TCEQ WPAP & SCS APPLICATION

for

SANTA RITA RANCH PHASE 2B SECTION 2
WILLIAMSON COUNTY, TEXAS

Prepared For:

SRFV Development, LLC
Attn: James Edward Horne
1700 Cross Creek Lane, Suite 100
Liberty Hill, TX 78642
(512) 502-2050

Prepared By:

Steven P. Cates, P.E.
CARLSON, BRIGANCE & DOERING, INC.
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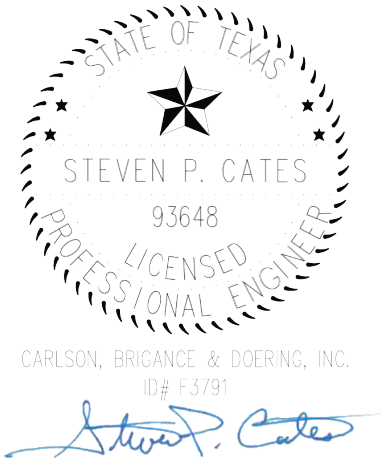
Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying

CBD No. 5559
September 2025



9-9-2025

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Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.

Administrative Review

1. Edwards Aquifer applications must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

   To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

   An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.

4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a "Mid-Review Modification". Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available:

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is denied/withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the affected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ's Austin Regional Office at 512-339-2929. If your project is in Comal, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ's San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

1. Regulated Entity Name: **Santa Rita Ranch Phase 2B SECTION 2**						**2. Regulated Entity No.: 112124086**			
3. Customer Name: SRFV Development, LLC						**4. Customer No.: 605894914**			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**		58.11	
9. Application Fee:	$3,904.00		**10. Permanent BMP(s):**			Batch Detention, Vegetated Filter Strip			
11. SCS (Linear Ft.):	7,808		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson		**14. Watershed:**			North Fork San Gabriel River			

Application Distribution

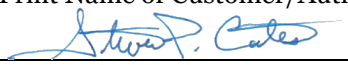
Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the "Texas Groundwater Conservation Districts within the EAPP Boundaries" map found at:

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	_x_
Region (1 req.)	___	___	_x_
County(ies)	___	___	_x_
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence _x_Georgetown ___Jerrell ___Leander _x_Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Santa Rita KC, LLC / Carlson, Brigance, & Doering, Inc.
Print Name of Customer/Authorized Agent  **9-9-2025** Signature of Customer/Authorized Agent Date

FOR TCEQ INTERNAL USE ONLY				
Date(s)Reviewed:		Date Administratively Complete:		
Received From:		Correct Number of Copies:		
Received By:		Distribution Date:		
EAPP File Number:		Complex:		
Admin. Review(s) (No.):		No. AR Rounds:		
Delinquent Fees (Y/N):		Review Time Spent:		
Lat./Long. Verified:		SOS Customer Verification:		
Agent Authorization Complete/Notarized (Y/N):		Fee Check:	Payable to TCEQ (Y/N):	
Core Data Form Complete (Y/N):			Signed (Y/N):	
Core Data Form Incomplete Nos.:			Less than 90 days old (Y/N):	

General Information Form

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B) Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **General Information Form** is hereby submitted for TCEQ review. The application was prepared by:

Print Name of Customer/Agent: Steven P. Cates, P.E.

Date: 9/9/2025

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: Santa Rita Ranch Phase 2B Section 2
2. County: Williamson
3. Stream Basin: North Fork San Gabriel River
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

   ☐ WPAP
   ☒ SCS
   ☒ Modification
   ☐ AST
   ☐ UST
   ☐ Exception Request

7. Customer (Applicant):

   Contact Person: James Edward Horne
   Entity: SRFV Development, LLC
   Mailing Address: 1700 Cross Creek Lane, Suite 100
   City, State: Liberty Hill, TX Zip: 78642
   Telephone: 512-502-2050 FAX: _____
   Email Address: ed@srraustin.com

8. Agent/Representative (If any):

   Contact Person: Steven P. Cates, P.E.
   Entity: Carlson, Brigance & Doering, Inc.
   Mailing Address: 501 W. William Cannon Blvd.
   City, State: Austin, Texas Zip: 78749
   Telephone: 512-280-5160 FAX: 512-280-5165
   Email Address: steve@cbdeng.com

9. Project Location:

   ☐ The project site is located inside the city limits of _____.
   ☒ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of the City of Liberty Hill.
   ☐ The project site is not located within any city's limits or ETJ.

10. ☒ The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

    South of Ex. Tower Rd, East of Flower Valley Pkwy

11. ☒ **Attachment A – Road Map**. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. ☒ **Attachment B - USGS / Edwards Recharge Zone Map**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

    ☒ Project site boundaries.
    ☒ USGS Quadrangle Name(s).
    ☒ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
    ☐ Drainage path from the project site to the boundary of the Recharge Zone.

13. ☒ **The TCEQ must be able to inspect the project site or the application will be returned**. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

    ☒ Survey staking will be completed by this date: 9/14/2025

14. ☒ **Attachment C – Project Description**. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:

- ☒ Area of the site
- ☒ Offsite areas
- ☒ Impervious cover
- ☒ Permanent BMP(s)
- ☒ Proposed site use
- ☒ Site history
- ☒ Previous development
- ☐ Area(s) to be demolished

15. Existing project site conditions are noted below:

- ☐ Existing commercial site
- ☐ Existing industrial site
- ☐ Existing residential site
- ☐ Existing paved and/or unpaved roads
- ☒ Undeveloped (Cleared)
- ☐ Undeveloped (Undisturbed/Uncleared)
- ☐ Other: _____

Prohibited Activities

16. ☒ I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);

(2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;

(3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;

(4) The use of sewage holding tanks as parts of organized collection systems; and

(5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

(6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

17. ☒ I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

(2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

(3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

Administrative Information

18. The fee for the plan(s) is based on:

- ☒ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- ☒ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- ☐ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
- ☐ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
- ☐ A request for an extension to a previously approved plan.

19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

- ☐ TCEQ cashier
- ☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- ☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

21. ☒ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

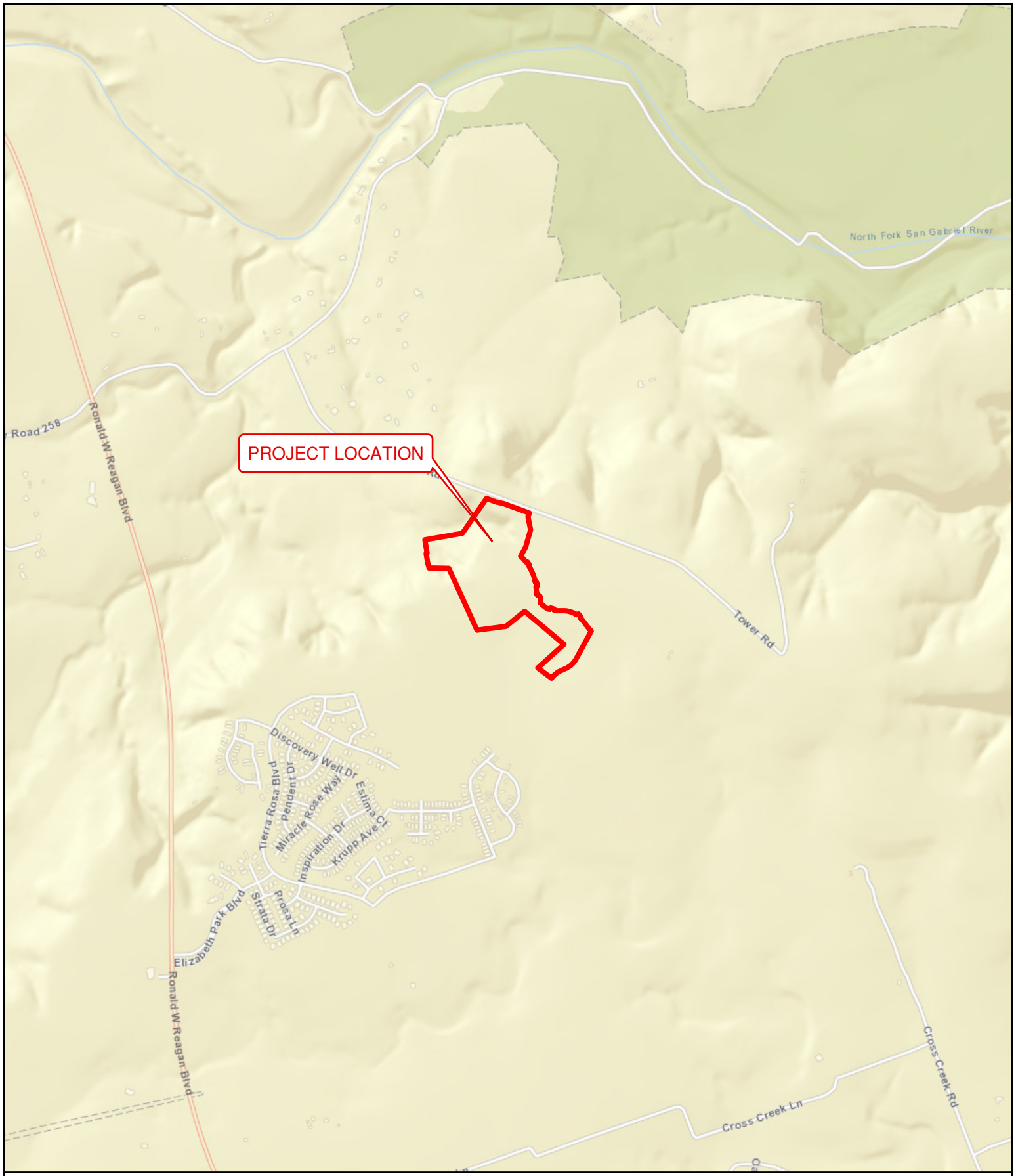
General Information Form
ATTACHMENT A

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

ROAD MAP



Santa Rita Ranch

Water Pollution Abatement Plan Map

Leander NE Quadrant

Subject Boundary

N
W E
S

Carlson, Brigance & Doering, Inc.
Civil Engineering ❖ Surveying

0 1,000 2,000 4,000 Feet

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Carlson, Brigance & Doering, Inc. shall not be liable for errors, omissions, or inaccuracies contained in this map. For informational purposes only.

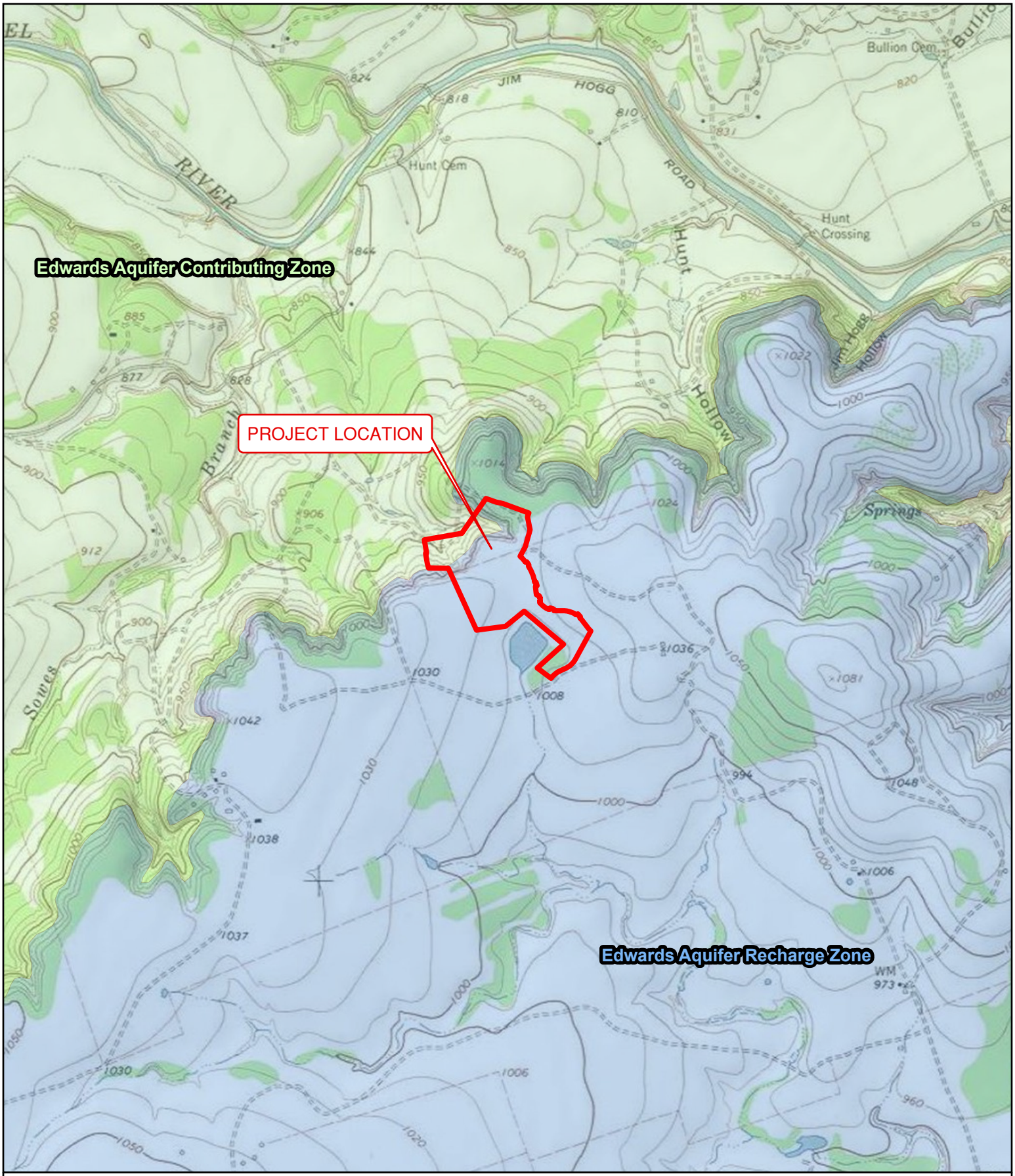
General Information Form
ATTACHMENT B

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

USGS / EDWARDS AUQUIFER RECHARGE ZONE MAP



Santa Rita Ranch

Water Pollution Abatement Plan Map

Leander NE Quadrant

Subject Boundary

N
W
E
S

0 1,000 2,000 4,000 Feet

Carlson, Brigance & Doering, Inc.
Civil Engineering ❖ Surveying

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General Information Form
ATTACHMENT C

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Project Description:

Santa Rita Ranch Phase 2B Section 2 is a 58.11-acre residential development that is composed of 95 single-family lots. The project is located on the east side of Flower Valley Parkway and Santa Rita Ranch Phase 2B Section 1, and just south of existing Tower Rd. The project is located within the City of Liberty Hill ETJ, in Williamson County, Texas. This project includes 5,736 linear feet of roadway, 6,052 linear feet of water main line, 5,481 linear feet of 8" SDR 26 PVC ASTM D3034 wastewater main line, 160 linear feet of 8" C900 (150 psi) PVC AWWA C900 wastewater main line at water crossings, and 2,167 linear feet of 6" SDR 26 PVC ASTM D3034 of wastewater service line.

The proposed wastewater line will flow into an existing SCS gravity system to the approved Lift Station 2A and then the Liberty Hill Wastewater Treatment Plant.

The site may have soil imported. The fill material shall consist of crushed limestone, select fill, and topsoil. The fill material will be used to facilitate drainage, roadway construction, revegetation of the property, and to elevate the building foundations.

This project is located within the Edwards Aquifer Recharge Zone. Flows were calculated using the National Resource Conservation hydrologic method. Water Quality will be provided by existing batch detention ponds constructed in previous sections.

Within the 58.11-acre improvement area, approximately 15.07 acres of impervious cover will be installed (25.93% of total project site). The existing batch detention pond 14 have been designed in accordance with the January 20, 2017 Addendum Sheet to RG-348 which establishes Batch Detention Basins as Section 3.2.17 of RG-348. The pond and vegetated filter strips have been sized to treat and detain for Phase 2B Section 1 & 2, and future sections.

Horizon™
Environmental Services

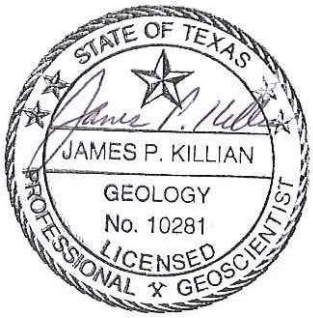
GEOLOGIC ASSESSMENT
APPROXIMATELY 93-ACRE SANTA RITA RANCH TRACT
PHASE 2B (SECTIONS 2 & 3) AND PHASE 2C
TOWER ROAD
GEORGETOWN, WILLIAMSON COUNTY, TEXAS
HJN 200130 GA

PREPARED FOR:

SANTA RITA KC LLC
AUSTIN, TEXAS

PREPARED BY:

HORIZON ENVIRONMENTAL SERVICES
A BRANCH OF LJA ENVIRONMENTAL SERVICES, LLC
TBPG FIRM REGISTRATION NO. 50679



APRIL 2025

1507 S Interstate 35 • Austin, Texas 78741-2502 • 512.328.2430 • www.horizon-esi.com
A Branch of LJA Environmental Services, LLC • TBPG Firm No. 50679

Horizon
Environmental Services

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E SUPPORTING INFORMATION
F ADDITIONAL SITE MAPS

Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

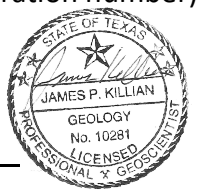
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: James Killian Telephone: 512-328-2430

Date: 4 April 2025 Fax: 512-328-1804

Representing: Horizon Environmental Services and TBPG Form Registration No. 50679 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Approximately 93-acre Santa Rita Ranch Tract; Phase 2B (Sections 2 and 3) and Phase 2C; Tower Road, Georgetown, Williamson County, Texas

Project Information

1. Date(s) Geologic Assessment was performed: 27 March 2025
2. Type of Project:
   - ☒ WPAP
   - ☒ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. ☒ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
BkE - Brackett gravelly clay loam, 3-12% slopes	C	1 - 4
BkrG - Brackett-Rock outcrop-Real complex, 8-30% slopes	C	1 - 2
DnC - Denton silty clay, 3-5% slopes	D	1 - 3
EeB - Eckrant extremely stony clay, 0-3% slopes	D	1 - 1.5
GsB - Georgetown stony clay loam, 1-3% slopes	D	1 - 3

** Soil Group Definitions (Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

Applicant's Site Plan Scale: 1" = 400'
Site Geologic Map Scale: 1" = 400'
Site Soils Map Scale (if more than 1 soil type): 1" = 500'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection: _____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.

