
LOCATION MAP



SECTION B-B

NOTES:

1. SUBGRADE SHALL BE COMPACTED AS PER SPECIFICATIONS.
2. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE BASE OF THE VALVE.
4. REMOVE EXISTING RISER PIPE DOWN 18" AND REPLACE TO THE NEW ELEVATION USING NEW PIPE AND A COLLAR CASTING.
5. WHERE CAST IRON CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH.
6. REINFORCING STEEL SHALL MEET SPECIFICATIONS.
7. CONCRETE DIAMOND SHALL BE INSTALLED BELOW HMAC IN CITY OF NEW BRAUNFELS ROW.

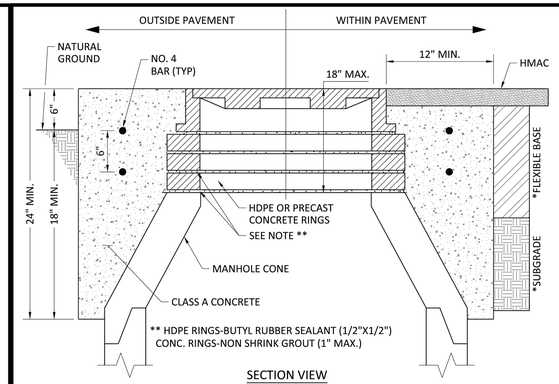


PLAN VIEW

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

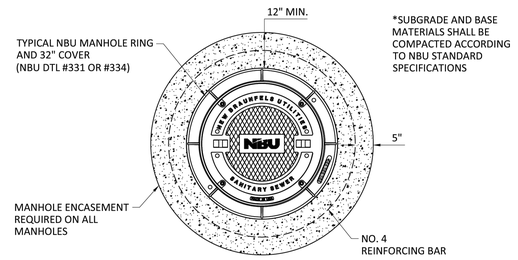
DRAWN BY: EWL	APPROVED BY: A. WILLARD	DRAWING DATE: 2/1/24	UPDATED:	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 232

STANDARD DRAWING: WATER VALVE BOX ADJUSTMENT TO GRADE W/FULL DEPTH CONCRETE FOR EXISTING STREETS



** HDPE RINGS-BUTYL RUBBER SEALANT (1/2"X1/2") CONC. RINGS-NON SHRINK GROUT (1" MAX.)

SECTION VIEW



TOP VIEW

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY: EWL	APPROVED BY: A. WILLARD	DRAWING DATE: 2/1/24	UPDATED:	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 322

STANDARD DRAWING: NEW MANHOLE CONSTRUCTION AND MINOR MANHOLE ADJUSTMENT

NO.	REVISION	DATE

STATE OF TEXAS
FRANCISCO C. GUERRERO
86464
LICENSED PROFESSIONAL ENGINEER
6/25/2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3

NEW BRAUNFELS, TEXAS

FORCE MAIN DETAILS

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER LL
CHECKED FG DRAWN JL
SHEET C5.22

FOR PERMIT

Date: Jun 25, 2025, 4:10pm User ID: JLing
File: \\pape-dawson.com\sat-pw1\300\01\71\03 CADD\01_Civil\DT - 30001-71.dwg
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Texas Commission on Environmental Quality
Organized Sewage Collection System
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director, nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code, Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the Executive Director, the commission or any other governmental entity to prevent, correct, or curtail activities that pollute, or have the potential to pollute, the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, Texas Administrative Code, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the Executive Director's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, Texas Administrative Code § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the Executive Director to any part of Title 30 Texas Administrative Code, Chapters 213 and 217, or any other TCEQ applicable regulation.

1. This Organized Sewage Collection System (SCS) must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules and any local government standard specifications.

2. All contractors conducting regulated activities associated with this proposed regulated project must be provided with copies of the SCS plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors must be required to keep on-site copies of the plan and the approval letter.

3. A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.

4. Any modification to the activities described in the referenced SCS application following the date of approval may require the submittal of an SCS application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.

5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing and the applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the

executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.

7. Sewer lines located within or crossing the 5-year floodplain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of 6 inches.

8. Blasting procedures for protection of existing sewer lines and other utilities will be in accordance with the National Fire Protection Association criteria. Sand is not allowed as bedding or backfill in trenches that have been blasted. If any existing sewer lines are damaged, the lines must be repaired and retested.

9. All manholes constructed or rehabilitated on this project must have watertight size on size resilient connectors allowing for differential settlement. If manholes are constructed within the 100-year floodplain, the cover must have a gasket and be bolted to the ring. Where gasketed manhole covers are required for more than three manholes in sequence or for more than 1500 feet, alternate means of venting will be provided. Bricks are not an acceptable construction material for any portion of the manhole.

   The diameter of the manholes must be a minimum of four feet and the manhole for entry must have a minimum clear opening diameter of 30 inches. These dimensions and other details showing compliance with the commission's rules concerning manholes and sewer line/manhole inverts described in 30 TAC §217.55 are included on Plan Sheet C4.10.

   It is suggested that entrance into manholes in excess of four feet deep be accomplished by means of a portable ladder. The inclusion of steps in a manhole is prohibited.

10. Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).

11. Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer: _____.

    If pipe flexure is proposed, the following method of preventing deflection of the joint must be used: _____.

    Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.

12. New sewage collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the extensions. Such stub outs must be manufactured wyes or tees that are compatible in size and material with both the sewer line and the extension. At the time of original construction, new stub-outs must be constructed sufficiently to extend beyond the end of the street pavement. All stub-outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle and in accordance with accepted plumbing techniques.

If no stub-out is present an alternate method of joining laterals is shown in the detail on Plan Sheet __ of __. (For potential future laterals).

The private service lateral stub-outs must be installed as shown on the plan and profile sheets on Plan Sheet __ of __ and marked after backfilling as shown in the detail on Plan Sheet __ of __.

13. Trenching, bedding and backfill must conform with 30 TAC §217.54. The bedding and backfill for flexible pipe must comply with the standards of ASTM D-2321, Classes IA, IB, II or III. Rigid pipe bedding must comply with the requirements of ASTM C 12 (ANSI A 106.2) classes A, B or C.

14. Sewer lines must be tested from manhole to manhole. When a new sewer line is connected to an existing stub or clean-out, it must be tested from existing manhole to new manhole. If a stub or clean-out is used at the end of the proposed sewer line, no private service attachments may be connected between the last manhole and the cleanout unless it can be certified as conforming with the provisions of 30 TAC §213.5(c)(3)(E).

15. All sewer lines must be tested in accordance with 30 TAC §217.57. The engineer must retain copies of all test results which must be made available to the executive director upon request. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Testing method will be:
   (a) For a collection system pipe that will transport wastewater by gravity flow, the design must specify an infiltration and exfiltration test or a low-pressure air test. A test must conform to the following requirements:
      (1) *Low Pressure Air Test.*
         (A) A low pressure air test must follow the procedures described in American Society For Testing And Materials (ASTM) C-828, ASTM C-924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragraph or Equation C.3 in subparagraph (B)(ii) of this paragraph.
         (B) For sections of collection system pipe less than 36 inch average inside diameter, the following procedure must apply, unless a pipe is to be tested as required by paragraph (2) of this subsection.
            (i) A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.
            (ii) Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

Equation C.3

$$T = \frac{0.085 \times D \times K}{Q}$$

Where:

T = time for pressure to drop 1.0 pound per square inch gauge in seconds
K = 0.000419 X D X L, but not less than 1.0
D = average inside pipe diameter in inches

L = length of line of same size being tested, in feet
Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface

(C) Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following Table C.3:

Pipe Diameter *(inches)*	Minimum Time *(seconds)*	Maximum Length for Minimum Time *(feet)*	Time for Longer Length *(seconds/foot)*
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

(D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.
(E) If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure.
(F) Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.
(G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.

(2) *Infiltration/Exfiltration Test.*
(A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole.
(B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.
(C) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater.
(D) For construction within a 25-year flood plain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subparagraph (C) of this paragraph.
(E) If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce

the infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action.

(b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:
(1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.
(A) *Mandrel Sizing.*
(i) A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American National Standards Institute, or any related appendix.
(ii) If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.
(iii) All dimensions must meet the appropriate standard.
(B) *Mandrel Design.*
(i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.
(ii) A mandrel must have nine or more odd number of runners or legs.
(iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.
(iv) Each size mandrel must use a separate proving ring.
(C) *Method Options.*
(i) An adjustable or flexible mandrel is prohibited.
(ii) A test may not use television inspection as a substitute for a deflection test.
(iii) If requested, the executive director may approve the use of a deflectometer or a mandrel with removable legs or runners on a case-by-case basis.
(2) For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection.
(3) A deflection test method must be accurate to within plus or minus 0.2% deflection.
(4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.
(5) Gravity collection system pipe deflection must not exceed five percent (5%).
(6) If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.

16. All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.
(a) All manholes must pass a leakage test.
(b) An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.
(1) Hydrostatic Testing.

(A) The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour.
(B) To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour.
(C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.
(2) Vacuum Testing.
(A) To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.
(B) No grout must be placed in horizontal joints before testing.
(C) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.
(D) An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole.
(E) A test head must be placed at the inside of the top of a cone section, and the seal inflated in accordance with the manufacturer's recommendations.
(F) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.
(G) A test does not begin until after the vacuum pump is off.
(H) A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is at least 9.0 inches of mercury.

17. All private service laterals must be inspected and certified in accordance with 30 TAC §213.5(c)(3)(I). After installation of and, prior to covering and connecting a private service lateral to an existing organized sewage collection system, a Texas Licensed Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector must visually inspect the private service lateral and the connection to the sewage collection system, and certify that it is constructed in conformity with the applicable provisions of this section. The owner of the collection system must maintain such certifications for five years and forward copies to the appropriate regional office upon request. Connections may only be made to an approved sewage collection system.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

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.

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.
4. 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.

NBU WATER CONNECTION POLICY 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 POLICIES WATER SYSTEMS'.
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 THREE (3) WORKING DAYS (72 HOURS) NOTICE. WORK COMPLETED BY THE CONTRACTOR, WHICH HAS NOT RECEIVED A NOTICE TO PROCEED WITH 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 DEVELOPER AND ACCEPTANCE BY THE NEW BRAUNFELS UTILITIES WATER SYSTEM. NBU WILL OWN AND MAINTAIN SAID WATER / WASTEWATER MAINS WHICH ARE LOCATED WITHIN SAID PARTICULAR SUBDIVISION. (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 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM 'MATCH EXISTING' SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.
14. 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.
15. 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.
16. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION. UTILITY COMPANIES ARE ALSO PREVIOUSLY MENTIONED IN 'UTILITY COMPANY NOTIFICATION'.
17. 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.
18. 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.
19. 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:
    19.1. WATER MAINS AND SERVICES
    19.2. SEWER MAINS AND SERVICES
20. 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.
21. WHERE THE MINIMUM 9 FOOT SEPARATION DISTANCE BETWEEN SEWER LINES AND WATER LINES / MAINS CANNOT BE MAINTAINED, THE INSTALLATION OF SEWER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ.
22. 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.
23. UTILITY TRENCH COMPACTION WITH STREET R.O.W.
    1. ALL UTILITY TRENCH COMPACTION TEST WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO–TECHNICAL ENGINEER.
    2. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12') LOOSE.
    3. 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.
    4. 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.
    5. 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.

NO.	REVISION	DATE

6–5–2024

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

SANITARY SEWER NOTES

PLAT NO. _____
JOB NO. 30001–73
DATE 06–05–2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C5.22

Date: Jun 05, 2024, 2:59pm User ID: bhughey
File: P:\300\01\73\design\Civil\SSNT–30001–73.dwg

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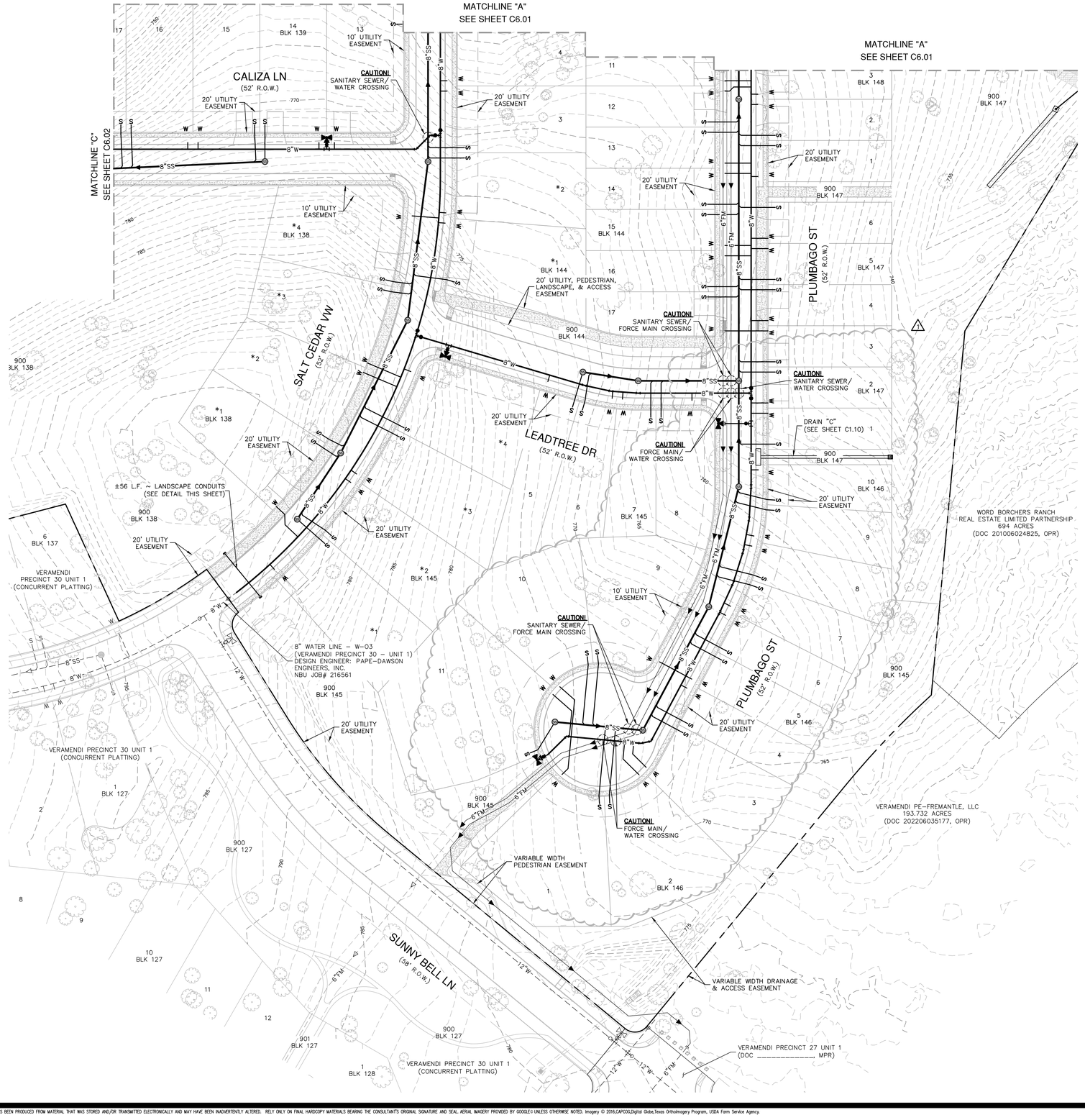
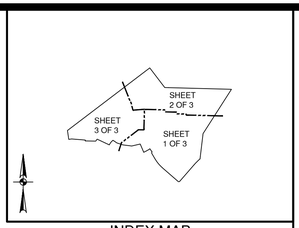
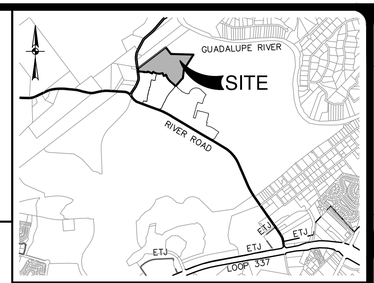
FOR PERMIT