13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    ☐ The wells are not in use and have been properly abandoned.
    ☐ The wells are not in use and will be properly abandoned.
    ☐ The wells are in use and comply with 16 TAC Chapter 76.
    ☐ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

15. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

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ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Santa Rita Ranch; Phase 2B and Phase 2C; Tower Rd, Georgetown, Williamson Co., Tx

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
SF-15	30.679111	-97.823843	SH/C	30	Ked	50	25	7	--	0	--		C,F,O	35	65		X	X		Hilltop
SF-16	30.675387	-97.823553	SH/C	30	Ked	300	200	6	--	0	--		C,F,O	65	95		X		X	Hilltop
SR-14	30.678613	-97.824318	SH	20	Ked	6	4	2.5	--	0	--		C,F,O	15	35	X		X		Hilltop
SR-15	30.677735	-97.825099	SC	20	Ked	2.5	0.5	1.5	--	0	--		C,F,O	18	38	X		X		Hilltop
SR-18	30.679626	-97.8248	SC	20	Ked	1	0.5	1	--	0	--		C,F,O	25	45		X	X		Hilltop
SR-19	30.679644	-97.823785	SC	20	Ked	3	1.5	1.5	--	0	--		C,F,O	15	35	X		X		Hilltop

* DATUM:_____

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Man-made feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

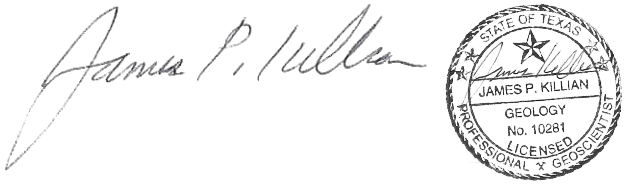
8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials:

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.



Date: 4/3/2025

Sheet ___1___ of ___1___

TCEQ-0585-Table (Rev. 10-01-04)

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ATTACHMENT B

STRATIGRAPHIC COLUMN

Geologic Unit	Hydrologic Unit	Approx. Thickness at Project Site (ft)
Edwards Limestone (Ked)	Edwards Aquifer	50
Comanche Peak Limestone (Kc)		50
Keys Valley Marl (Kkv)		50

Elevation (ft msl)	Depth (ft)
1028	0
978	50
928	100
878	150

Note: Unit elevation and thickness given with respect to a ground surface elevation of 1028 ft along the eastern boundary of the subject site.

Horizon Environmental Services

Date:	04/02/2025
Drawn:	KRW
HJN NO:	200130.001 GA

Attachment B
Stratigraphic Column
Santa Rita Ranch
Phase 2B (Sections 2 & 3) and Phase 2C
Tower Road
Georgetown, Williamson County, Texas

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10291
LICENSED
PROFESSIONAL GEOSCIENTIST

200130 - Santa Rita Ranch\Graphics\GA_Maps\200130-001GA_05A_Strat.mxd

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ATTACHMENT C

DESCRIPTION OF SITE GEOLOGY

Geologic information for the subject site obtained via literature review is provided in Attachment E, Supporting Information.

A geologic assessment of approximately 93 acres (Santa Rita Ranch [SRR] Phase 2B [Sections 2 & 3] and 2C) located along the south side of Tower Road in Georgetown, Williamson County, Texas, was conducted pursuant to Texas rules for regulated activities in the Edwards Aquifer Recharge Zone (EARZ) (30 TAC 213). The subject site consists of undeveloped vacant rangeland with no habitable structures. Assessment findings were used to develop recommendations for site construction measures intended to be protective of water resources at the subject site and adjacent areas.

Approximately 72 acres of the subject site are located within the EARZ and 21 acres are in the Edwards Aquifer Contributing Zone (EACZ) as defined by the Texas Commission on Environmental Quality (TCEQ). The EARZ occurs where surface water enters the subsurface through exposed limestone bedrock containing faults, fractures, sinkholes, and caves. The EACZ is the area or watershed where runoff from precipitation flows downgradient to the Recharge Zone of the Edwards Aquifer. The Contributing Zone is located upstream (upgradient) and generally north and northwest of the Recharge Zone.

The subject site is underlain by Edwards Limestone (Ked), Comanche Peak Limestone (Kc), and Keys Valley Marl (Kkv) (UT-BEG, 1995), which have estimated maximum thicknesses of about 50 feet each.

A total of 6 naturally occurring geologic features (SF-15, SF-16, SR-14, SR-15, SR-18, and SR-19) were identified at this site. No man-made features were identified. Further information pertaining to the geologic features is presented in the following Attachments D, E, and F.

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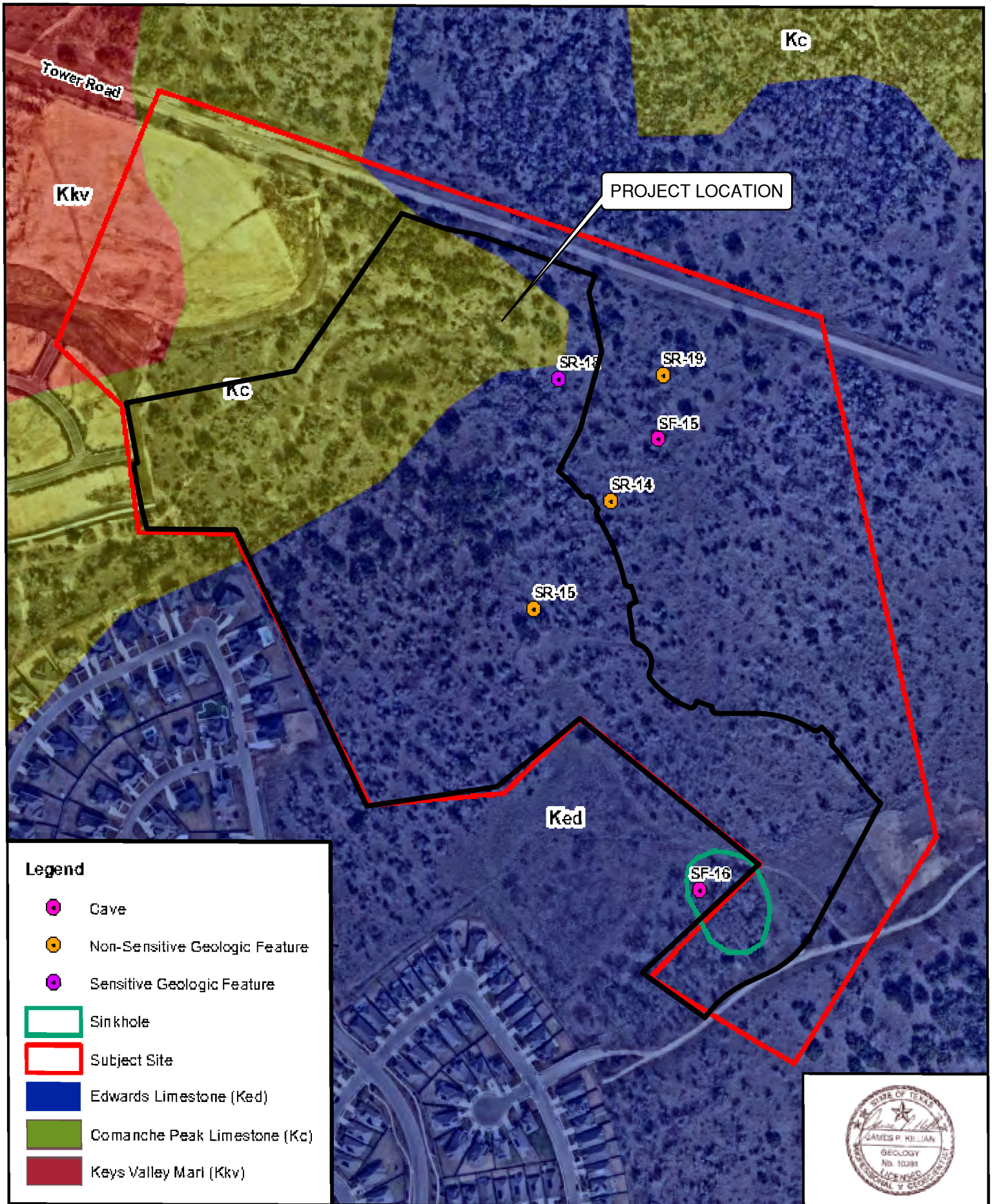
ATTACHMENT D

SITE GEOLOGIC MAP



Horizon Environmental Services

Date:	04/01/2025
Drawn:	KRW
HJN NO:	200130 GA
Source:	Nearmap, 2025; TWSC, 2014

Attachment D
Site Geologic Map
Santa Rita Ranch
Phase 2B (Sections 2 & 3) and Phase 2C
Tower Road
Georgetown, Williamson County, Texas

0 200 400
Feet

200130 - Santa Rita Ranch\Graphics\GA_Maps\200130-001GA_08A_SGM

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ATTACHMENT E

SUPPORTING INFORMATION

1.0 INTRODUCTION AND METHODOLOGY

This report and any proposed abatement measures are intended to fulfill Texas Commission on Environmental Quality (TCEQ) reporting requirements (TCEQ, 2005). This geologic assessment includes a review of the subject site for potential aquifer recharge and documentation of general geologic characteristics for the subject site. Horizon Environmental Services (Horizon) conducted the necessary field and literature studies according to TCEQ *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones* (TCEQ, 2004).

Horizon walked transects spaced 50 feet apart, mapped the locations of features using a sub-foot accurate Trimble Geo HX handheld GPS, and posted processed data utilizing GPS Pathfinder Office software, topographic maps, and aerial photographs. Horizon also searched the area around any potential recharge features encountered to look for additional features. When necessary, Horizon removed loose rocks and soil (by hand) to preliminarily assess each feature's subsurface extent while walking transects. However, labor-intensive excavation was not conducted during this assessment. Features that did not meet the TCEQ definition of a potential recharge feature (per TCEQ, 2004), such as surface weathering, karren, or animal burrows, were evaluated in the field and omitted from this report.

The results of this survey do not preclude the possibility of encountering subsurface voids or abandoned test or water wells during the clearing or construction phases of the proposed project. If a subsurface void is encountered during any phase of the project, work should be halted until the TCEQ (or appropriate agency) is contacted and a geologist can investigate the feature.

2.0 ENVIRONMENTAL SETTING

2.1 LOCATION AND GENERAL DESCRIPTION

The subject site consists of approximately 93 acres of vacant rangeland located along the south side of Tower Road in Georgetown, Williamson County, Texas (Appendix F, Figure 1).

2.2 LAND USE

The subject site is reportedly vacant with no apparent use. No habitable structures were observed on the site. Tower Road borders the north side and Fortuna Road (unpaved) bisects the southern portion of the subject site. Surrounding lands are generally used for residential and agricultural purposes.

2.3 TOPOGRAPHY AND SURFACE WATER

The subject site is situated on gently sloping terrain within the North and Middle Forks of the San Gabriel River watershed (Appendix F, Figures 2 and 3). Surface elevations on the subject site vary from a minimum of approximately 932 feet above mean sea level (amsl) near the northwestern property boundary within an unnamed tributary of Sowes Branch to a maximum

of approximately 1028 feet amsl near the eastern property boundary (USGS, 1976). Drainage on the site occurs primarily by overland surface flow in multiple directions depending on proximity to unnamed tributaries of Sowes Branch.

2.4 EDWARDS AQUIFER ZONE

The subject site is found within the Edwards Aquifer Recharge Zone and Edwards Aquifer Contributing Zone (TCEQ, 2025) (Attachment F, Figure 2).

2.5 SURFACE SOILS

Five soil units are mapped within the subject site (NRCS, 2025) (Appendix F, Figure 4). Generally, the soil series are similar in their physical, chemical, and engineering properties, with the principal exception being rock fragment content and thickness. The soil units are described in further detail below.

Brackett gravelly clay loam, 3 to 12% slopes (BkE) has a moderately alkaline, pale brown, clay loam surface layer about 5 inches thick with about 15% cover of limestone fragments that range from 4 to 12 inches in diameter. The subsoil, to 16 inches, is moderately alkaline, pale yellow clay loam with about 5% weakly cemented fine limestone fragments. The underlying layer is very pale brown, interbedded, calcareous loam and limestone. This soil is well-drained, permeability is moderately slow, and available water capacity is very low. Runoff is rapid (Werchan and Coker, 1983).

Brackett-Rock outcrop-Real complex, 8 to 30% slopes (BkG) consists of hilly to steep Brackett soils and Rock outcrop on uplands. This complex is made up of about 50% Brackett soils, about 25% Rock outcrop, and 25% other soils. Typically, the Brackett soils have a moderately alkaline, grayish-brown, gravelly, silty clay loam surface layer about 4 inches thick. About 60 to 80% of the surface is covered with limestone pebbles, cobbles, stones, and a few boulders. The subsoil, which extends to a depth of about 12 inches, is moderately alkaline, light brownish-gray, gravelly, silty clay loam. The underlying material is interbedded limestone and marl. The Brackett soils are well-drained. Runoff is rapid, and available water capacity is very low. Erosion is a moderate to severe hazard. Rock outcrop consists of narrow horizontal bands and random areas of marl outcrop. Loose cobbles, stones, and boulders are common on the surface (Werchan and Coker, 1983).

Denton silty clay, 3 to 5% slopes (DnC) typically has an upper layer of dark brown, silty clay about 18 inches thick. The subsoil, to a depth of about 25 inches, is light brown, silty clay. The layer below that, to 32 inches, is pale brown, silty clay loam. The underlying material is limestone interbedded with weathered limestone and limy material. The soil is calcareous and moderately alkaline. This soil is well-drained, and runoff is medium. Permeability is slow. When dry, the soil cracks and water enters the soil rapidly; but when the soil is wet, water enters it slowly. The available water capacity is medium, and erosion is a moderate hazard (Werchan and Coker, 1983).

Eckrant extremely stony clay, 0 to 3% slopes (EeB) is gently sloping and located on broad ridges and in shallow valleys on uplands. Typically, this soil has an extremely stony, very dark gray, clay surface layer about 11 inches thick. The underlying material is indurated limestone. About 25% of the surface is covered with fragments of limestone; most are about 6 inches across, but range from 3 inches to 3 feet across and are as much as 10 inches thick. The soil is calcareous, moderately alkaline, and well-drained. Permeability is moderately slow, and surface runoff is rapid. The fragments of limestone on the surface help to prevent erosion. The available water capacity is very low because of the shallowness of the soil and stones in the soil (Werchan and Coker, 1983).

Georgetown stony clay loam, 1 to 3% slopes (GsB) is typically found on higher parts of uplands. Typically, this soil has a slightly acidic, brown, stony clay loam surface layer about 7 inches thick and few stones on or near the surface. The subsoil, which extends down to a depth of about 35 inches, is neutral, reddish-brown clay in the upper part and slightly acidic, reddish-brown, cobbly clay in the lower part. The underlying material is indurated, fractured limestone that has clay loam in crevices and fractures. This soil is well-drained. Permeability is slow, and surface runoff is medium. The available water capacity is low. Reaction is neutral to slightly acidic. The erosion hazard ranges to slight. The soil is suitable for urban uses, but corrosion to buried pipelines is a hazard due to the clayey subsoil. Septic systems do not function well in the clayey subsoil (Werchan and Coker, 1983).

2.6 WATER WELLS

A review of TCEQ and Texas Water Development Board (TWDB) records revealed no water wells on the subject site and 12 wells within 0.5 miles of the subject site (TCEQ, 2005; TWDB, 2024). According to the TWDB records, all the off-site wells are reportedly completed within the Trinity Aquifer at total depths ranging from 535 to 850 feet below surface. Horizon observed no on-site water wells on the subject site.

The results of this assessment do not preclude the existence of additional undocumented/abandoned wells on the site. If a water well or casing is encountered during construction, work should be halted near the feature until the TCEQ is contacted.

2.7 GEOLOGY

Literature Review

The subject site is underlain by Edwards Limestone (Ked) (UT-BEG, 1995). Edwards Limestone comprises limestone, dolomite, and chert. Limestone is aphanitic to fine grained, massive to thin bedded, hard, brittle, and in part rudistid biostromes, with much miliolid biosparite. Dolomite is fine to very fine grained, porous, medium gray to grayish brown. Nodules and plates are common in chert, varying in amount from bed to bed, with some intervals free of chert, mostly white to light gray. In zone of weathering, the formation is considerably recrystallized, "honeycombed," and cavernous, forming an aquifer; it forms flat areas and plateaus bordered by scarps. Thickness ranges from 60 to 350 feet, thinning northward.

Comanche Peak Limestone (Kc) underlies the Edwards and crops out on the steep, north-facing slopes located along the northern portion of the site. It is approximately 50 feet thick and consists of white, soft, nodular limestone interbedded with marl and calcareous clay.

Underlying the Comanche Peak Limestone is the Keys Valley Marl (Kkv) member of the Walnut Formation (Kw), which crops out along the moderate to gently sloping areas located in the northwestern portion of the site. The uppermost 50 feet of the Walnut Formation is named the Keys Valley Marl member and consists of cream-colored, fossiliferous marl with some thin interbeds of soft limestone. The Keys Valley Marl is underlain by the Cedar Park Limestone (Kwcp) and Bee Creek Marl (Kwbc) members of the Walnut Formation.

The site Stratigraphic Column is provided as Attachment B, and the Site Geologic Map is Attachment D.

The subject site is located within the Balcones Fault Zone. Available geologic reports indicate the nearest mapped fault is located approximately 0.5 miles to the northwest, trending from southwest to northeast (TWSC, 2025).

Field Assessment

A field survey was conducted by Horizon support staff under the supervision of a licensed Horizon geologist on 27 March 2025. Horizon observed no man-made features and 6 naturally occurring geologic features (SF-15, SF-16, SR-14, SR-15, SR-18, and SR-19) on the subject site that meet the TCEQ definition of a potential recharge feature. No springs were observed at the site. Previous geologic assessments were conducted on the subject site by SWCA Environmental Consultants (SWCA, 2006) and Horizon (Horizon, 2014). SWCA originally identified all (6) of the geologic features previously listed.