INDEX MAP
1" = 1000'

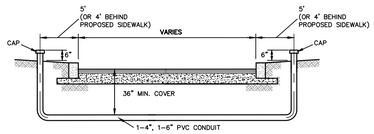


LOCATION MAP

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

CONDUIT NOTES:

1. CONTRACTOR SHALL INSTALL PERMANENT MARKERS IN PROPOSED CURB WHERE CONDUITS CROSS THE ROADWAY (BOTH SIDES).
2. CONDUITS SHALL BE PVC WITH MINIMUM BURY OF 30 INCHES. SCHEDULE 80 TO BE USED FOR CPS CONDUITS, ALL OTHER CONDUITS ARE SCHEDULE 40.
3. ALL CONDUITS SHALL BE EXTENDED BEHIND CURBS OR PROPOSED SIDEWALKS A MINIMUM OF 3 FEET AND CAPPED FOR FUTURE USE.



TYPICAL CONDUIT DETAIL
NOT TO SCALE

NOTE:

1. 1-4", 1-6" P.V.C. SCHEDULE 40 WILL BE REQUIRED FOR IRRIGATION UTILITIES CROSSING.

WATER (NBU JOB NO. W-246120)		
ITEM	UNIT	QUANTITY
8" WATER LINE	LF	5507
1" SINGLE SERVICE & 5/8" METER	EA	123
LUEs	EA	122
FIRE HYDRANT	EA	12
6" GATE VALVE	EA	12
8" GATE VALVE	EA	17

WASTEWATER (NBU JOB NO. WW-246124)		
ITEM	UNIT	QUANTITY
8" SANITARY SEWER PIPE	LF	5,061
LUEs	EA	122
6" WASTEWATER SERVICE	EA	122
48" MANHOLES	EA	29

UTILITY LEGEND

PROJECT LIMITS
EXISTING WATER (EXISTING FIRE HYDRANT)
EXISTING UNDERGROUND ELECTRIC
EXISTING GAS
EXISTING SEWER
PROPOSED SEWER (MANHOLE)
PROPOSED WATER (FIRE HYDRANT)
PROPOSED WYE & LATERAL
SINGLE WATER SERVICE
STREET LIGHTS
PROPOSED STORM DRAIN
EXISTING STORM DRAIN
PROPOSED GAS
PROPOSED UNDERGROUND ELECTRIC

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

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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
1	MOVED LOT LINES AND UTILITY SERVICES	09/05/25

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

OVERALL UTILITY PLAN

PLAT NO. _____
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C6.00

FOR PERMIT

Date: Sep 05, 2025, 2:15pm User ID: carcher
File: P:\3001\01\73\Design\Civil\UTOA-30001-73.dwg

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8" SANITARY SEWER PIPE	LF	5,061
LUEs	EA	122
6" WASTEWATER SERVICE	EA	122
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CONDUIT NOTES:

1. CONTRACTOR SHALL INSTALL PERMANENT MARKERS IN PROPOSED CURB WHERE CONDUITS CROSS THE ROADWAY (BOTH SIDES).
2. CONDUITS SHALL BE PVC WITH MINIMUM BURY OF 30 INCHES. SCHEDULE 80 TO BE USED FOR CPS CONDUITS, ALL OTHER CONDUITS ARE SCHEDULE 40.
3. ALL CONDUITS SHALL BE EXTENDED BEHIND CURBS OR PROPOSED SIDEWALKS A MINIMUM OF 3 FEET AND CAPPED FOR FUTURE USE.

TYPICAL CONDUIT DETAIL
NOT TO SCALE

NOTE:
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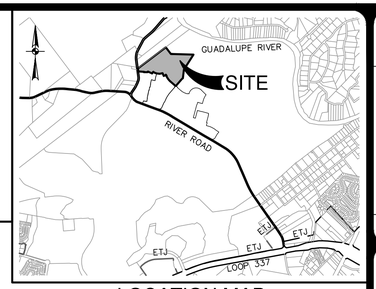
INDEX MAP
1" = 1000'



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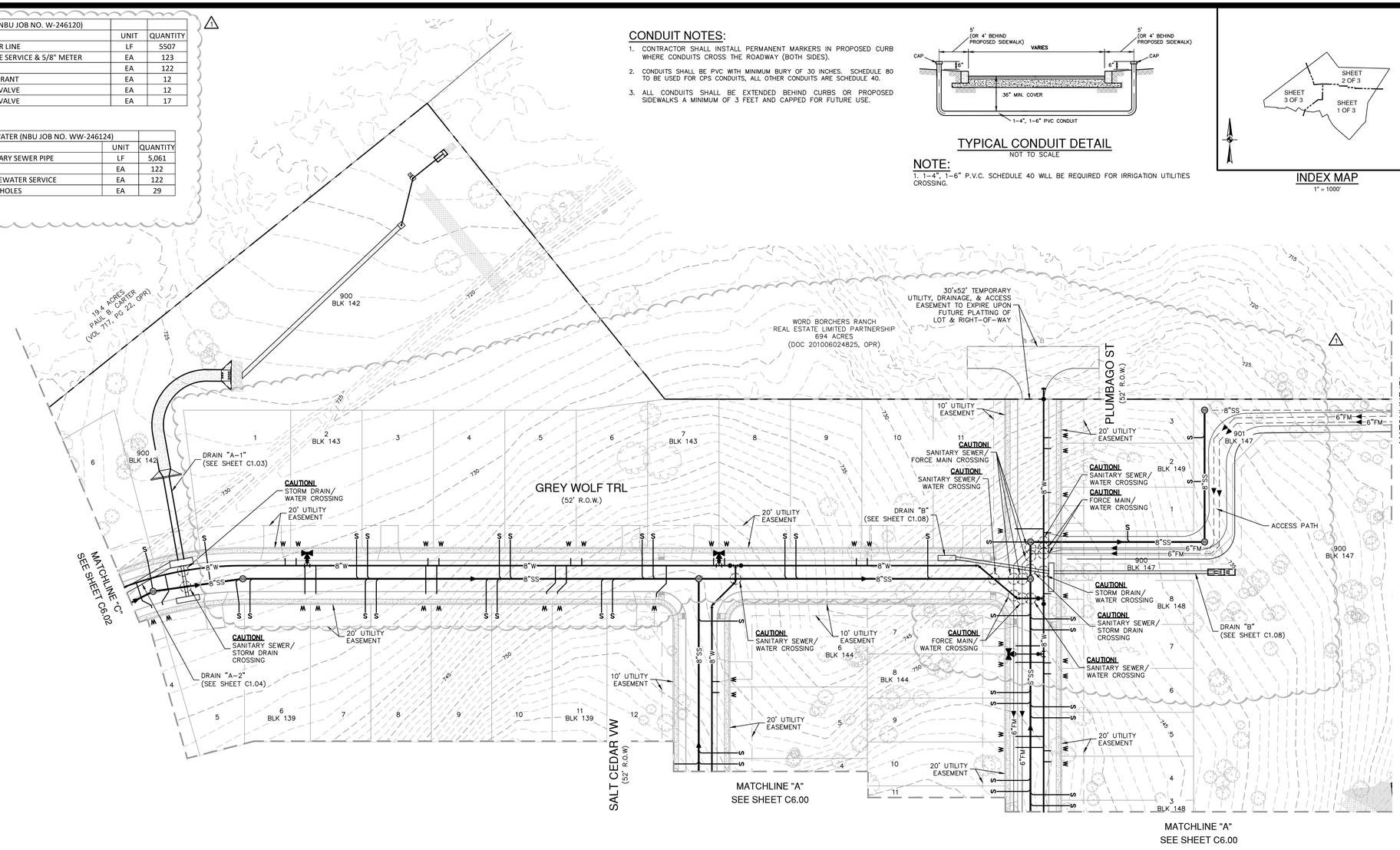

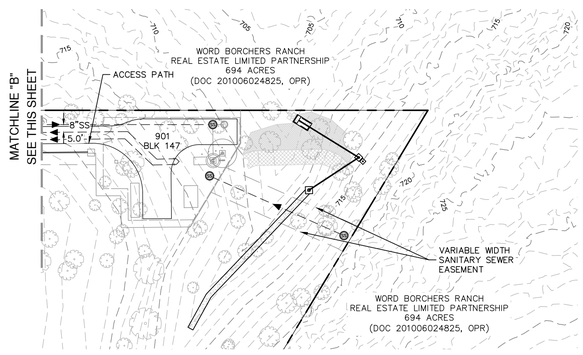

SCALE: 1"= 50'
0' 50' 100' 150'

UTILITY LEGEND

- PROJECT LIMITS
- EXISTING FIRE HYDRANT
- EXISTING WATER (W)
- EXISTING UNDERGROUND ELECTRIC (UGE)
- EXISTING GAS (G)
- EXISTING SEWER (SS, MANHOLE)
- PROPOSED SEWER (SS)
- PROPOSED WATER (FIRE HYDRANT, W)
- PROPOSED WYE & LATERAL (S)
- SINGLE WATER SERVICE
- STREET LIGHTS (SL)
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED GAS (G)
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STATE OF TEXAS
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VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

OVERALL UTILITY PLAN

PLAT NO.
JOB NO. 30001-73
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CHECKED JP DRAWN CA
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FOR PERMIT

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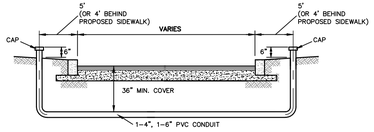

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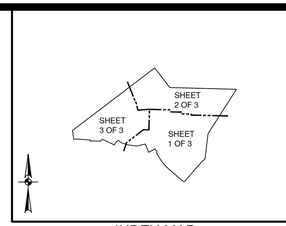

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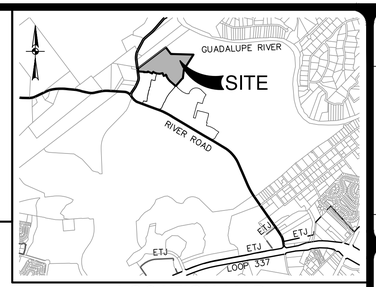

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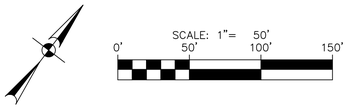