Geologic features on the subject site are described as follows:

Geologic Feature SF-15: This feature had been previously assessed by SWCA as 2 small sinkholes that were partially filled with discarded trash (barbed wire and scrap metal) (SWCA, 2006). However, the feature is 1 large sinkhole (~50 feet long by 25 feet wide by 3 feet deep) and 1 open solution cavity (~3 feet long by 1.5 feet wide by 6 feet deep) that is located within the sinkhole's catchment area. Near the center of the sinkhole is a partially filled trash area with an open drainage portal about 5 feet long by 3 feet wide by 4 feet deep. Slight to moderate air flow conductivity was noted amongst the trashed portal opening. The solution cavity is located about 20 feet due southeast from the lowest part of the sinkhole with some discarded trash (barbed wire and bottles). It had slight air flow conductivity, and the floor of the cavity appears to slope back towards the sinkhole drainage portal. Based on the presence of air flow conductivity and a very well-defined sinkhole perimeter, the potential for additional subgrade passage is very probable. This feature meets the requirements to be classified as a potential cave, based on it being a natural, underground, open space formed by dissolution of limestone that is large enough for an average-sized person to enter.

Horizon staff excavated the feature (20 feet long by 6 to 8 feet wide by 3 to 7 feet deep) from 3 and 6 May 2024 using a backhoe with hoe ram attachment. At approximately 7 feet below the surface, a void opening was found along the south wall about 2 feet wide by 3 feet high that appeared to extend over 30 feet toward the southeast into a slanted room about 12 to 17 feet wide by less than 1 to 5 feet high, with a few speleothems (ceiling soda straws) above large rock breakdown and soil covered floors. A smaller passage about 4 feet wide by 2 feet high was found behind the room that extended about 20 feet toward the southwest but became too low and narrow to continue. This feature is classified as a **cave** based on it being a natural underground open space formed by the dissolution of limestone that is large enough for an average-sized person to enter. Horizon staff performed hand excavation and exploration of the cave on 7 May 2024. The floor of the feature was covered with dark gray clayey soil, ceiling breakdown, a few speleothems, and cave coral. Horizon staff surveyed and mapped the cave, which has been officially named **Jimbo's Fissure Cave** for identification purposes, on 6 June 2024. Plan and profile cave maps are included in this report. The cave is approximately 70 feet long (south to north) and 17 feet at its widest. Interior ceiling heights within the cave range from less than 1 foot to 5 feet. This feature has a high infiltration rate and a surface runoff catchment less than 1 acre. This feature has been deemed sensitive for groundwater recharge and therefore has a TCEQ buffer of 200 feet upslope and 50 feet downslope surrounding the sinkhole/footprint of the cave.

Geologic feature SF-15 (sinkhole/potential cave) before excavation, facing south

Geologic feature SF-15 after excavation, facing southeast

Geologic feature SF-15 (Jimbo's Fissure Cave) interior view with large breakdown rock on floor, facing southeast

Geologic feature SF-15 (Jimbo's Fissure Cave) opposite view, facing northwest

Geologic Feature SF-16: This feature had been previously assessed by SWCA as an unnamed cave within a very large sinkhole that is rimmed with boulders and cobble debris (SWCA, 2006). The sinkhole measures approximately 300 feet long by 200 feet wide by 3 to 6 feet deep and funnels into a large, open vertical shaft about 10 feet in diameter by 5 feet deep that was recently (<1 year) covered with a large boulder to prevent potential entry by visitors. Along the west side of the shaft floor is an opening measuring 5 feet long by 4 to 6 feet deep that connects to an apparent low bedding plane void extending about 20 feet (north to south) by 10 feet wide by 3 to 4 feet high. Several internal open drains were observed along the floor at the lowest points of the void. Moderate to high air flow conductivity was noted along the edges of the boulder that covers the main shaft opening. This feature meets the requirements to be classified as a **cave**, based on it being a natural underground open space formed by dissolution of limestone that is large enough for an average-sized person to enter. This sinkhole/cave is located within a broader drainage area that appears to drain over several acres.

Horizon staff removed the large boulder and excavated the feature (11 feet long by 8 feet wide by 11 feet deep) from 9, 10, and 13 May 2024 using a backhoe with hoe ram attachment. At approximately 9 feet below the surface, a low horizontal bedding plane void filled with soil, rocks, and/or wooden sticks/branches was found along the north and northwest walls about 20 to 25 feet wide by 1 to 3 feet high. About 10 feet west of the excavation, a small (1.5 feet in diameter by 3 to 6 feet deep) but open drainage portal was found in the floor of the bedding plane room with very high air flow conductivity. On 14 and 15 May 2024, Horizon staff hand-excavated/enlarged the interior drainage portal down to about 7 feet and found a low horizontal open tunnel passage (~3 to 4 feet wide by less than 1 to 1 foot high) that extended over 20 feet toward the north. On 17, 21, and 22 May 2024, Horizon staff hand-excavated the floor of the tunnel passage and found a shallow pit about 4 feet long by 2 feet wide by 2.5 feet deep near the apparent end of the tunnel passage that had an additional open void passage near the floor of

the pit (~4 feet wide by less than 1 to 1 foot high) that extended to the north another 15 feet with high air flow conductivity. This additional tunnel passage had a clean-washed rock floor with some infilled soil, sticks, and rocks further ahead. Cave exploration was terminated at this point due to the constrictive size of the additional passage. Of note, large amounts of surface water inflow appear to have scoured this explored area of the cave and additional cave passage is most likely. Horizon staff surveyed and mapped the cave, which has been officially named **Santa Rita Sink Cave** for identification purposes on 15 May 2024 and 10 June 2024. A plan and profile cave map is included in this report. The cave is approximately 60 feet long (south to north) and 35 feet at its widest. Interior ceiling heights within the cave range from less than 1 foot to 6 feet. This feature has a very high infiltration rate and a surface runoff catchment greater than 8 acres. This feature has been deemed highly sensitive for groundwater recharge and therefore has a TCEQ (upslope) setback buffer of 200 feet that surrounds the entire perimeter of the sinkhole, which includes the footprint of the cave.

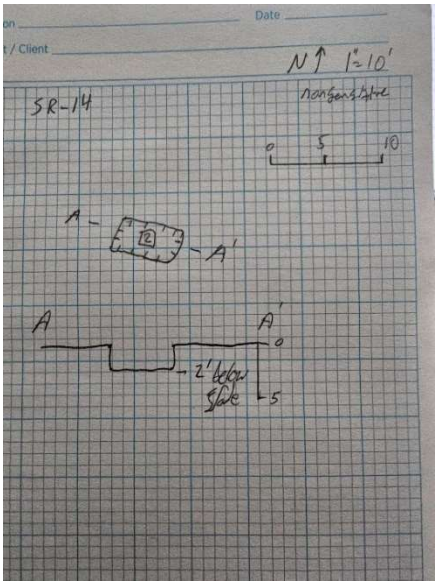
Geologic feature SF-16 (very large sinkhole/cave) before excavation, facing east

Geologic feature SF-16 after excavation, facing east

Geologic feature SF-16 (Santa Rita Sink Cave) interior view (station no. 1) of low, highly scoured room along northwestern wall of excavation, facing west

Geologic feature SF-16 (Santa Rita Sink Cave) interior view of lower tunnel passage (station no. 3, facing north

Geologic Feature SR-14: Small, upland sinkhole measuring approximately 6 feet long by 4 feet wide by 2.5 feet deep, with a semi-open drainage portal near the center about 0.5 feet in diameter by 1 foot deep. No significant air flow conductivity was noted. Probing with a steel rod encountered firm soil and cobbles about 3 feet below the feature's floor. Horizon staff excavated the feature on 5 September 2024 using a backhoe with hoe ram attachment. Excavation dimensions measured approximately 8 feet long by 6 feet wide by 7 feet deep. After mechanical excavation, Horizon probed the floor of the feature with a steel rod; however, no portals and/or voids were discovered in the floor or walls of the feature. Based on a lack of pursuable void leads, the excavation was terminated and left open for review/concurrence by the TCEQ. This feature has been deemed non-sensitive for groundwater recharge capability. This feature has a low infiltration rate and a surface runoff catchment of less than 0.1 acre.



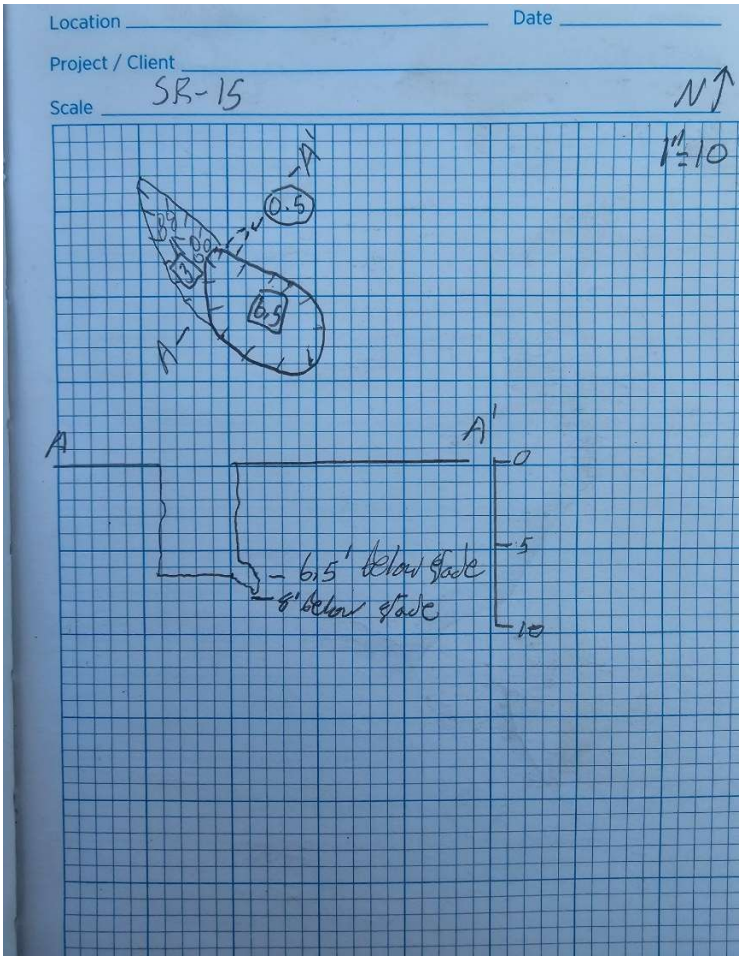
Sketch of SR-14

Geologic feature SR-14 (sinkhole) before excavation, facing south

Geologic feature SR-14 after excavation, facing south

Geologic Feature SR-15: Solution cavity measuring approximately 2.5 feet long by 0.5 feet wide by 1.5 feet deep, with semi-open drainage portals amongst vuggy rock and loose soil. No significant air flow conductivity was noted. Probing with a steel rod encountered loose to firm soil and rocks about 2.5 feet below the feature's floor. Horizon staff excavated the feature on 6 September 2024 using a backhoe with hoe ram attachment. Excavation dimensions measured approximately 14 feet long by 3 to 5 feet wide by 6.5 feet deep. After mechanical excavation, Horizon probed the floor of the feature with a steel rod; however, no portals and/or voids were discovered in the floor of the feature. A small void pocket (~1 foot long by 0.5 feet wide by 0.5 feet high) was found along the northeast wall of the excavation about 6 feet below the surface but pinched off with no additional extent. Based on a lack of pursuable void leads, the excavation was

terminated and left open for review/concurrence by the TCEQ. This feature has been deemed non-sensitive for groundwater recharge capability. This feature has a low infiltration rate and a surface runoff catchment of less than 0.1 acre.



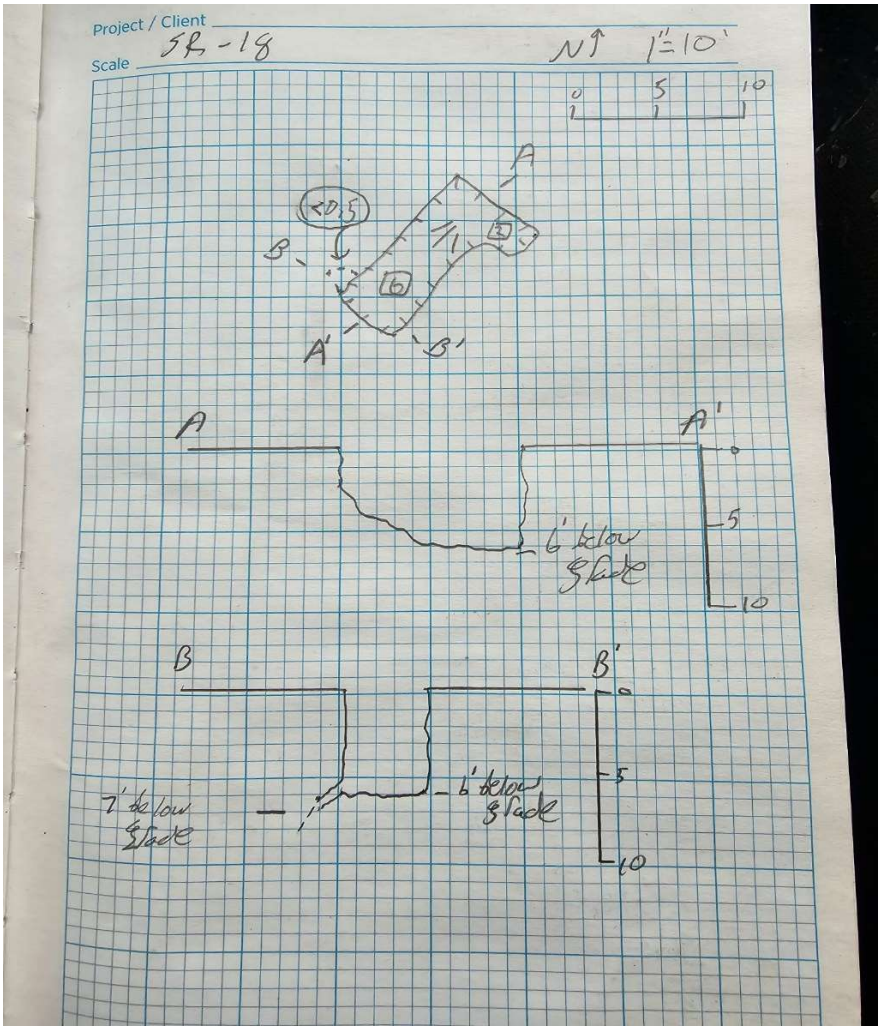
Sketch of SR-15

Geologic feature SR-15 (solution cavity) before excavation, facing west

Geologic feature SR-15 after excavation, facing northwest

Geologic Feature SR-18: Solution cavity measuring approximately 1 foot long by 0.5 feet wide by 1 foot deep, with semi-open drainage portals amongst loose rocks and soil. No significant air flow conductivity was noted. Probing with a steel rod encountered loose soil and rocks about 2 feet below the feature's floor. Horizon staff excavated the feature on 16 to 17 October 2024 using a backhoe with hoe ram attachment. Excavation dimensions measured approximately 10 feet long by 3.5 feet wide by 2 to 6 feet deep. After mechanical excavation, Horizon probed the floor of the feature with a steel rod and no portals and/or voids were discovered in the floor of the feature. However, at the southwest corner about 6 feet below the surface was a small drainage portal void about 1 foot in diameter by less than 0.5 feet high that extended down into a void that was too narrow to follow. Based on a lack of pursuable void leads,

the excavation was terminated and left open for review/concurrence by the TCEQ. This feature has been deemed sensitive for groundwater recharge capability. This feature has a low to intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

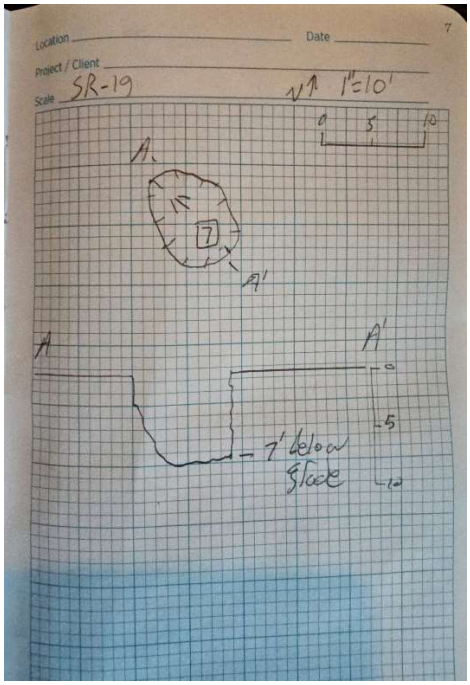


Sketch of SR-18

Geologic feature SR-18 (solution cavity) before excavation, facing down

Geologic feature SR-18 after excavation, facing southwest

Geologic Feature SR-19: Solution cavity measuring approximately 3 feet long by 1.5 feet wide by 1.5 feet deep, with semi-open drainage portals amongst loose clay soil and rocks. No significant air flow conductivity was noted. Probing with a steel rod encountered loose soil and rocks about 2 feet below the feature's floor. Horizon staff excavated the feature on 8 and 9 October 2024 using a backhoe with hoe ram attachment. Excavation dimensions measured approximately 8 feet long by 6 feet wide by 7 feet deep. After mechanical excavation, Horizon probed the floor of the feature with a steel rod; however, no portals and/or voids were discovered in the floor or walls of the feature. Based on a lack of pursuable void leads, the excavation was terminated and left open for review/concurrence by the TCEQ. This feature has been deemed non-sensitive for groundwater recharge capability. This feature has a low infiltration rate and a surface runoff catchment of less than 0.1 acre.



Sketch of SR-19

Geologic feature SR-19 (solution cavity) before excavation, facing south

Geologic feature SR-19 after excavation, facing south

The Geologic Assessment Table (Attachment A) describes those features observed on the subject site that meet the TCEQ definition of a potential recharge feature.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Three geologic features (SF-15, SF-16, and SR-18) have been deemed sensitive based on the Geologic Assessment Table (Attachment A). A sensitive feature would require a TCEQ protective setback buffer. In general, a protective buffer encompassing a sensitive feature is recommended to meet the TCEQ guidance for a setback of at least 50 feet in all directions from the feature's areal extent (perimeter), plus its watershed catchment up to 200 feet from the perimeter of the feature. However, a larger protective buffer for features SF-15 (Jimbo's Fissure Cave) and SF-16 (Santa Rita Sink Cave) is recommended to meet the TCEQ guidance for setbacks of caves with mapped subsurface footprints. Caves with a known subsurface footprint (i.e., surveyed/mapped) include a protective buffer zone extending an additional 50 feet in all directions from the footprint, plus the cave's watershed catchment up to 200 feet from the footprint.