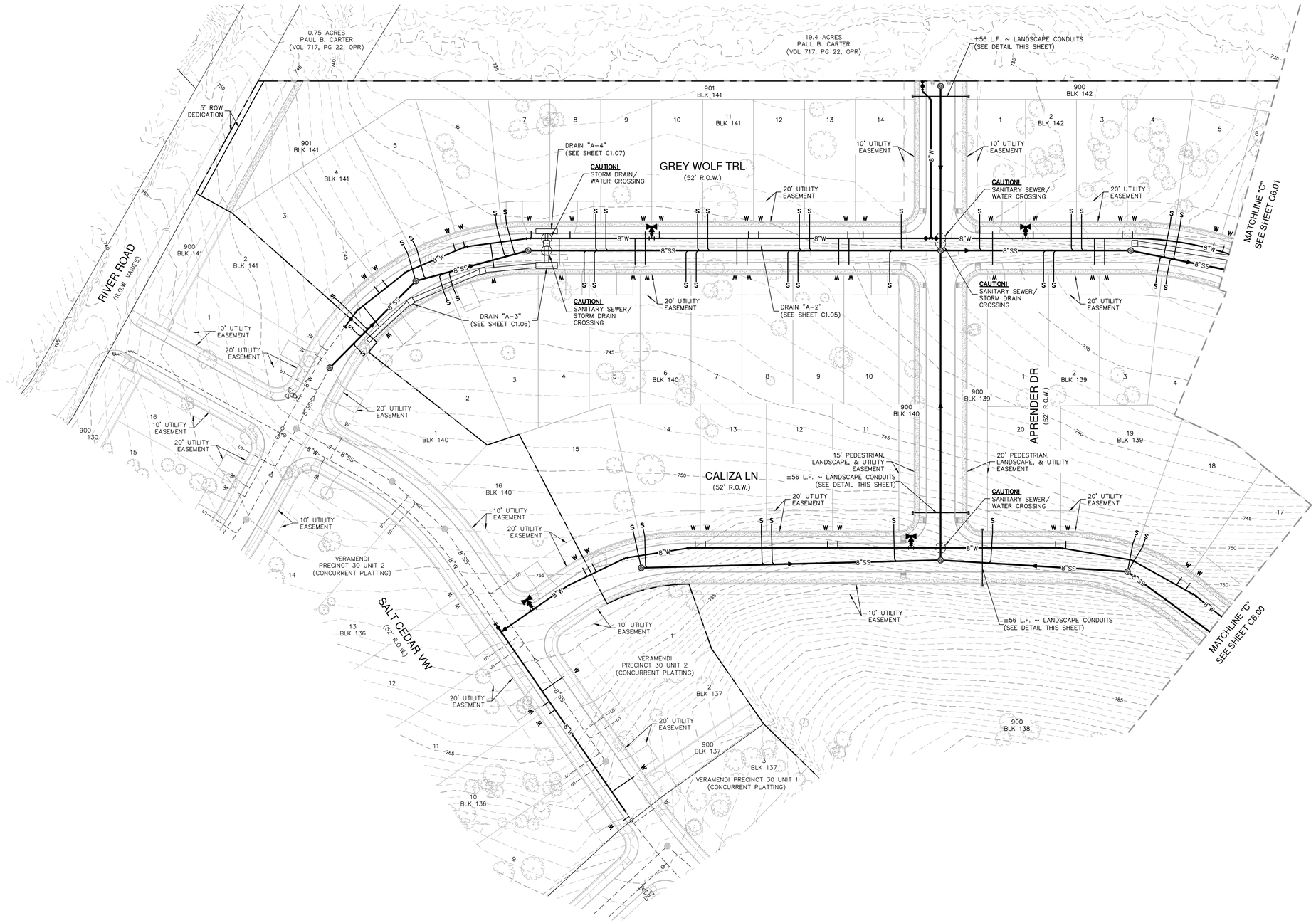

UTILITY LEGEND

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EXISTING UNDERGROUND ELECTRIC	UGE
EXISTING GAS	G
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PROPOSED WYE & LATERAL	S
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NO.	REMSION	DATE
1	CHANGE IN SERVICE QUANTITIES	09/25/25

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
9-5-2025

PAPE-DAWSON
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NEW BRAUNFELS, TEXAS

OVERALL UTILITY PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C6.02

FOR PERMIT

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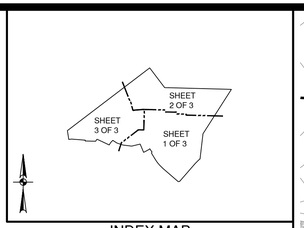

INDEX MAP
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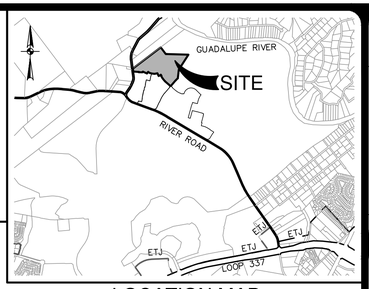

LOCATION MAP

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

GRADING LEGEND

- PROJECT LIMITS
- 100 YR FLOODPLAIN
- EXISTING CONTOUR — 976
- PROPOSED CONTOUR — 970
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- MINIMUM FINISHED FLOOR ELEVATION — FF = XXXX.XX
- TREES TO REMAIN

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 OBTAIN GRADES SHOWN HEREON WITHIN +/– ONE–TENTH (0.10) FOOT.

12. IN PROPOSED PAVING AREAS, STREET DESIGN PLANS SHALL CONTROL. ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 1.0% UNLESS OTHERWISE SHOWN.

13. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.

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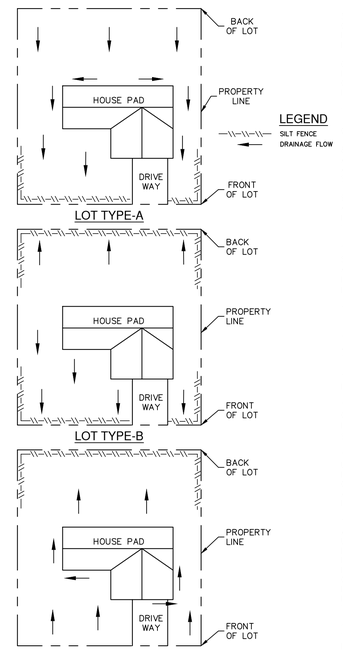
19. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT–OF–WAY WITHOUT A PERMIT.



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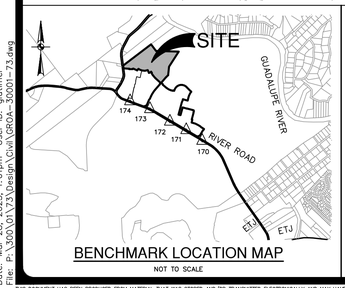
TYPICAL HOUSE LOT LAYOUTS
NOT–TO–SCALE



BENCHMARK LOCATION MAP
NOT TO SCALE

BENCHMARKS

HORIZONTAL AND VERTICAL CONTROL POINTS				
Point#	Northing	Easting	Elevation	Full Description
170	13820069.08	2243575.32	753.44	SET I.R. REDCAP (TRAV)
171	13820510.36	2242917.91	738.86	SET I.R. REDCAP (TRAV)
172	13820857.81	2242243.72	736.43	SET I.R. REDCAP (TRAV)
173	13821377.61	2241427.83	761.79	SET I.R. REDCAP (TRAV)
174	13821698.75	2240604.38	777.24	SET I.R. REDCAP (TRAV)

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
3–28–2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
OVERALL GRADING PLAN

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED DRAWN CA
SHEET C7.00

FOR PERMIT

Date: Mar 28, 2025, 1:01pm User ID: gtolmer
File: P:\300\01\73\Design\Civil\GRDA–30001–73.dwg

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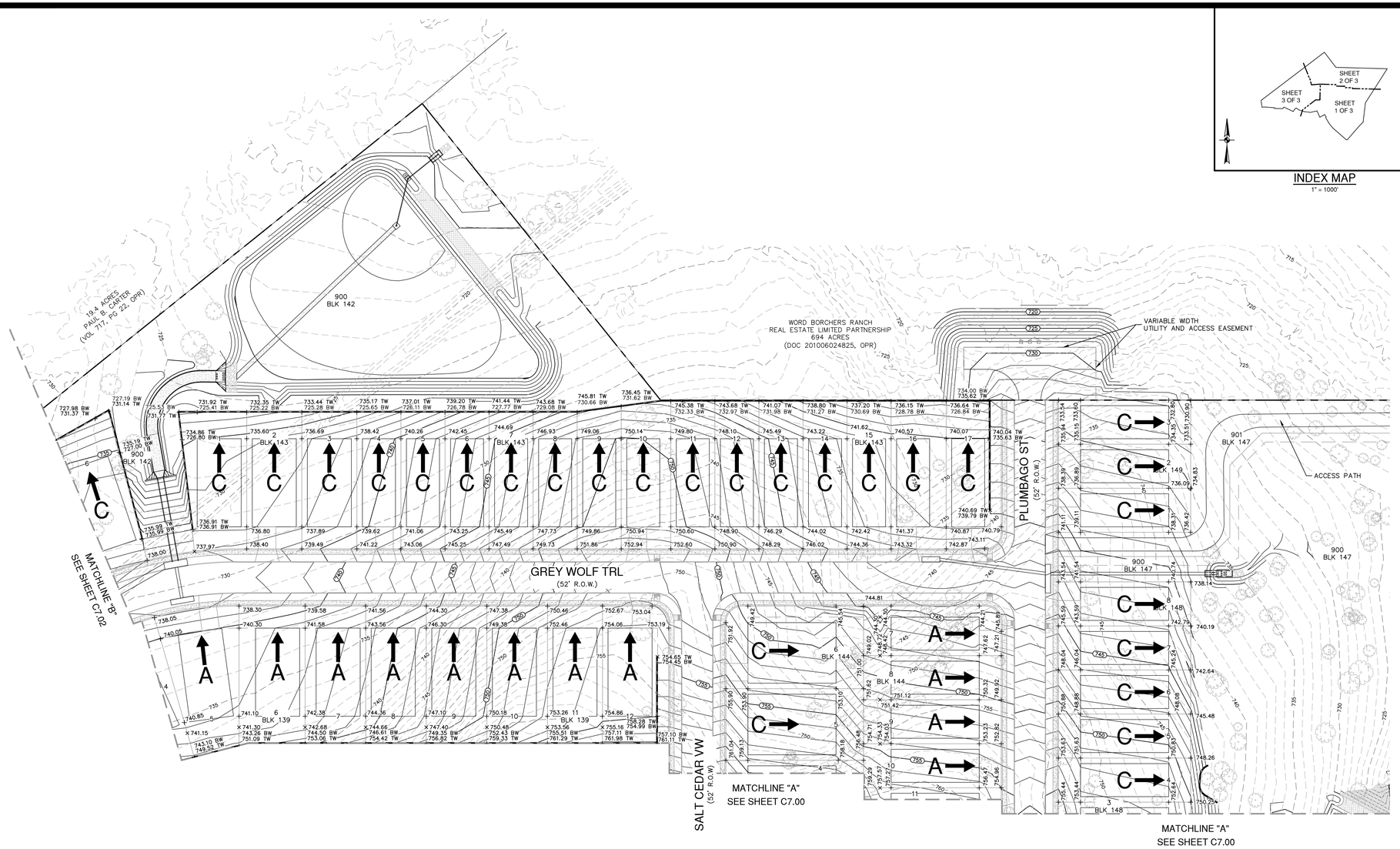
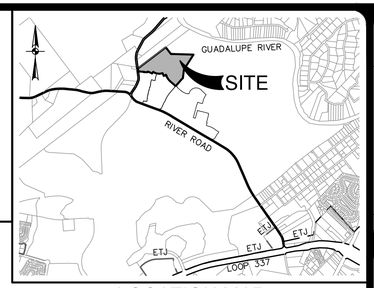


INDEX MAP
1" = 1000'



LOCATION MAP

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

GRADING LEGEND

PROJECT LIMITS
100 YR FLOODPLAIN
EXISTING CONTOUR — 976
PROPOSED CONTOUR — 970
FLOW ARROW (EXISTING)
FLOW ARROW (PROPOSED)
MINIMUM FINISHED FLOOR ELEVATION — FF = XXXX.XX
TREES TO REMAIN

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.

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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.

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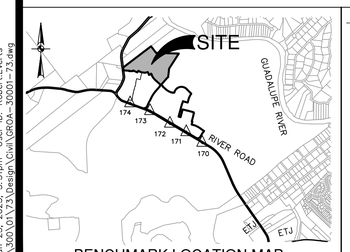

BENCHMARK LOCATION MAP
NOT TO SCALE

BENCHMARKS

HORIZONTAL AND VERTICAL CONTROL POINTS				
Point#	Northing	Easting	Elevation	Full Description
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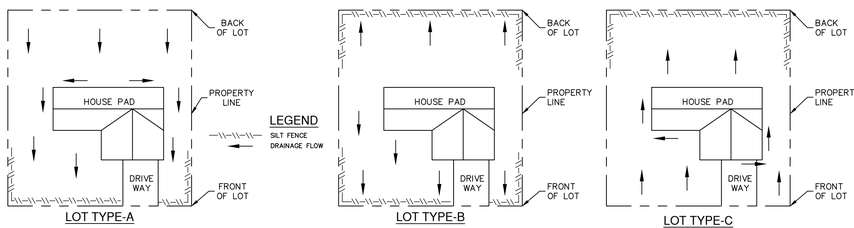

NOTE: SILT FENCE TO BE INSTALLED PER THESE DETAILS AND LOCATED ON THE DOWNGRADIENT SIDE OF EACH LOT LINE OR LIMITS OF CLEARING AS GENERALLY SHOWN ON THE OVERALL SITE PLAN.

TYPICAL HOUSE LOT LAYOUTS
NOT–TO–SCALE

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
6–25–2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
OVERALL GRADING PLAN

PLAT NO.
JOB NO. 30001–73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C7.01

FOR PERMIT

Date: Jun 25, 2025, 5:51pm User ID: Robert Everts
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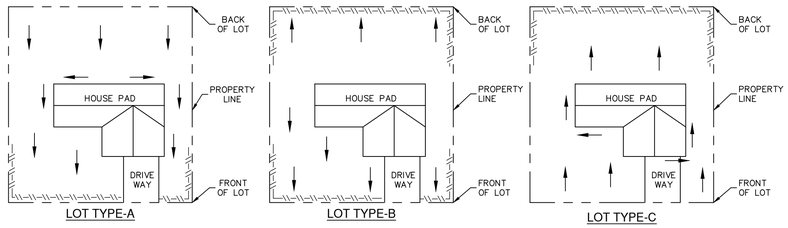

LEGEND
SILT FENCE
DRAINAGE FLOW

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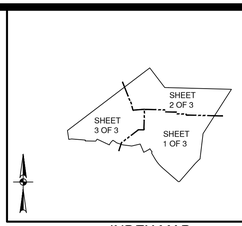
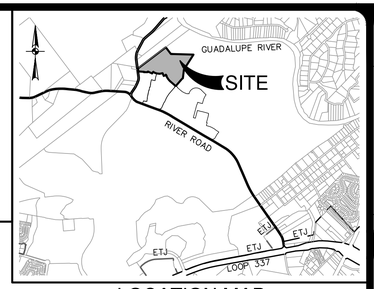
TYPICAL HOUSE LOT LAYOUTS