Three geologic features (SR-14, SR-15, and SR-19) have been evaluated as non-sensitive for groundwater recharge capability and would therefore not require TCEQ protective setback buffers. No further action is recommended for these non-sensitive features.

Most of the subject site appears well-suited to development prospectuses. It should be noted that soil and drainage erosion would increase with ground disturbance. Native grasses and the cobbly content of the soil aid to prevent erosion. Soil and sedimentation fencing should be placed in all appropriate areas prior to any subject site disturbing activities.

Because most of the subject site is located over the Edwards Aquifer Recharge Zone, it is possible that subsurface voids underlie the site. If any subsurface voids are encountered during site development, work should halt immediately so that a geologist may assess the potential for the void(s) to provide meaningful contribution to the Edwards Aquifer.

4.0 REFERENCES

(CAPCOG) Capital Area Council of Governments. 2-foot contours, CAPCOG Center for Regional Development, Austin, Texas. 2015.

(Horizon) Horizon Environmental Services. *Geologic Assessment, Santa Rita North, C7 Ranch, and Middlebrook, Williamson County, Texas*. HJN 130065.001GA. September 2014.

(Nearmap) Nearmap US, Inc. Nearmap Vertical™ digital orthographic photograph, <https://go.nearmap.com>. Imagery date 11 October 2024.

(NRCS) US Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey, <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Soil map data layer updated 12 September 2019. Accessed 1 April 2025.

(OSM) OpenStreetMap contributors. OpenStreetMap, <http://www.openstreetmap .org>. Available under the Open Database License (www.opendatacommons.org/ licenses/odbl). Accessed 1 April 2025.

(SWCA) SWCA Environmental Consultants. *Narrative Description of Site Specific Geology for the Approximately 1,477-Acre Santa Rita Ranch Property, Williamson County, Texas*. Project No. 10003-099. Published 26 October 2006.

(TCEQ) Texas Commission on Environmental Quality. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. Revised October 2004.

_____. RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices. Revised July 2005.

_____. Optional Enhanced Measures for the Protection of Water Quality in the Edwards Aquifer (Revised). Appendix A to RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices. September 2007.

_____. Edwards Aquifer Protection Program. Edwards Aquifer Viewer, <http://www.tceq. state.tx.us/field/eapp/viewer.html>. Accessed 1 April 2025.

(TWDB) Texas Water Development Board. Water Information Integration and Dissemination System. TWDB Groundwater Database, <https://www3.twdb.texas.gov/apps/water datainteractive/groundwaterdataviewer>. Accessed 1 April 2025.

(TWSC) United States Geological Survey, Texas Water Science Center. Geologic Database of Texas, <https://txpub.usgs.gov/txgeology/>. Updated 1 February 2014; Accessed 1 April 2025.

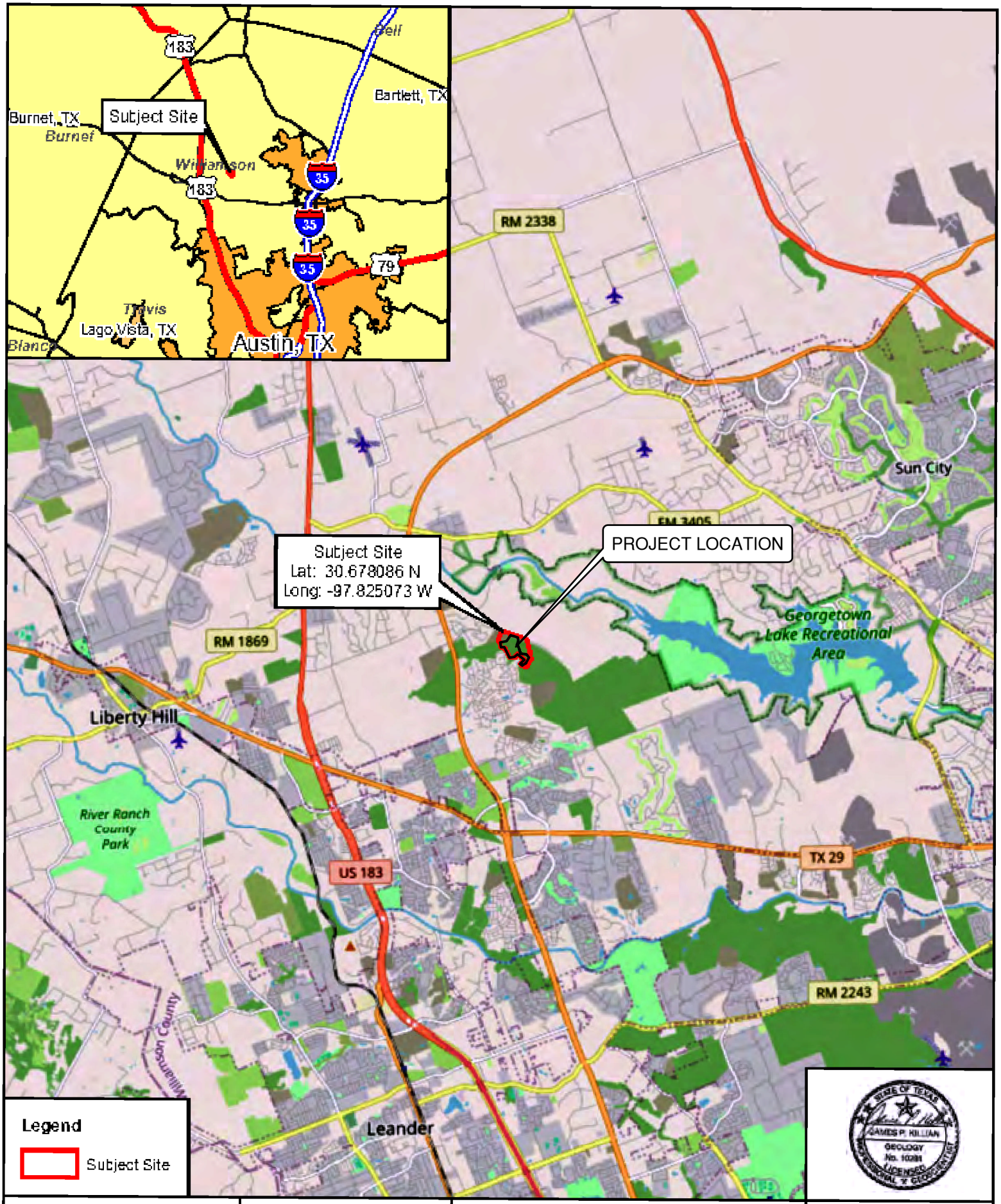
(UT-BEG) University of Texas Bureau of Economic Geology, Geologic Atlas of Texas Austin Sheet, Francis Luther Whitney Memorial Edition. C.V. Proctor, Jr., T.E. Brown, J.H. McGowen, and N.B. Waechter. 1974. Reprinted 1995.

(USGS) US Geological Survey. 7.5-minute series topographic maps, Leander NE, Texas, quadrangle. 1976.

Werchan, Leroy E., and John L. Coker. *Soil Survey of Williamson County, Texas*. US Department of Agriculture, Natural Resources Conservation Service (formerly Soil Conservation Service), in cooperation with the Texas Agricultural Experiment Station. 1983.

ATTACHMENT F

ADDITIONAL SITE MAPS



Date:	04/01/2025
Drawn:	KRW
HJN NO:	200130 GA
Source:	OSM, 2025

Attachment F, Figure 1
Vicinity Map
Santa Rita Ranch
Phase 2B (Sections 2 & 3) and Phase 2C
Tower Road
Georgetown, Williamson County, Texas

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Miles

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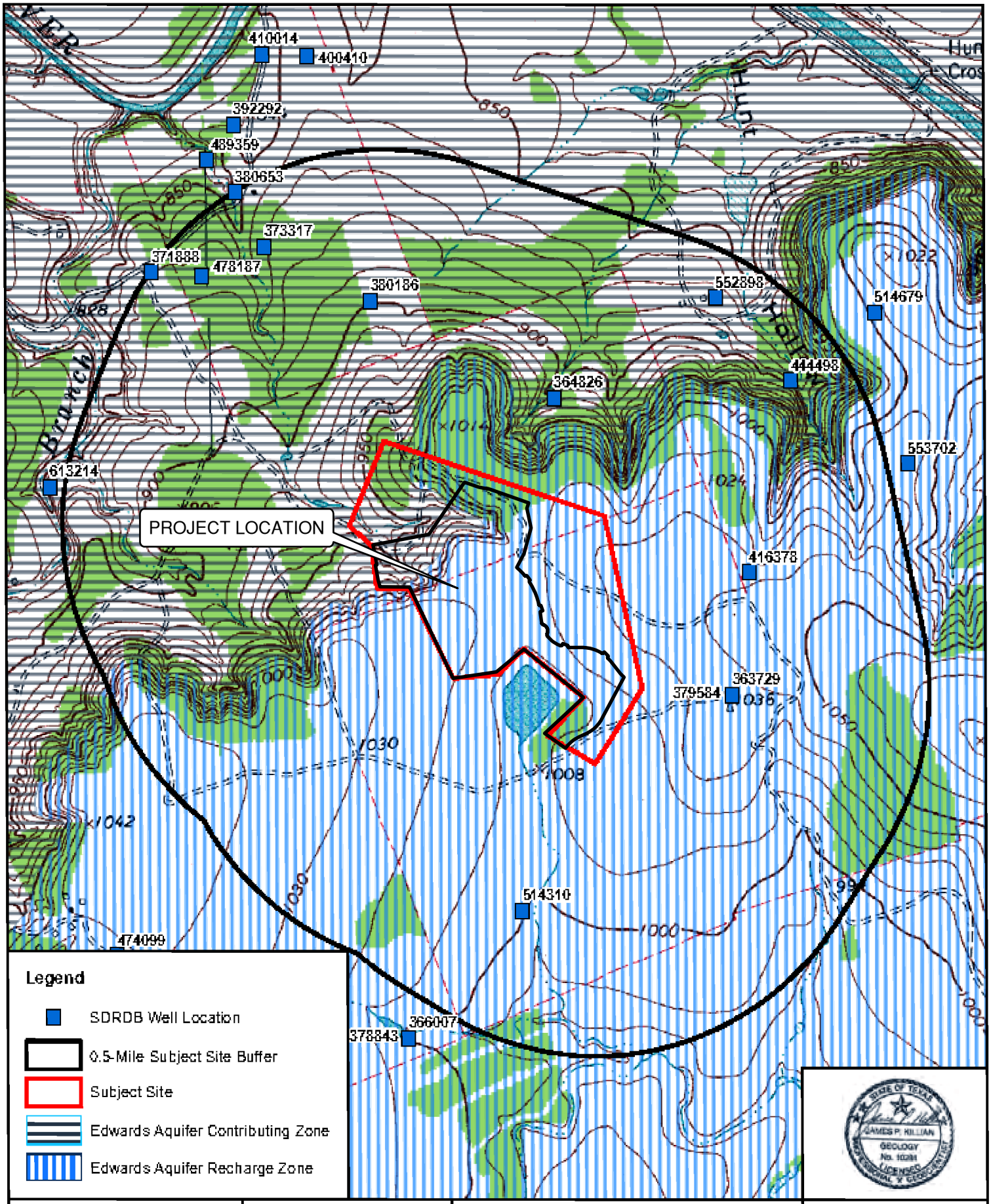
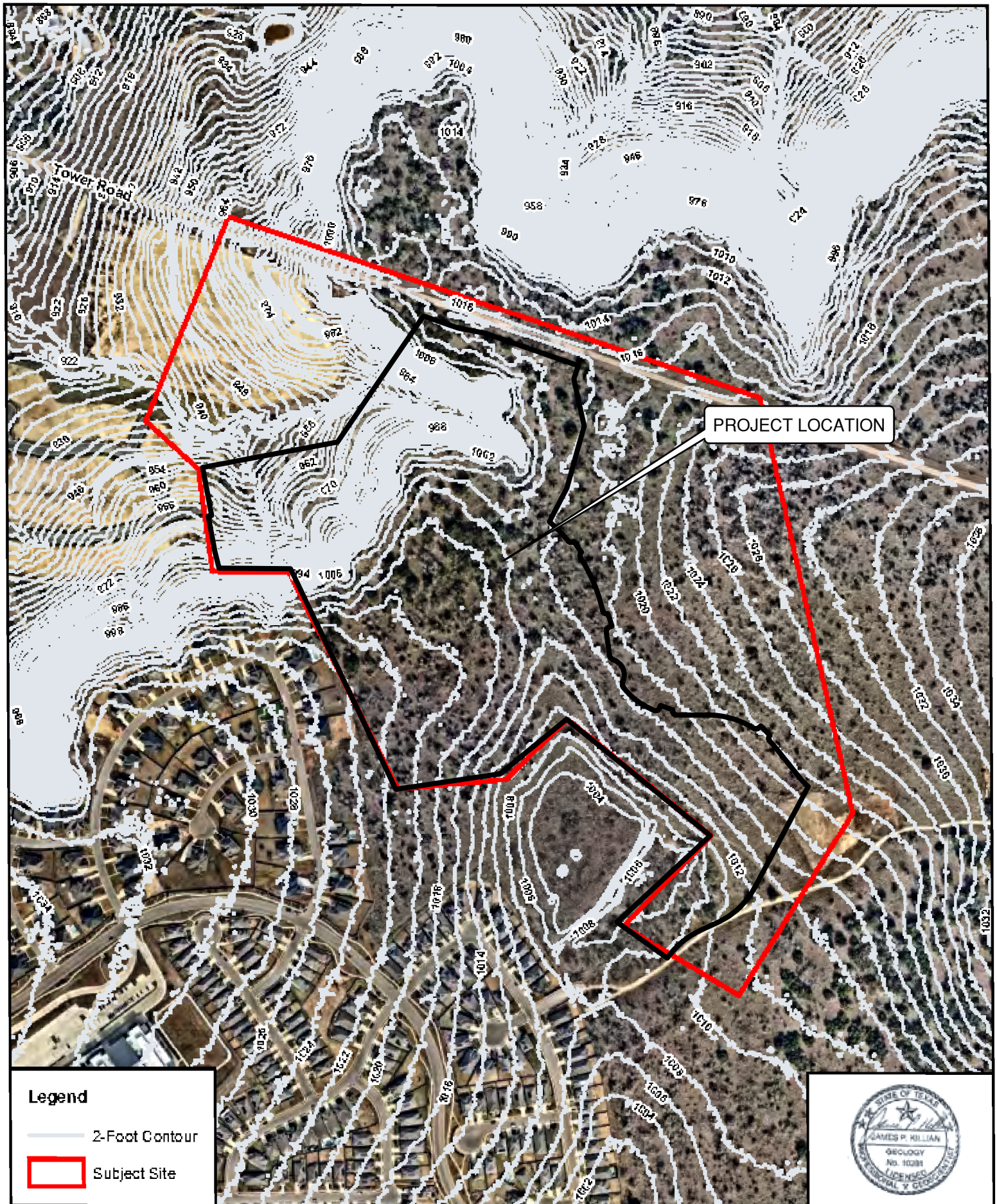


Horizon Environmental Services

Date:	04/01/2025
Drawn:	KRW
HJN NO:	200130 GA
Source:	TCEQ, 2025; TWDB, 2025; USGS, 1976

Attachment F, Figure 2
Topography and Hydrogeology Map
Santa Rita Ranch
Phase 2B (Sections 2 & 3) and Phase 2C
Tower Road
Georgetown, Williamson County, Texas

0 600 1,200
Feet



Date:	04/01/2025
Drawn:	KRW
HJN NO:	200130 GA
Source:	CAPCOG, 2015; Nearmap, 2025

Attachment F, Figure 3
Site Topography Map
Santa Rita Ranch
Phase 2B (Sections 2 & 3) and Phase 2C
Tower Road
Georgetown, Williamson County, Texas

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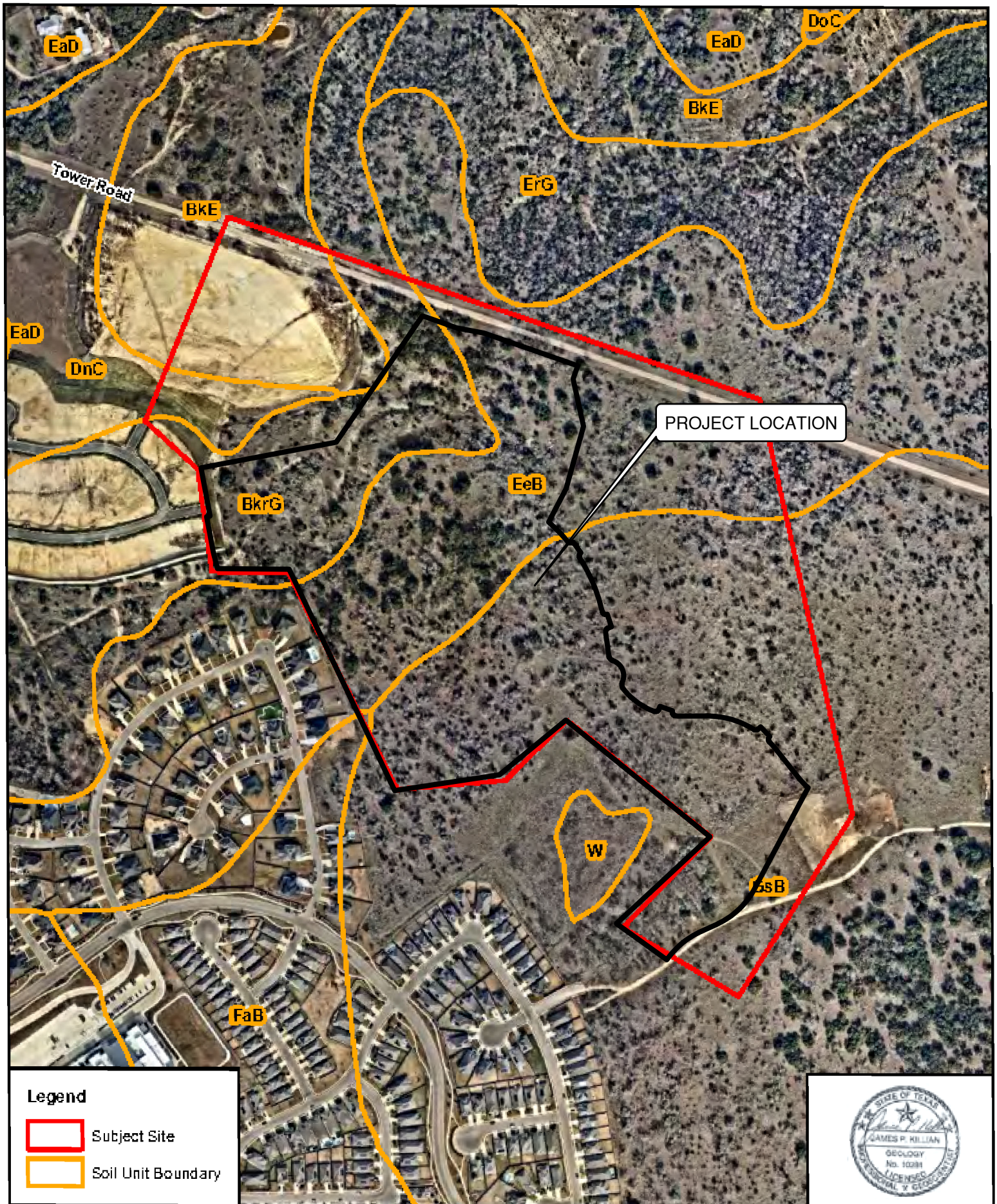
Feet