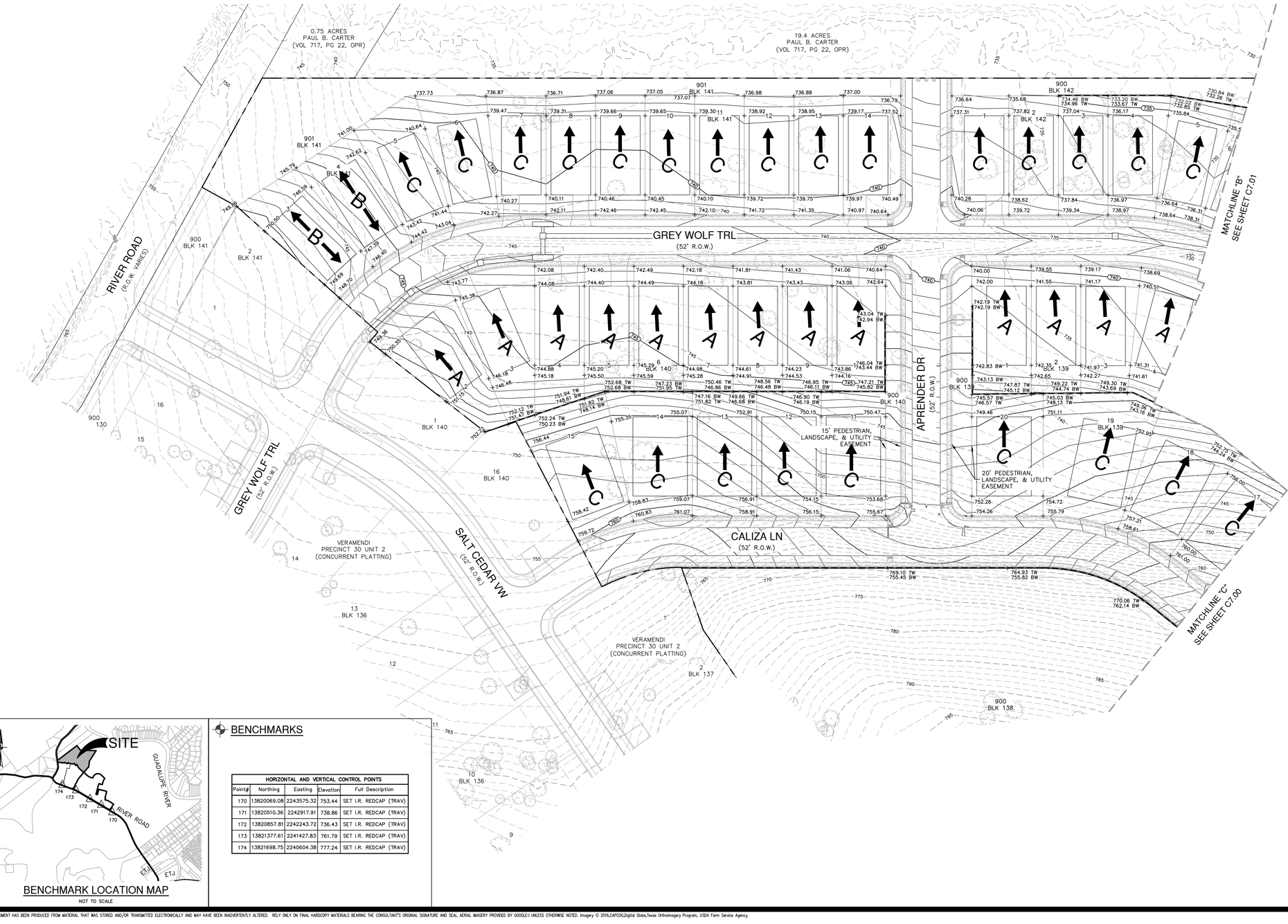
NOT-TO-SCALE



INDEX MAP
1" = 1000'



LOCATION MAP



SCALE: 1"= 50'
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GRADING LEGEND

PROJECT LIMITS	
100 YR FLOODPLAIN	
EXISTING CONTOUR	976
PROPOSED CONTOUR	970
FLOW ARROW (EXISTING)	
FLOW ARROW (PROPOSED)	
MINIMUM FINISHED FLOOR ELEVATION	FF = XXXX.XX
TREES TO REMAIN	

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19. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.

20. 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)

BENCHMARK LOCATION MAP
NOT TO SCALE

BENCHMARKS

HORIZONTAL AND VERTICAL CONTROL POINTS				
Point#	Northing	Easting	Elevation	Full Description
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NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
8-26-2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

OVERALL GRADING PLAN

PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED GL DRAWN CA
SHEET C7.02

Date: Aug 26, 2024, 11:34am User ID: jeraquiel
File: P:\30001\73\Design\Civil\GRDA-30001-73.dwg

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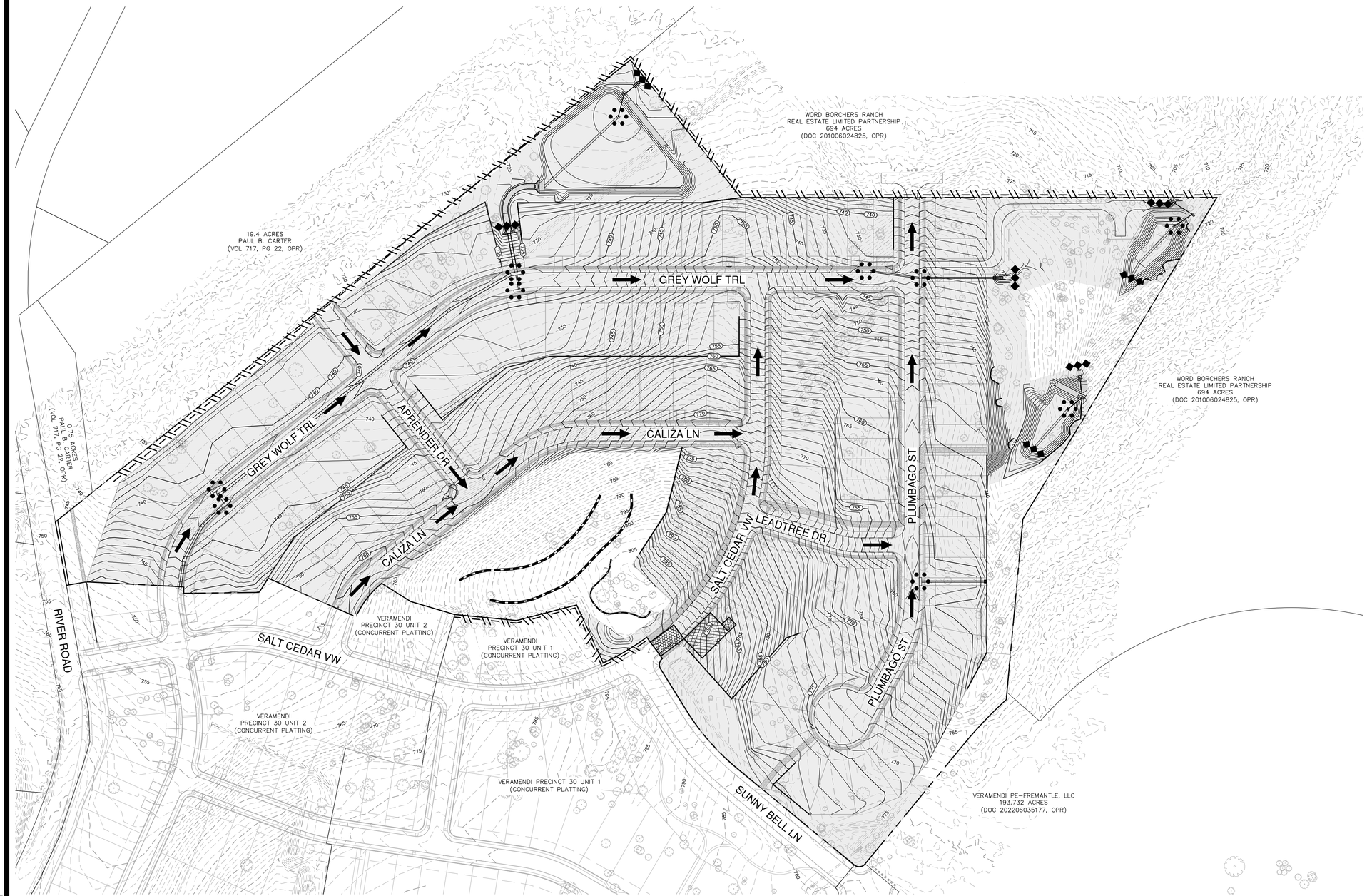
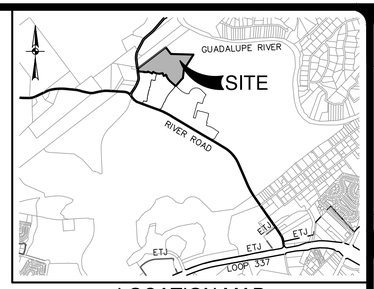




LOCATION MAP

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

SWPPP LEGEND

- PROJECT LIMITS
- EXISTING CONTOUR (976)
- PROPOSED CONTOUR (976)
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- SILT FENCE
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- SEDIMENT CONTROL ROLLS
- 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. HOUSE CONSTRUCTION ACTIVITIES WILL REQUIRE A SEPARATE STORM WATER POLLUTION PREVENTION PLAN.

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.

17. ACCESS TO VERAMENDI PRECINCT 30 UNIT 1 WILL BE PROVIDED FROM GOLD COAST DR.

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

FOR PERMIT

NO.	REVISION	DATE

STATE OF TEXAS
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
6-25-2025

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

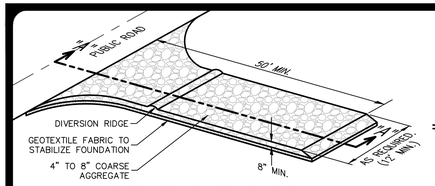
VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS

STORM WATER POLLUTION PREVENTION PLAN

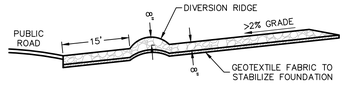
PLAT NO.
JOB NO. 30001-73
DATE JULY 2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C8.00

Date: Jun 25, 2025, 5:51pm User ID: Robert.Euerts
File: P:\300\01\73\Design\Civil\SWPPP-30001-73.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE© UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.



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.

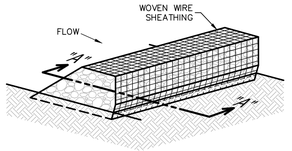
2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.

3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.

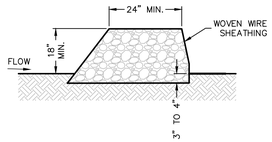
4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

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.

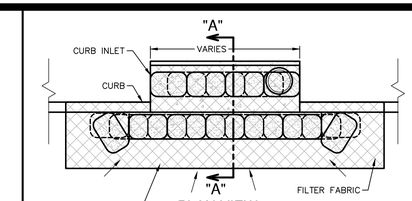
5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.

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.

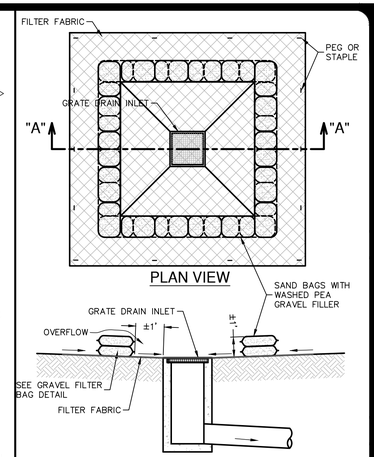
2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

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.

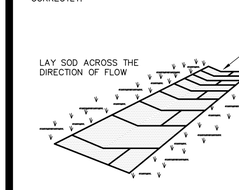
2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MATTER THAT IT WILL NOT ERODE.

3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.

4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.

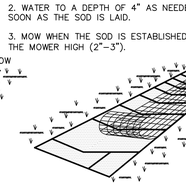
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL GRATE INLET PROTECTION DETAIL
NOT–TO–SCALE

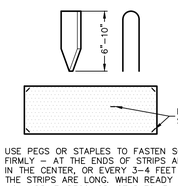


LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

BUTTING – ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.



APPEARANCE OF GOOD SOD

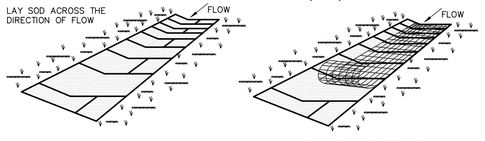


SOD INSTALLATION

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").



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.

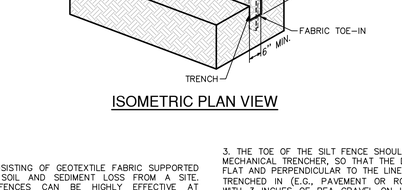
7. UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.

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.

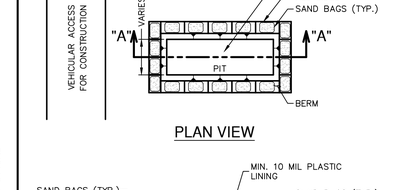
2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

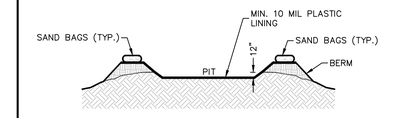
4. REPLACE OR REPAIR SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT 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.

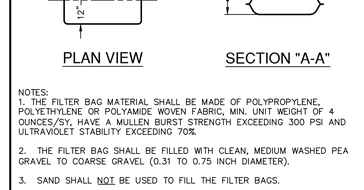
MATERIALS
PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

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

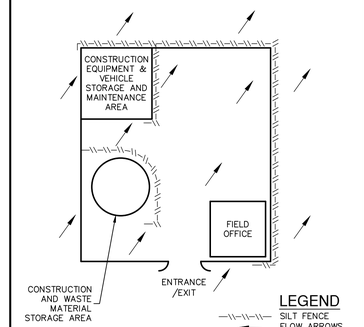
SECTION "A-A"

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
JOCELYN PEREZ
98367
LICENSED
PROFESSIONAL ENGINEER
6–5–2024

PAPE-DAWSON ENGINEERS
NEW BRAUNFELS | SAN ANTONIO | AUSTIN | HOUSTON | FT WORTH | DALLAS
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.632.5533
TEXAS ENGINEERING FIRM #1002800

VERAMENDI PRECINCT 30 - UNIT 3
NEW BRAUNFELS, TEXAS
STORM WATER POLLUTION PREVENTION DETAILS

PLAT NO.
JOB NO. 30001–73
DATE 06–05–2024
DESIGNER GDL
CHECKED JP DRAWN CA
SHEET C8.10

FOR PERMIT

Date: Jun 05, 2024, 3:02pm User ID: bhughey
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