200130 - Santa Rita Ranch\Graphics\GA_Maps\200130-00 | GA, 03A, Topo



Horizon Environmental Services

Date:	04/01/2025
Drawn:	KRW
HJN NO:	200130 GA
Source:	Nearmap, 2025; NRCS, 2022

Attachment F, Figure 4
Site Soil Map
Santa Rita Ranch
Phase 2B (Sections 2 & 3) and Phase 2C
Tower Road
Georgetown, Williamson County, Texas

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Feet

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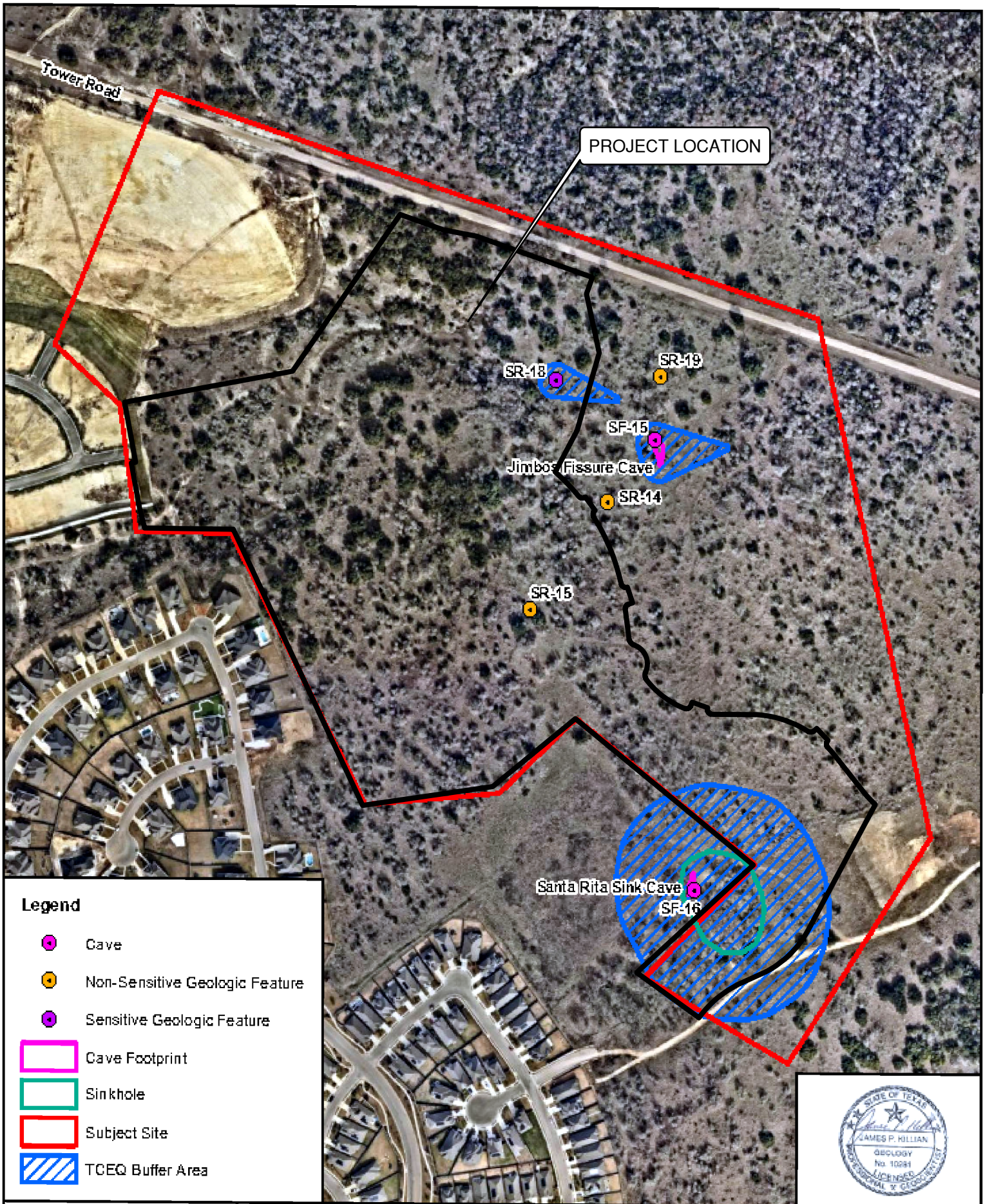

JAMES P. KILLIAN
GEOLOGY
No. 10291
LICENSED
PROFESSIONAL GEOLOGIST

Horizon™
Environmental Services

Date:	04/01/2025
Drawn:	KRW
HJN NO:	200130 GA
Source:	Nearmap, 2025

Attachment F, Figure 5
Site Geologic Feature Buffer Map
Santa Rita Ranch
Phase 2B (Sections 2 & 3) and Phase 2C
Tower Road
Georgetown, Williamson County, Texas

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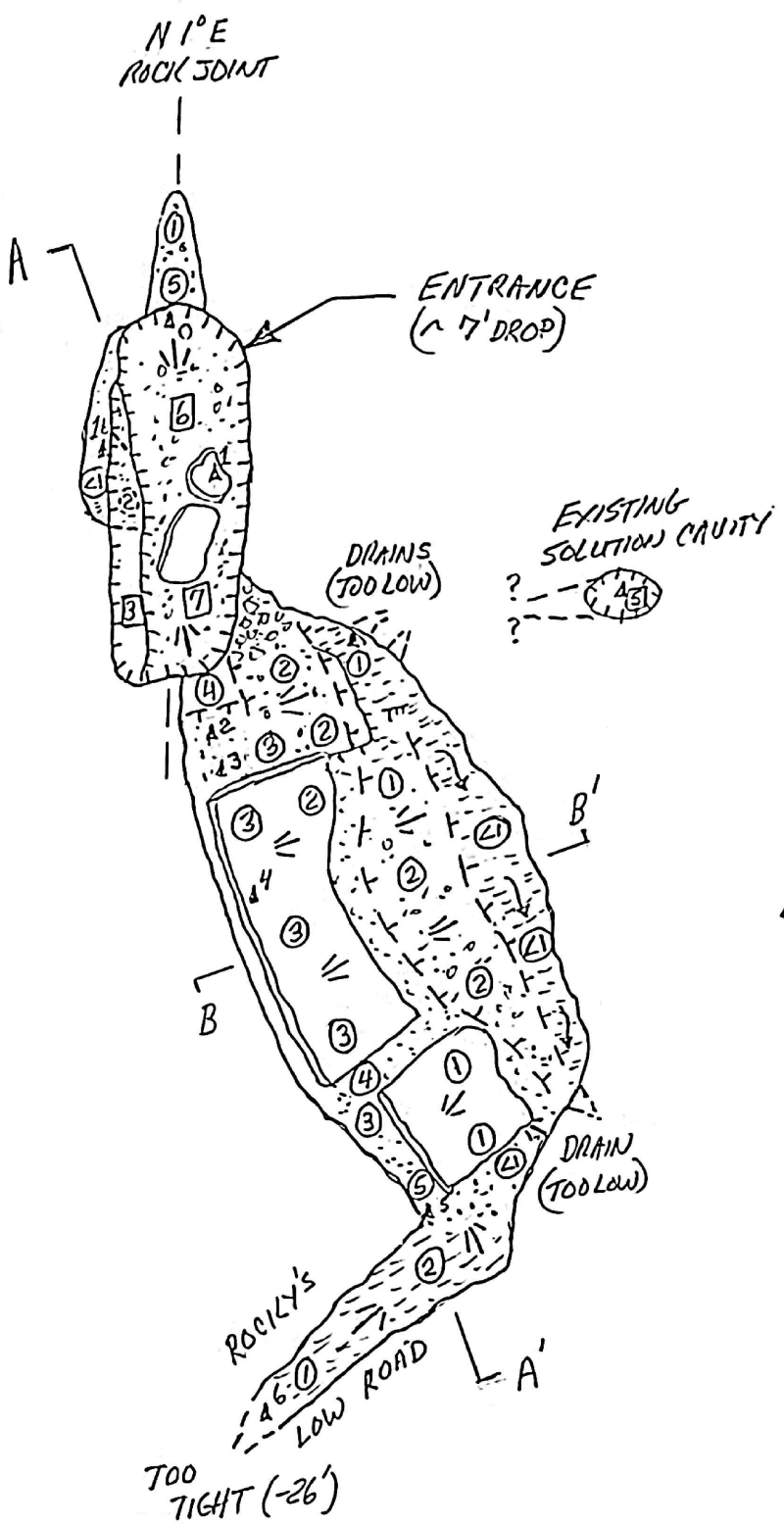
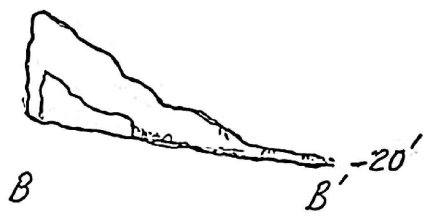
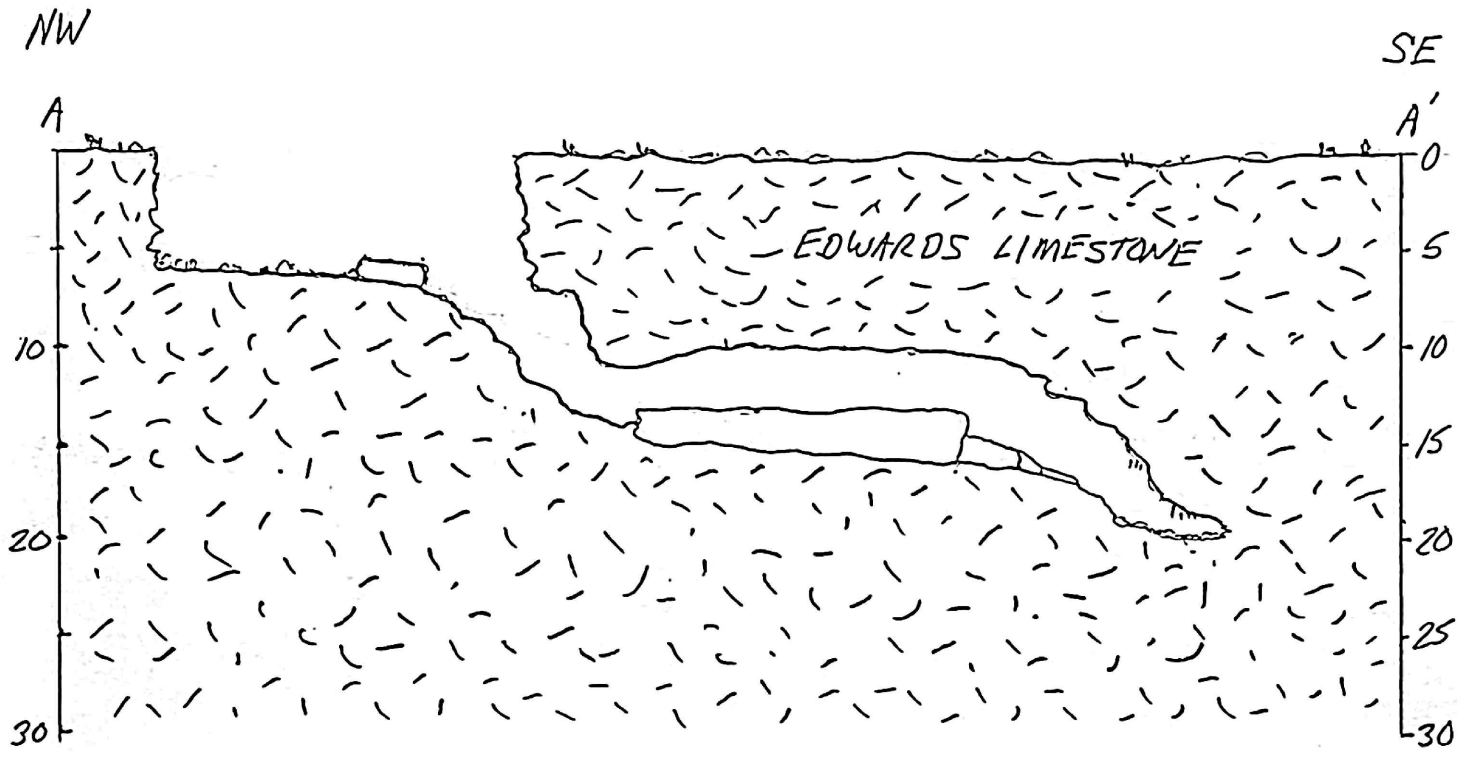






"Do Not Scale This Drawing"

Horizon™ Environmental Services

Date:	11/11/2024
Drawn:	KRW
HJN NO:	200130KS
Drafted By:	J. Killian

Jimbo's Fissure Cave (SF-15)
Santa Rita Ranch
Georgetown, Williamson County, Texas
Suuntos & Laser Survey, 06 June 2024
Personnel: J. Killian, R. Eyler, C. Hall
& T. Bradley
Length: 70 Depth: 26'

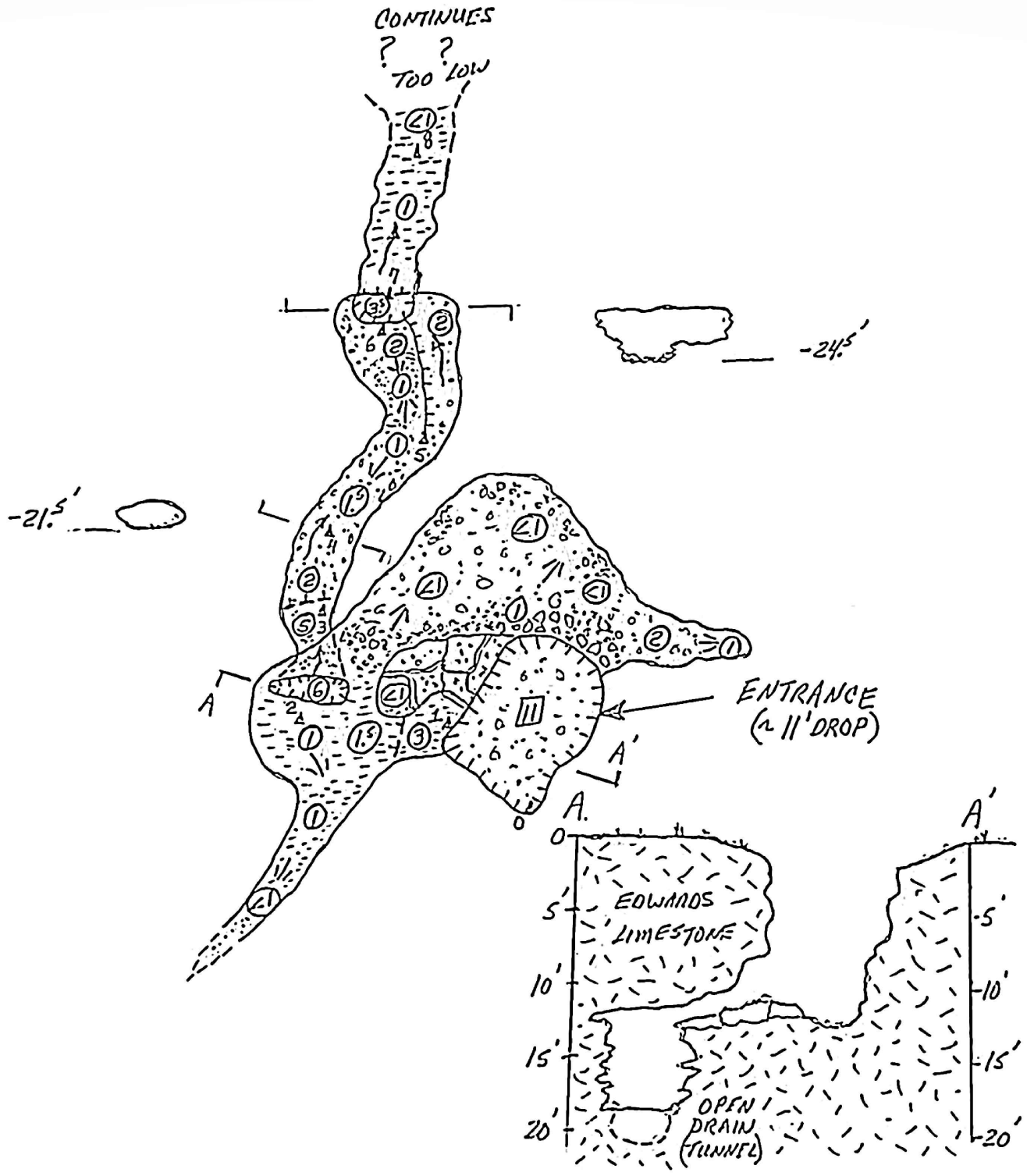
② Ceiling Height (ft)
△ Survey Station

1" = 10'

N

STATE OF TEXAS JAMES P. KILLIAN GEOLOGY No. 10281 LICENSED PROFESSIONAL GEOSCIENTIST

200130 - Santa Rita Ranch\Graphics\GA_Maps\Cavemaps



Horizon™ Environmental Services	Date: 04/03/2025 Drawn: KRW HJN NO: 200130GA Drafted By: J. Killian	Santa Rita Sink Cave (SF-16) Santa Rita Ranch Georgetown, Williamson County, Texas Suuntos & Laser Survey, 15 May & 10 June 2024 Personnel: J. Killian, R. Eyler, C. Hall E. Bryant & T. Bradley Length: 115' Depth: 26'	② Ceiling Height (ft) △ Survey Station 1" = 10'

"Do Not Scale This Drawing"

200130 - Santa Rita Ranch\Graphics\GA_Maps\Cavemaps

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This request for a **Modification of a Previously Approved Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Steven P. Cates, P.E.

Date: 9/9/2025

Signature of Customer/Agent:

_____

Project Information

1. Current Regulated Entity Name: Santa Rita Ranch Phase 2B Section 2
   Original Regulated Entity Name: Santa Rita Ranch Phase 2B Section 2
   Regulated Entity Number(s) (RN): 112124086
   Edwards Aquifer Protection Program ID Number(s): 11004309(SCS)
   ☒ The applicant has not changed and the Customer Number (CN) is: 605894914
   ☐ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters**. A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):
   - ☐ 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;
   - ☐ 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;
   - ☐ Development of land previously identified as undeveloped in the original water pollution abatement plan;
   - ☐ Physical modification of the approved organized sewage collection system;
   - ☐ Physical modification of the approved underground storage tank system;
   - ☐ Physical modification of the approved aboveground storage tank system.

4. ☐ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

WPAP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	N/A	N/A
Type of Development	N/A	N/A
Number of Residential Lots	N/A	N/A
Impervious Cover (acres)	N/A	N/A
Impervious Cover (%	N/A	N/A
Permanent BMPs	N/A	N/A
Other	N/A	N/A

SCS Modification Summary	***Approved Project***	***Proposed Modification***
Linear Feet	6,686	7,808
Pipe Diameter	6",8"	6",8"
Other	N/A	N/A

AST Modification Summary	*Approved Project*	*Proposed Modification*
Number of ASTs	0	0
Volume of ASTs	0	0
Other	0	0

UST Modification Summary	*Approved Project*	*Proposed Modification*
Number of USTs	0	0
Volume of USTs	0	0
Other	0	0

5. ☒ **Attachment B: Narrative of Proposed Modification**. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved, including any previous modifications, and how this proposed modification will change the approved plan.

6. ☒ **Attachment C: Current Site Plan of the Approved Project**. A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - ☒ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. ☐ The acreage of the approved plan has increased. A Geologic Assessment has been provided for the new acreage.
   ☒ Acreage has not been added to or removed from the approved plan.

8. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

Modification of a Previously Approved Plan
ATTACHMENT A

TCEQ SCS MODIFICATION APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

ORIGINAL APPROVAL LETTER AND APPROVED MODIFICATION LETTERS

Brooke Paup, *Chairwoman*
Bobby Janecka, *Commissioner*
Catarina R. Gonzales, *Commissioner*
Kelly Keel, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 23, 2025

Mr. James Edward Horne
SRFV Development, LLC
1700 Cross Creek Lane, Suite 100
Liberty Hill, Texas 78642

Re: Approval of a Water Pollution Abatement Plan (WPAP) and Approval of an Organized Sewage Collection System (SCS) Plan
Santa Rita Ranch Phase 2B Section 2; Located Southeast of Benica Dr. and Tower Rd.; Liberty Hill (ETJ), Williamson County, Texas
Edwards Aquifer Protection Program IDs: 11004308 (WPAP) and 11004309 (SCS); RN112124086

Dear Mr. Horne:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Carlson, Brigance & Doering, Inc, on behalf of the applicant, SRFV Development, LLC, on January 21, 2025. Final review of the applications was completed after additional material was received on April 3, 2025, and May 21, 2025.

As presented to the TCEQ, the application was prepared in general compliance with the requirements of 30 Texas Administrative Codes (TAC) Chapter §213 and Chapter §217. The permanent best management practices (BMPs), engineering design report, technical specifications and final design plans were prepared by a Texas licensed professional engineer (PE). All construction plans and design information were sealed, signed, and dated by a Texas licensed PE. Therefore, the application for the construction of the proposed project and methods to protect the Edwards Aquifer are hereby **approved,** subject to applicable state rules and the conditions in this letter.

This approval expires two years from the date of this letter, unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been officially requested. This approval or extension will expire, and no extension will be granted if more than 50 percent of the project has not been completed within ten years from the date of this letter.

The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer protection plan. A motion for reconsideration must be filed in accordance with 30 TAC §50.139.

BACKGROUND

The Santa Rita Ranch Phase 1 Section 14 WPAP approved by letter dated June 2, 2021 (EAPP ID No. 11002420), included the construction of a batch detention basin (Pond 1-14) sized for future development, with a provided water quality volume of 252,080 cubic feet, as certified by Mr. Steve Cates, P.E, with Carlson, Brigance & Doering, Inc, on February 7, 2024.

PROJECT DESCRIPTION

WPAP DESCRIPTION

The proposed residential project will have a total area of approximately 58.11 acres. The project will include the development of 95 single-family residential lots, roads and drives, utilities, and an off-site conveyance channel. The impervious cover will be 15.07 acres (25.9 percent), including 1.42 existing predevelopment impervious cover.

SCS DESCRIPTION

The proposed 6,686 linear feet of SCS will provide disposal service for the residential development. The proposed SCS will consist of 1,307 linear feet of 6-inch diameter and 5,219 linear feet of 8-inch diameter of SDR 26 PVC ASTM D3034 pipe, and of 160 linear feet of 8-inch diameter of AWWA C900 PVC pipe.

TREATMENT FACILITY

The system will be connected to an existing City of Liberty Hill wastewater line for conveyance to the existing Liberty Hill Wastewater Treatment Plant for treatment and disposal. **The proposed system shall be connected for conveyance prior to use of the development.** The project will conform to all applicable codes, ordinances, and requirements of the City of Liberty Hill.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, an existing batch detention basin, Pond 1-14 (EAPP ID No. 11002420), and a new engineered vegetative filter strip (VFS), designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 11,882 pounds of TSS generated from the 15.07 acres of impervious cover. The approved permanent BMPs and measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The permanent BMPs shall be operational prior to occupancy or use of the proposed project. Inspection, maintenance, repair, and retrofit of the permanent BMPs shall be in accordance with the approved application.

GEOLOGY

According to the revised Geologic Assessment (GA) included with the application, the surficial unit of the site is the Edwards Limestone (Ked) in the Edwards Aquifer Recharge Zone. One sensitive geologic feature, solution cavity SR-18, was identified in the GA. Natural buffer setbacks are proposed for the sensitive feature and are illustrated on the site plan. No portions of the proposed SCS or regulated activities, such as construction or soil disturbing activities, will take place within the natural buffer. The TCEQ site assessment conducted on April 9, 2025, revealed the site to be generally as described by the GA.

STANDARD CONDITIONS

1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and all technical specifications in the approved plan. The plan holder should also acquire and comply with additional and separate approvals, permits, registrations or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, Dam Safety, Underground Injection Control) as required based on the specifics of the plan.

2. In addition to the rules of the Commission, the plan holder must also comply with state and local ordinances and regulations providing for the protection of water quality as applicable.

Prior to Commencement of Construction:

3. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the plan holder must submit to the EAPP proof of recordation of notice in the county deed records, with the volume and page number(s) of the county record. A description of the property boundaries shall be included in the deed recordation in the county deed records. TCEQ form, Deed Recordation Affidavit (TCEQ-0625), may be used.

4. The plan holder of any approved Edwards Aquifer protection plan must notify the EAPP and obtain approval from the executive director prior to initiating any modification to the activities described in the referenced application following the date of the approval.

5. The plan holder must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the EAPP no later than 48 hours prior to commencement of the regulated activity. Notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

6. Temporary erosion and sedimentation (E&S) controls as described in the referenced application, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

7. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring or gravel. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation.

During Construction:

8. This approval does not authorize the installation of temporary or permanent aboveground storage tanks on this project that will have a total storage capacity of five hundred gallons or more of static hydrocarbons or hazardous substances without prior approval of an Aboveground Storage Tank facility application.

9. If any sensitive feature is encountered during construction, replacement, or rehabilitation on this project, all regulated activities must be **immediately** suspended near it and notification must be made to TCEQ EAPP staff. Temporary BMPs must be installed and maintained to protect the feature from pollution and contamination. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality.

10. All water wells, including injection, dewatering, and monitoring wells shall be identified in the geologic assessment and must be in compliance with the requirements of the Texas Department of Licensing and Regulation 16 TAC Chapter §76 and all other locally applicable rules, as appropriate.

11. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity

has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

12. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge must be filtered through appropriately selected BMPs.

13. The following records shall be maintained and made available to the executive director 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.

14. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

<u>After Completion of Construction:</u>

15. Owners of permanent BMPs and temporary measures must ensure that the BMPs and measures are constructed and function as designed. A Texas licensed PE must certify in writing that the **permanent** BMPs or measures were constructed as designed. The certification letter must be submitted to the EAPP within 30 days of site completion.

16. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or the ownership of the property is transferred to the entity. A copy of the transfer of responsibility must be filed with the executive director through the EAPP within 30 days of the transfer. TCEQ form, Change in Responsibility for Maintenance on Permanent BMPs and Measures (TCEQ-10263), may be used.

17. No part of the organized sewage collection system may be used as a sewage holding tank, as defined in 30 TAC §213.3 (excluding lift stations), over the Edwards Aquifer recharge zone.

18. A Texas licensed PE **must certify** in writing that the new sewage collection system (including force mains) has passed all required testing. The certification shall be submitted to the EAPP within 30 days of test completion and prior to the new sewage collection system being put into service.

19. A Texas licensed PE **must certify** subsequent testing required every five years of the existing sewage collection system after being put into use to determine types and locations of structural damage and defects such as offsets, open joints, or cracked or crushed lines that would allow exfiltration to occur. The test results must be retained by the plan holder for five years and made available to the executive director upon request.

The holder of the approved Edwards Aquifer protection plan is responsible for compliance with Chapter §213 and any condition of the approved plan through all phases of plan implementation. Failure to comply with any condition within this approval letter is a violation of Chapter §213 and is subject to administrative rule or orders and penalties as provided under §213.10 of this title (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. Upon legal transfer of this property, the new owner is required to comply with all terms of the approved Edwards Aquifer protection plan.

This action is taken as delegated by the executive director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Ms. Miki Chilarescu, P.E. of the Edwards Aquifer Protection Program at 512-239-6175 or the regional office at 512-339-2929.

Sincerely,

Monica Reyes

Monica Reyes, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

MR/mec

cc: Mr. Steven P Cates, P.E. - Carlson, Brigance & Doering, Inc.

Modification of a Previously Approved Plan
ATTACHMENT B

TCEQ SCS MODIFICATION APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Narrative of Proposed Modification:

The Santa Rita Ranch Phase 2B Section 2 is being modified from the design that was approved on May 23, 2025, in the following ways:

1) Wastewater Lines A, C and H have been revised.
2) WWLN A now ends at 28+68.49 at the end of Cow Camp Lane.
3) WWLN C now ends at 6+68.87 at the intersection of La Cresta and Tower Rd with a Cleanout.
4) WWLN H now ends at 34+46 at the end of Queen Court.
5) 6” SDR 26 PVC ASTM D3034 linear feet has been revised to 2,167 LF.

Modification of a Previously Approved Plan
ATTACHMENT C

TCEQ SCS MODIFICATION APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

CURRENT SITE PLAN OF THE APPROVED PROJECT

SANTA RITA RANCH
PHASE 2B SECTION 2

WILLIAMSON COUNTY, TEXAS
CONSTRUCTION PLANS

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN ACCEPTING THESE PLANS, WILLIAMSON COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.

SUBMITTED BY:

12-20-2024

STEVEN P. CATES, P.E. *DATE*
REGISTERED PROFESSIONAL ENGINEER No. 93648

ACCEPTED FOR CONSTRUCTION (PROJECT 2025- -WD):

CITY OF GEORGETOWN (2024-88-WD) *DATE*
(WATER SYSTEM ONLY)

ACCEPTED FOR CONSTRUCTION (PROJECT 2025- -CON):

JENNIFER GLAESS, P.E., PUBLIC WORKS DIRECTOR *DATE*
(WASTEWATER SYSTEM PLAN)

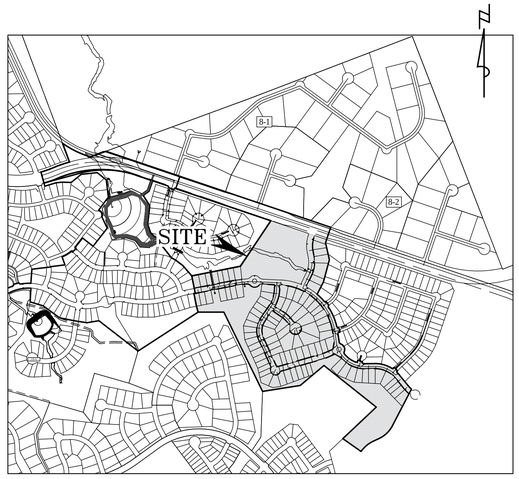
PAUL BRANDENBURG, CITY MANAGER *DATE*
(WASTEWATER SYSTEM PLAN)

Based on the design engineer's certification of compliance with all applicable City, State and Federal regulations the plans and specifications contained herein have been reviewed and are found to be in compliance with the requirements of the City of Liberty Hill.

REVIEWED FOR COMPLIANCE WITH COUNTY REQUIREMENTS (WCSR 2021B):

FOR WILLIAMSON COUNTY *DATE*

WILLIAMSON COUNTY M.U.D. #19C *DATE*



LOCATION MAP
SCALE: 1" = 500'

WATER POLLUTION ABATEMENT PLAN AND ORGANIZED SEWAGE COLLECTION SYSTEM PLAN
APPROVED BY TCEQ ON _____, 2024
30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 213 AND CHAPTER 217 EDWARDS AQUIFER
EDWARDS AQUIFER PROTECTION PROGRAM ID NO. _____ (WPAP) AND _____ (SCS)

OWNER:

SRFV DEVELOPMENT, LLC.,
1700 CROSS CREEK DRIVE, STE. 100
LIBERTY HILL, TX 78642

ENGINEER & SURVEYOR:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE
AUSTIN, TEXAS 78749
(512) 280-5160 phone
(512) 280-5165 fax

TOTAL ACREAGE: 58.109 ACRES

SURVEY: GEORGE W. GLASSCOCK SURVEY, ABSTRACT NO. 266 AND
WILLIAM W. SMITH SURVEY, ABSTRACT NO. 591

F.E.M.A. MAP NO. 48491C 0275E
WILLIAMSON COUNTY, TEXAS AND
INCORPORATED AREAS.
DATED: SEPTEMBER 26, 2008

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

REV. NO.	SHT. NO.	DESCRIPTION OF REVISION	ACCEPTED	DATE	ACCEPTED	DATE	ACCEPTED	DATE	ACCEPTED	DATE
			WILLIAMSON COUNTY		CITY OF GEORGETOWN		CITY OF LIBERTY HILL		W.C. M.U.D. #19C	

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DESIGNED BY: SPC | DRAFTED BY: CEL

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 1212 RR 620 N, Ste. 600 Austin, Texas 78750 Fax No. (512) 280-5165

SHEET NAME: COVER SHEET
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
F3791
12-20-2024

DATE: DEC 2024
JOB NUMBER: 5559
SHEET: 1 OF 70
SHEET NO.: 1

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CONSTRUCTION SEQUENCING

1. GENERAL CONTRACTOR TO INSTALL AND MAINTAIN EROSION CONTROLS AND TREE PROTECTION PER APPROVED PLANS.
2. HOLD PRE-CONSTRUCTION CONFERENCE. PROVIDE 72 HOUR NOTIFICATION TO THE OWNER, THE DESIGN ENGINEER, THE CONTRACTOR AND SUBCONTRACTORS, THE M.U.D. ENGINEER (512) 836-4817, THE CITY OF LIBERTY HILL (512) 778-5449, (WAYNE BONNET, DIRECTOR OF PUBLIC WORKS), WILLIAMSON COUNTY INSPECTIONS SUPERVISOR, GEORGE MAYFIELD (512) 943-3324, AND THE CITY OF GEORGETOWN UTILITY SYSTEM (512)930-3640. SEE WILLIAMSON COUNTY SUBDIVISION REGULATIONS CONSTRUCTION-GENERAL NOTE #1 ON THIS SHEET.
3. ROUGH CUT ALL REQUIRED OR NECESSARY PONDS. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF ANY EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A LOW-LEVEL OUTLET AND AN EMERGENCY OVERFLOW. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL FINAL RESTORATION IS ACHIEVED.
4. ROUGH GRADE STREETS. NO DEVELOPMENT OF EMBANKMENT WILL BE PERMITTED AT THIS TIME. ONCE STREETS ARE ROUGH CUT, THE GEOTECHNICAL ENGINEER IS TO FIELD VERIFY PAVEMENT DESIGN IS APPROPRIATE, AND MODIFY RECOMMENDATIONS ACCORDINGLY.
5. INSTALL ALL UTILITIES UNDER THE PROPOSED PAVEMENT.
6. BEGIN INSTALLATION OF STORM SEWER LINES. UPON COMPLETION, RESTORE AS MUCH DISTURBED AREA AS MUCH AS POSSIBLE, PARTICULARLY CHANNELS AND LARGE OPEN AREAS.
7. REGRADE STREETS TO SUBGRADE.
8. INSURE THAT ALL UNDERGROUND UTILITY CROSSINGS ARE COMPLETED. LAY FIRST COURSE BASE MATERIAL ON ALL STREETS.
9. INSTALL CURB AND GUTTER.
10. LAY FINAL BASE COURSE ON ALL STREETS.
11. LAY ASPHALT.
12. COMPLETE ALL UNDERGROUND INSTALLATIONS WITHIN THE R.O.W.
13. COMPLETE PERMANENT EROSION CONTROL AND RESTORATION OF SITE VEGETATION.
14. THE PROJECT ENGINEER INSPECTS JOB AND WRITES CONCURRENCE LETTER TO THE CITY. FINAL INSPECTION IS SCHEDULED UPON RECEIPT OF LETTER. FINAL INSPECTION WITH THE M.U.D. ENGINEER, EV INSPECTOR, THE CITY OF LIBERTY HILL, WILLIAMSON COUNTY, AND THE CITY OF GEORGETOWN PRIOR TO THE REMOVAL OF EROSION CONTROLS.
15. REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROLS. TREE PROTECTION SHALL BE REQUIRED TO BE MAINTAINED AND REMAIN IN PLACE FOR EACH RESIDENTIAL LOT THROUGH RECEIPT OF THE CONCURRENCE LETTER TO THE RESIDENTIAL CERTIFICATE OF OCCUPANCY.
16. COMPLETE ANY NECESSARY FINAL DRESS UP OF AREAS DISTURBED BY ITEM 15.

GEORGETOWN UTILITY SYSTEMS GENERAL NOTES:

1. THESE CONSTRUCTION PLANS WERE PREPARED, SEALED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT OF THE CITY.
3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
4. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.
5. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.
6. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 4 HOURS.
7. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRINED AND THRUST BLOCKED.
8. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
9. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
10. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.
11. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO TEH CITY PRIOR TO APPROVAL OF THE PUBLIC IMPROVMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEARS IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
12. RECORD DRAWINGS OF THE PUBLIC IMPROVMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTACNE OF THE PROJECT. THESE DRAWINGS SHALL BE SUBMITTED AS A PDF (300P DPI) ON A FLASH DRIVE, OR BY A CLOUD SOURCE.

STREET AND DRAINAGE NOTES:

1. ROADWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT "WILLIAMSON COUNTY SUBDIVISION REGULATIONS," AS APPLICABLE.
2. ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. ANY RETESTING SHALL BE PAID FOR BY THE CONTRACTOR. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.
3. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 3" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 3" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
4. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, WATER SERVICES, ETC., SHALL BE A MINIMUM OF 30" BELOW SUBGRADE.
5. STREET RIGHTS-OF-WAY SHALL BE GRADED AT A SLOPE OF 1/4" PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED. HOWEVER, IN NO CASE SHALL THE WIDTH OF RIGHT-OF-WAY AT 1/4" PER FOOT SLOPE BE LESS THAN 10 FEET UNLESS A SPECIFIC REQUEST FOR AN ALTERNATE GRADING SCHEME IS MADE TO AND ACCEPTED BY THE COUNTY ENGINEER. BARRICADES BUILT TO WILLIAMSON COUNTY STANDARDS SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.
6. ALL R.C.P. SHALL BE MINIMUM CLASS III, UNLESS OTHERWISE NOTED.
7. THE PREPARATION OF SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER AND IN CONJUNCTION WITH THE OUTLINED IN THE GEOTECHNICAL REPORT BY MLA LABS, INC., DATED MARCH 13, 2023. THE PAVING SECTIONS ARE TO BE CONSTRUCTED AS FOLLOWS:

RECOMMENDATIONS PAVEMENT THICKNESS SECTIONS

Street Classification	Subgrade Material	Hot Mix Asphaltic Concrete, in	Crushed Limestone Base, in	Lime Stabilized Subgrade, in
Local Streets	Subgrade PI < 20	2.0	12	–
	Subgrade 20 < PI < 35	2.0	12	8
	Subgrade 35 < PI < 55	2.0	14	8
Collectors	Subgrade PI < 20	2.0	14	–
	Subgrade 20 < PI < 35	2.0	17	8
	Subgrade 35 < PI < 55	2.0	17	8

Notes:
1. Where the subgrade is comprised of limestone or low PI clay (PI < 20), lime stabilization may be omitted.
2. The surface clay must first be tested for sulfate reaction and a mix design should be completed to determine the proper lime content, lime bype, mixing procedure and curing conditions required.
3. The subgrade improvement should be extended a min. 18" beyound the back of curb line, unless lime treatments being used, base should extended 3 feet beyond the back of the curb line.
4. These pavement thickness designs are intended to transfer the load from the anticipated traffic conditions.
5. The responsibility of assigning street classification to the streets in this project is left to the civil engineer.
6. If pavement designs other than those listed above are desired, please contact MLA labs, inc.

THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATION OF THE SOILS REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISION OF THE CONSTRUCTION PLANS.

8. WHERE PI'S ARE OVER 20, SUBGRADES MUST BE STABILIZED UTILIZING A METHOD ACCEPTABLE TO THE COUNTY ENGINEER. THE GEOTECHNICAL ENGINEER SHALL RECOMMEND AN APPROPRIATE SUBGRADE STABILIZATION IF SULFATES ARE DETERMINED TO BE PRESENT. SEE THE GEOTECHNICAL REPORT FOR DESIGN GUIDES FOR DIFFERENT PI VALUES.
9. CONTRACTOR IS TO AVOID INSTALLATION OF IRRIGATION, PLANTINGS, SILT FENCE, ETC. IN THE SUBGRADE IMPROVEMENT EXTENDED BEHIND THE CURB.

PER THE WILLIAMSON COUNTY ENGINEER, THERE MUST BE A TxDOT HMAC WEARTING SURFACE 340 TYPE D, WITHOUT "RAS". WILLIAMSON COUNTY REQUIRES THE 2 INCH WEARING SURFACE TO BE "VIRGIN MIX"

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GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH WILLIAMSON COUNTY, CITY OF ROUND ROCK (WASTEWATER), AND GEORGETOWN UTILITY SYSTEMS (WATER) SPECIFICATIONS.
2. DESIGN PROCEDURES ARE IN COMPLETE COMPLIANCE WITH THE CITY OF AUSTIN DRAINAGE CRITERIA MANUAL AND ALL VARIANCES TO THE MANUAL ARE NOTED. VARIANCES REQUESTED: (NONE)
3. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., NOT PLANNED FOR DESTRUCTION OR REMOVAL THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES WITH THE CONSTRUCTION PLANS FOUND IN THE FIELD SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER WHO SHALL BE RESPONSIBLE FOR REVISING THE PLANS ARE APPROPRIATE. FAILURE TO COMPLETE THIS STEP PRIOR TO THE COMMENCEMENT OF CONSTRUCTION MAY RESULT IN SIGNIFICANT DELAYS AND OR EXPENDITURES FOR WHICH THE CITY SHALL NOT BE LIABLE.
5. MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, ETC. SHALL BE RAISED TO FINISHED GRADE PRIOR TO FINAL PAVING CONSTRUCTION.
6. THE CONTRACTOR SHALL GIVE THE CITY OF LIBERTY HILL 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. TELEPHONE 512-778-5449 (PLANNING & DEVELOPMENT DEPARTMENT)
7. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THIS INCLUDES ANY AREAS LOCATED OUTSIDE THE DEFINED LIMITS OF CONSTRUCTION (LOC), IN RIGHTS-OF-WAY (ROW), OR LOCATED ON ADJACENT PROPERTIES. REVEGETATION OF ALL DISUBED OR EXPOSED AREAS SHALL CONSIST OF SODDING OR SEEDING, AT THE CONTRACTOR'S DISCREPANCY, AS OUTLINED IN THE CITY OF ROUND ROCK'S DESIGN AND CONSTRUCTION STANDARDS. THE TYPE OF REVEGETATION MUST EQUIVALENT TO OR EXCEED THE TYPE OF VEGETATION PRESENT PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR AND THE ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENGINEER SHALL FURNISH THE CITY OF LIBERTY HILL ACCURATE "AS-BUILT" DRAWINGS FOLLOWING COMPLETION OF ALL CONSTRUCTION. THESE "AS-BUILT" DRAWINGS SHALL MEET WITH THE SATISFACTION OF THE PLANNING & DEVELOPMENT DEPARTMENT PRIOR TO FINAL APPROVAL.
9. THE LIBERTY HILL CITY COUNCIL SHALL NOT BE PETITIONED FOR APPROVAL UNTIL ALL NECESSARY EASEMENT DOCUMENTS HAVE BEEN SIGNED AND RECORDED.
10. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL APPROVAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEANUP SHALL BE TO THE SATISFACTION OF THE COUNTY ENGINEER.
11. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.
12. AVAILABLE BENCHMARKS THAT MAY BE UTILIZED FOR THE CONSTRUCTION OF THIS PROJECT ARE DESCRIBED AS FOLLOWS:

BENCHMARKS:

Point #	DESCRIPTION	ELEVATION	NORTHING	EASTING
55004	MAG NAIL SET ON TRANSFORMER PAD AT NE CORNER OF E. SANTA RITA BLVD. AND SINGING DOVE WAY	1,020.29	10,210,674.0710	3,084,333.0300
55006	MAG NAIL SET ON TOP OF CURB ON THE NORTH SIDE OF E. SANTA RITA BLVD. EAST OF MIRA MESA DRIVE	1,002.99	10,211,255.7040	3,085,781.6710

TRENCH SAFETY NOTES:

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT WILL BE PROVIDED BY THE CONTRACTOR.
2. IN ACCORDANCE WITH THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.
3. IF TRENCH SAFETY SYSTEM DETAILS WERE NOT PROVIDED IN THE PLANS BECAUSE TRENCHES WERE ANTICIPATED TO BE LESS THAN 5 FEET IN DEPTH AND DURING CONSTRUCTION IT IS FOUND THAT TRENCHES ARE IN FACT 5 FEET OR MORE IN DEPTH OR TRENCHES LESS THAN 5 FEET IN DEPTH ARE IN AN AREA WHERE HAZARDOUS GROUND MOVEMENT IS EXPECTED, ALL CONSTRUCTION SHALL CEASE, THE TRENCHED AREA SHALL BE BARRICADED AND THE ENGINEER NOTIFIED IMMEDIATELY. CONSTRUCTION SHALL NOT RESUME UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO THE CITY OF LIBERTY HILL.

TRAFFIC MARKING NOTES:

1. ANY METHODS, STREET MARKINGS AND SIGNAGE NECESSARY FOR WARNING MOTORISTS, WARNING PEDESTRIANS OR DIVERTING TRAFFIC DURING CONSTRUCTION SHALL CONFORM TO THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION.
2. ALL PAVEMENT MARKINGS, MARKERS, PAINT, TRAFFIC BUTTONS, TRAFFIC CONTROLS AND SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES AND, THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITIONS.

EROSION AND SEDIMENTATION CONTROL NOTES:

1. EROSION CONTROL MEASURES, SITE WORK AND RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF LIBERTY HILL EROSION AND SEDIMENTATION CONTROL ORDINANCE.
2. ALL SLOPES SHALL BE SODDED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES OR GROUND COVER SUITABLE TO THE AREA AND SEASON IN WHICH THEY ARE APPLIED.
3. SILT FENCES, ROCK BERMS, SEDIMENTATION BASINS AND SIMILARLY RECOGNIZED TECHNIQUES AND MATERIALS SHALL BE EMPLOYED DURING CONSTRUCTION TO PREVENT POINT SOURCE SEDIMENTATION LOADING OF DOWNSTREAM FACILITIES. SUCH INSTALLATION SHALL BE REGULARLY INSPECTED BY THE CITY OF LIBERTY HILL FOR EFFECTIVENESS. ADDITIONAL MEASURES MAY BE REQUIRED IF, IN THE OPINION OF THE CITY ENGINEER, THEY ARE WARRANTED.
4. ALL TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL FINAL INSPECTION AND APPROVAL OF THE PROJECT BY THE ENGINEER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE EACH STRUCTURE AS APPROVED BY THE ENGINEER.
5. ALL MUD, DIRT, ROCKS, DEBRIS, ETC., SPILLED, TRACKED OR OTHERWISE DEPOSITED ON EXISTING PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY.

WILLIAMSON COUNTY SUBDIVISION REGULATIONS
APPENDIX B
ADOPTED AND EFFECTIVE AS OF JUNE 22, 2021

B4 – CONSTRUCTION – GENERAL

B4.1 A PRECONSTRUCTION MEETING SHALL BE SCHEDULED PRIOR TO THE START OF CONSTRUCTION. THE DESIGN ENGINEER, OWNER, CONTRACTOR, SUBCONTRACTORS, AND COUNTY ENGINEER SHALL ATTEND THIS MEETING. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS FOUND IN THE CURRENT VERSION OF THE "TEXAS DEPARTMENT OF TRANSPORTATION MANUAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES" UNLESS OTHERWISE STATED ON THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER.

B4.2 ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.

B4.3 EXCEPT FOR ELECTRICAL LINES, ALL UNDERGROUND NONFERROUS UTILITIES WITHIN A RIGHT-OF-WAY OR EASEMENT MUST BE ACCOMPANIED BY FERROUS METAL LINES TO AID IN TRACING THE LOCATION OF SAID UTILITIES THROUGH THE USE OF A METAL DETECTOR.

B4.4 ALL PAVEMENTS ARE TO BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER. THE DESIGN SHALL BE BASED ON A 20-YEAR DESIGN LIFE AND IN CONJUNCTION WITH RECOMMENDATIONS BASED UPON A SOILS REPORT OF SAMPLES TAKEN ALONG THE PROPOSED ROADWAYS. TEST BORINGS SHALL BE PLACED AT A MAXIMUM SPACING OF 500 FEET OR OTHER SAMPLING FREQUENCY APPROVED BY THE COUNTY ENGINEER BASED ON RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER. BORINGS SHALL BE TO A DEPTH OF TEN FT OR, IF SOLID ROCK IS ENCOUNTERED, ONE FT BELOW NON-FRACTURED ROCK. THE SOILS REPORT AND PAVEMENT DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR REVIEW. THE PAVEMENT DESIGN MUST BE APPROVED BY THE COUNTY ENGINEER PRIOR TO OR CONCURRENTLY WITH THE REVIEW AND APPROVAL OF THE CONSTRUCTION PLANS. IN ADDITION TO THE BASIS OF THE PAVEMENT DESIGN, THE SOILS REPORT SHALL CONTAIN THE RESULTS OF SAMPLED AND TESTED SUBGRADE FOR PLASTICITY INDEX.

B5 – SUBGRADE

B5.1 THE PREPARATION OF THE SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER IN CONJUNCTION WITH RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT. WHEN THE PLASTICITY INDEX (PI) IS GREATER THAN 20, A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNTIL THE PI IS LESS THAN 20. IF THE ADDITION OF LIME AS DESCRIBED IN ITEM 260 IS NOT FEASIBLE, AN ALTERNATE STABILIZING DESIGN SHALL BE PROPOSED AND SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL. THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.

B5.2 IF LIME IS NECESSARY, THEN A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED, AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION TO PROPERLY STABILIZE SUBGRADE. THE USE OF HYDRATED LIME OR LIME SLURRY IS APPROVED; HOWEVER, THE USE OF PELLETIZED LIME IS NOT APPROVED.

B5.3 PRIOR TO LIME STABILIZATION, A SULFATE TEST OF IN SITU SOILS SHALL BE PERFORMED BY DEVELOPER TO CONFIRM THE APPROPRIATE MEANS AND METHODS OF STABILIZATION. PROVIDE SULFATE TEST TO COUNTY ENGINEER PRIOR TO STABILIZATION.

B5.4 ANY VARIATION TO THE COUNTY'S STABILIZATION REQUIREMENTS MUST BE APPROVED BY THE COUNTY ENGINEER.

B5.5 THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.

B5.6 THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF ALL INSPECTION REPORTS FURNISHED TO THE COUNTY ENGINEER. THE COUNTY ENGINEER MUST APPROVE THE REPORT PRIOR TO APPLICATION OF THE BASE MATERIAL. ALL DENSITY TEST REPORTS SHALL INCLUDE A COPY OF THE WORK SHEET SHOWING THE PERCENTAGE OF THE MAXIMUM DRY (PROCTOR) DENSITY. THE NUMBER AND LOCATION OF ALL SUBGRADE TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B6 – BASE MATERIAL

B6.1 BASE MATERIAL SHALL CONFORM TO ITEM 247 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, "FLEXIBLE BASE". THE BASE MATERIAL SHALL BE TYPE A GRADE 4, OR AS APPROVED BY THE COUNTY ENGINEER. GRADE 4 MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TABLE B6.1

MASTER GRADATION SIEVE SIZE	CUMULATIVE % RETAINED
2 1/2"	–
1 3/4"	0
7/8"	10% – 35%
3/8"	30% – 65%
#4	45% – 75%
#40	70% – 90%
#200	87% – 95%

B6.2 EACH LAYER OF BASE COURSE SHALL BE TESTED FOR IN-PLACE DRY DENSITY AND MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL BASE TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B6.3 THE BASE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A MINIMUM OF 100% OF THE MAXIMUM (PROCTOR) DRY DENSITY OR AS APPROVED BY THE COUNTY ENGINEER UPON RECOMMENDATION BY THE TESTING LABORATORY. THE MAXIMUM LIFT SHALL NOT EXCEED SIX INCHES. THE BASE MUST BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF THE TEST RESULTS FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL. PRIOR TO THE PLACEMENT OF THE FIRST LIFT OF BASE, THE STOCKPILE SHALL BE TESTED FOR THE SPECIFICATIONS FOUND IN ITEM 247 TABLE 1 AND THE RESULT FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL.

B7 – BITUMINOUS PAVEMENT

B7.1 URBAN ROADS REQUIRE A MINIMUM 2 INCH WEARING SURFACE OF HMAC TYPE D. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT AND THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.

B7.2 IF PROVIDING MIXTURE TYPE C OR D, USE PERFORMANCE GRADE (PG) BINDER 70-22. PROVIDE PG BINDER THAT DOES NOT CONTAIN RECYCLED ENGINE OIL BOTTOMS (REOBS) OR POLY PHOSPHORIC ACID (PPA). RECYCLED ASPHALT PAVEMENT (RAP) IS NOT PERMITTED FOR USE AS A COMPONENT OF THE HMACP. THE CONTRACTOR IS ALSO NOT PERMITTED THE USE RECYCLED ASPHALT SHINGLES (RAS) AS A COMPONENT OF THE HMACP.

B7.3 IF PROVIDING MIXTURE TYPE B, USE PG BINDER 64-22. PROVIDE PG BINDERS THAT DO NOT CONTAIN REOBS OR PPA. FOR SUBSURFACE COURSE TYPE B, THE USE OF TWENTY PERCENT (20%) RAP IS PERMITTED IN THE MIX DESIGN. THE CONTRACTOR IS NOT PERMITTED TO USE RAS AS A COMPONENT OF THE HMACP.

B7.4 TARGET LABORATORY MOLDED DENSITY IS 96.5% FOR ALL MIXTURES WITHOUT RAP AND WHEN USING A TEXAS GYRATORY COMPACTOR (TGC) FOR DESIGNING THE MIXTURE. WHEN USING SUPERPAVE GYRATORY COMPACTOR (SGC) TO DESIGN MIXTURES, SUBMIT THE SGC MIX DESIGN TO THE ENGINEER FOR APPROVAL.

B7.5 ALL MIXTURES MUST MEET THE HAMBURG REQUIREMENT AS STATED IN THE TABLE BELOW.

HIGH-TEMPERATURE BINDER GRADE	TEST METHOD	MINIMUM # OF PASSES @ 0.5" RUT DEPTH (TESTED @ 122°F)
PG 64 OR LOWER	TEX-242-F	7,000
PG 70	TEX-242-F	15,000
PG-76 OR HIGHER	TEX-242-F	20,000

* THE COUNTY ENGINEER MAY ACCEPT HAMBURG WHEEL TEST RESULTS FOR PRODUCTION AND PLACEMENT IF NO MORE THAN 1OF THE 5 MOST RECENT TESTS IS BELOW THE SPECIFIED NUMBER OF PASSES AND THE FAILING TEST IS NO MORE THAN 2,000 PASSES BELOW THE SPECIFIED NUMBER OF PASSES.

B7.6 SUBMIT ANY PROPOSED ADJUSTMENTS OR CHANGES TO A JOB MIX FORMULA TO THE COUNTY ENGINEER BEFORE PRODUCTION OF THE NEW JOB MIX FORMULA.

B7.7 UNLESS OTHERWISE APPROVED, PROVIDE TYPE B MIXTURES THAT HAVE NO LESS THAN 4.5% ASPHALT BINDER, AND TY C AND D MIXTURES WITH NO LESS THAN 4.7% BINDER.

B7.8 FOR MIXTURE DESIGN VERIFICATION, PROVIDE THE ENGINEER WITH TWO 5-GALLON BUCKETS OF EACH AGGREGATE STOCKPILE TO BE USED ON THE PROJECT AND THREE GALLONS OF EACH PG BINDER TO BE USED ON THE PROJECT. ALSO PROVIDE SUFFICIENT QUANTITIES OF ANY OTHER ADDITIVES THAT WILL BE USED IN THE HMA MIXTURE. THIS MUST BE DONE PRIOR TO APPROVAL OF THE MIX DESIGN, UNLESS ALREADY PERFORMED WITHIN A ONE-YEAR TIME PERIOD.

B7.9 PRIOR TO ALLOWING PRODUCTION OF THE TRIAL BATCH, THE ENGINEER WILL USE THE MATERIALS PROVIDED BY THE CONTRACTOR TO PERFORM THE FOLLOWING TESTS TO VERIFY THE HMA MIXTURE DESIGN.
1. INDIRECT TENSILE TEST IN ACCORDANCE WITH TEX-226-F
2. HAMBURG WHEEL TEST IN ACCORDANCE WITH TEX-242-F
3. OVERLAY TEST IN ACCORDANCE WITH TEX-248-F
4. CANTABRO TEST IN ACCORDANCE WITH TEX-245-F

FOR MIXTURES DESIGNED WITH A TEXAS GYRATORY COMPACTOR (TGC), THE ENGINEER MAY REQUIRE THAT THE TARGET LABORATORY MOLDED DENSITY BE RAISED TO NO MORE THAN 97.5% OR MAY LOWER THE DESIGN NUMBER OF GYRATIONS TO NO LESS THAN 35 FOR MIXTURES DESIGNED WITH AN SGC IF ANY OF THE FOLLOWING CONDITIONS EXIST.
1. THE INDIRECT TENSILE TEST RESULTS IN A VALUE GREATER THAN 200 PSI
2. THE HAMBURG WHEEL TEST RESULTS IN A VALUE LESS THAN 3.0 MM
3. THE OVERLAY TEST RESULTS IN A VALUE LESS THAN 100 CYCLES
4. THE CANTABRO TEST RESULTS IN A VALUE OF MORE THAN 20% LOSS

IN LIEU OF, OR IN ADDITION TO EVALUATING THE MIXTURE DESIGN PRIOR TO ALLOWING A TRIAL BATCH TO BE PRODUCED, THE ENGINEER MAY ALSO EVALUATE THE MIXTURE PRODUCED DURING THE TRIAL BATCH FOR COMPLIANCE WITH THE 4 TESTS LISTED ABOVE.

B7.10 CONTRACTOR'S QUALITY CONTROL (CQC) TEST REPORTS SHALL BE SUBMITTED TO THE COUNTY ENGINEER ON A DAILY BASIS. AS A MINIMUM, DAILY CQC TESTING ON THE PRODUCED MIX SHALL INCLUDE: SIEVE ANALYSIS TEX-200-F, ASPHALT CONTENT TEX-236-F, HVEEM STABILITY TEX-208-F, LABORATORY COMPACTED DENSITY TEX-207-F, AND MAXIMUM SPECIFIC GRAVITY TEX-227-F. THE NUMBER AND LOCATION OF ALL HMAC TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER WITH A MINIMUM OF THREE, 6-INCH DIAMETER FIELD CORES SECURED AND TESTED BY THE CONTRACTOR FROM EACH DAY'S PAVING. EACH HMAC COURSE SHALL BE TESTED FOR IN-PLACE DENSITY, BITUMINOUS CONTENT AND AGGREGATE GRADATION, AND SHALL BE MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL HMAC TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B7.11 RURAL ROADS MAY USE EITHER THE SPECIFICATIONS FOUND IN SECTION B7.1 OR A TWO-COURSE SURFACE IN ACCORDANCE WITH ITEM 316, TREATMENT WEARING SURFACE, OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. THE TYPE AND RATE OF ASPHALT AND AGGREGATE SHALL BE INDICATED ON THE PLANS AS A BASIS OF ESTIMATE AND SHALL BE DETERMINED AT THE PRECONSTRUCTION CONFERENCE. AGGREGATE USED IN THE MIX SHALL BE ON THE TXDOT QUALITY MONITORING SCHEDULE. AGGREGATE SHALL BE TYPE B GRADE 4. GRADATION TESTS SHALL BE REQUIRED FOR EACH 300 CUBIC YARDS OF MATERIAL PLACED WITH A MINIMUM OF TWO TESTS PER EACH GRADE PER EACH PROJECT. TEST RESULTS SHALL BE REVIEWED BY THE COUNTY ENGINEER PRIOR TO APPLICATION OF THE MATERIAL.

B8 – CONCRETE PAVEMENT

B8.1 IN LIEU OF BITUMINOUS PAVEMENT, PORTLAND CEMENT CONCRETE PAVEMENT MAY BE USED. IN SUCH CASES, THE PAVEMENT THICKNESS SHALL BE A MINIMUM OF 9 INCHES OF CONCRETE, AND SHALL BE JOINTED AND REINFORCED IN ACCORDANCE WITH THE DETAIL INCLUDED IN APPENDIX J. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT. THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.

B9 – CONCRETE – GENERAL

B9.1 UNLESS OTHERWISE SPECIFIED, CONCRETE SHALL BE IN ACCORDANCE WITH ITEM 421 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND BE PLACED IN ACCORDANCE WITH THE APPLICABLE ITEM.

B9.2 ALL CONCRETE SHALL BE TESTED FOR COMPRESSIVE STRENGTH. ONE SET OF THREE CONCRETE TEST CYLINDERS SHALL BE MOLDED FOR EVERY 50 CUBIC YARDS OF CONCRETE PLACED FOR EACH CLASS OF CONCRETE PER DAY, OR AT ANY OTHER INTERVAL AS DETERMINED BY THE COUNTY ENGINEER. A SLUMP TEST SHALL BE REQUIRED WITH EACH SET OF TEST CYLINDERS. ONE CYLINDER SHALL BE TESTED FOR COMPRESSIVE STRENGTH AT AN AGE OF SEVEN DAYS AND THE REMAINING TWO CYLINDERS SHALL BE TESTED AT 28 DAYS OF AGE.

B10 – ROAD NAMES, SIGNS AND MARKERS

B10.1 ALL ROADS SHALL BE NAMED, WITH PRIOR APPROVAL FOR SAID NAME FROM THE WILLIAMSON COUNTY 911 ADDRESSING COORDINATOR. ROADS MUST BE NAMED IN A MANNER TO AVOID CONFUSION IN IDENTIFICATION. ROADS THAT ARE EXTENSIONS OF EXISTING ROADS MUST CARRY THE NAMES OF THOSE IN EXISTENCE. ROADS THAT ARE NOT CONTINUOUS, OR WHICH HAVE 90 DEGREE TURNS, SHALL HAVE DIFFERENT NAMES. THE OWNER SHALL PROVIDE THE COORDINATOR WITH TWO DIGITAL FILES OF THE PLAT. ONE FILE SHALL BE IN AN ADOBE .PDF FORMAT, AND THE OTHER FILE SHALL BE IN AN AUTOCAD .DWG FORMAT GEOREFERENCED TO NAD 1983 STATE PLANE GRID COORDINATE SYSTEM, TEXAS CENTRAL ZONE (4203), WITH DRAWING UNITS OF US FEET. THE ROAD NAMES SHALL BE DISPLAYED ON STANDARD INTERSECTION ROAD MARKER SIGNS ERECTED BY THE OWNER IN COMPLIANCE WITH THE TXMUTCD "STREET NAME SIGNS" AND AT THE LOCATIONS AS INDICATED ON THE CONSTRUCTION PLANS.

B10.2 TRAFFIC CONTROL SIGNS (SUCH AS STOP, YIELD, AND SPEED LIMIT SIGNS) SHALL BE INSTALLED BY THE OWNER OF SAID SUBDIVISION IN COMPLIANCE WITH THE LATEST VERSION OF THE TXMUTCD AND AT THE LOCATIONS AS INDICATED ON THE APPROVED CONSTRUCTION PLANS. OTHER TRAFFIC CONTROL SIGNS, AS SHOWN ON THE CONSTRUCTION PLANS, SHALL BE INSTALLED TO INDICATE ANY UNUSUAL TRAFFIC OR ROAD HAZARD OR CONDITIONS THAT MAY EXIST. ALL TRAFFIC CONTROL DEVICES SHALL BE PLACED IN COMPLIANCE WITH LATEST VERSION OF THE TXMUTCD AND THE CONSTRUCTION COST SHALL BE BORNE BY THE OWNER.

B11 – DRAINAGE AND FLOOD CONTROL

B11.1 STORMWATER MANAGEMENT CONTROLS SHALL BE DESIGNED, CONSTRUCTED, AND MAINTAINED TO RESTRICT THE RATE OF DRAINAGE FROM THE PLATTED AREA TO THE RATE OF DRAINAGE OF THE LAND IN ITS EXISTING CONDITION. WHEN A DEVELOPMENT SHALL HAVE SEVERAL SECTIONS, STORMWATER MANAGEMENT CONTROLS FOR THE ULTIMATE DEVELOPED AREA SHALL BE CONSTRUCTED IF NOT LOCATED IN THE FIRST PLATTED SECTION. STORMWATER MANAGEMENT CONTROLS ARE TO BE DESIGNED BY A PROFESSIONAL ENGINEER USING A BASIS OF A 2, 10, 25, AND 100-YEAR STORM. IF PROPOSED DEVELOPMENT IS DETENTION EXEMPT, A DETENTION EXEMPTION LETTER, REQUESTING THE DETENTION EXEMPTION TO BE UTILIZED, SHALL BE PROVIDED IN PLACE OF A DRAINAGE REPORT AND THE PLAT SHALL CONTAIN A CORRESPONDING PLAT NOTE FROM APPENDIX C12.

B11.2 THE PROPOSED TIME OF CONCENTRATIONS AND LAND COVER ROUGHNESS N-VALUES, USED TO CALCULATE TIME OF CONCENTRATION, SHOULD BE CONSISTENT FROM EXISTING TO PROPOSED CONDITIONS.

B11.3 WHEN CALCULATING PEAK FLOWS, THE RUNOFF CURVE NUMBER SHALL REMAIN THE SAME BETWEEN EXISTING AND PROPOSED CONDITIONS, USING THE ASSUMPTION OF RAW (UNDEVELOPED) LAND WITH NO IMPERVIOUS COVER. THE EXISTING AND PROPOSED PERCENTAGE OF IMPERVIOUS COVER SHALL BE INPUT INDIVIDUALLY FOR EACH CONDITION. FOR THE PROPOSED CONDITIONS, THE MAXIMUM POTENTIAL PERCENTAGE OF IMPERVIOUS COVER SHALL BE USED.

B11.4 DETENTION VOLUME SHALL BE SIZED BY COMPARING THE EXISTING PEAK RUNOFF PRODUCED BY THE SITE VERSUS THE PROPOSED PEAK RUNOFF PRODUCED BY THE SITE, FOR THE 2, 10, 25 AND 100-YEAR FREQUENCY RAINFALL EVENT. METHODS USED TO ANALYZE THE PRE AND POST DEVELOPMENT CONDITIONS SHOULD FOCUS ON THE PROPOSED CHANGES IN IMPERVIOUS COVER AND TIME OF CONCENTRATION ASSOCIATED WITH DEVELOPMENT OF THE SITE. THE POINTS OF ANALYSIS MUST BE CONSISTENT BETWEEN EXISTING AND PROPOSED SCENARIOS FOR A DIRECT AND ACCURATE ASSESSMENT OF IMPACTS. THE TIMING OF HYDROGRAPHS MAY NOT BE USED TO DEMONSTRATE A DECREASE OF PROPOSED PEAK FLOWS FROM THE DEVELOPED SITE.

B11.5 FOR DETENTION DESIGN, NOAA ATLAS 14 PRECIPITATION VALUES SHALL BE TAKEN FROM THE WILLIAMSON COUNTY RAINFALL ZONES FOR A 24-HOUR DURATION STORM. THESE ZONES AND RAINFALL DATA CAN BE FOUND IN EXHIBIT 2 AND THE ASSOCIATED TABLES.

B11.6 FOR DETENTION DESIGN, MAJOR CHANNEL DESIGN AND ANALYSIS, DETERMINATION OF PEAK FLOW RATES FOR FLOODPLAIN MODELING, AND HYDROLOGIC CHANNEL ROUTING, THE U.S. ARMY CORPS OF ENGINEERS HEC-HMS SOFTWARE IS RECOMMENDED. NOAA ATLAS 14 RAINFALL, PER EXHIBIT 2 – RAINFALL DATA, SHALL BE UTILIZED FOR ALL HYDROLOGIC ANALYSES. IF HEC-HMS IS NOT UTILIZED, THE FULL MODEL INPUT AND OUTPUT SHALL BE PROVIDED INCLUDING STRUCTURE AND OUTLET DETAILS AS MODELED.

B11.7 IMPERVIOUS COVER ASSUMPTIONS MUST BE CLEARLY STATED WITHIN THE DRAINAGE REPORT.

B11.8 FOR FLOODPLAIN STUDIES, MAJOR CHANNEL DESIGN AND ANALYSIS, AND DETERMINATION OF FINISHED FLOOR ELEVATIONS, THE U.S. ARMY CORPS OF ENGINEERS HEC-RAS SOFTWARE MUST BE UTILIZED.

B11.9 DRAINAGE CALCULATIONS AND DESIGN SHALL BE MADE USING THE LATEST EDITION OF THE CITY OF AUSTIN'S DRAINAGE CRITERIA MANUAL EXCEPT WHERE OTHERWISE SPECIFIED IN THE REGULATIONS HEREIN, OR OTHER METHODS SATISFACTORY TO THE COUNTY ENGINEER. ALL DATA AND CALCULATIONS MUST BE PRESENTED TO THE COUNTY ENGINEER AS PART OF THE CONSTRUCTION PLANS OR DRAINAGE REPORT. THE FOLLOWING REQUIREMENTS SHALL BE INCORPORATED INTO THE DESIGN:

B11.9.1 BRIDGES AND CROSS DRAINAGE STRUCTURES FOR ARTERIAL, COLLECTOR, AND LOCAL ROADS SHALL BE DESIGNED TO CONVEY THE 25-YEAR STORM WITHOUT OVERTOPPING THE FACILITY.

B11.9.2 ALL LONGITUDINAL DRAINAGE STRUCTURES SHALL BE DESIGNED TO CONVEY THE 10-YEAR STORM.

B11.10 ALL DRAINAGE STRUCTURES AND APPURTENANCES SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER. A PROFILE SHALL BE SHOWN IN THE CONSTRUCTION PLANS FOR ALL DRAINAGE STRUCTURES. EACH PROFILE SHALL SHOW THE DESIGN FLOW, VELOCITY, INVERT ELEVATIONS, AND THE HYDRAULIC GRADE LINE.

B11.11 THE USE OF THERMOPLASTIC PIPES (INCLUDING BUT NOT LIMITED TO POLY VINYL CHLORIDE (PVC) PIPE, HIGH DENSITY POLYETHYLENE PIPE (HDPE), POLYPROPYLENE PIPE, ETC.) IS SPECIFICALLY PROHIBITED FROM USE FOR CROSS DRAINAGE, PARALLEL DRAINAGE, STORM DRAINS AND ALL OTHER STORMWATER CONVEYANCE WITHIN THE RIGHT OF WAY AND/OR EASEMENTS IN CONNECTION WITH DRAINING OR PROTECTING THE ROAD SYSTEM.

B11.12 ALL PIPE USED FOR CROSS DRAINAGE, PARALLEL DRAINAGE, STORM DRAINS, AND ALL OTHER STORM WATER CONVEYANCES WITHIN THE RIGHT OF WAY AND/OR EASEMENTS IN CONNECTION WITH DRAINING OR PROTECTING THE ROAD SYSTEM SHALL BE DESIGNED AND CONSTRUCTED WITH THE CRITERIA IN TABLE B11.12 (PIPE CRITERIA). CAST-IN-PLACE IS PROHIBITED WITHOUT PRIOR APPROVAL FROM COUNTY ENGINEER. PIPES MUST HAVE A MINIMUM INTERIOR DIAMETER OF 18" OR EQUIVALENT.

B11.15 DRIVEWAY CULVERTS SHALL HAVE A MINIMUM INTERIOR DIAMETER OF 18" OR EQUAL AND A MINIMUM LENGTH OF 22 FEET AND SHALL INCLUDE A CONCRETE APRON SAFETY END TREATMENT IN ACCORDANCE WITH CURRENT TXDOT SAFETY END TREATMENT STANDARDS. LARGER OR LONGER CULVERTS SHALL BE INSTALLED IF NECESSARY, TO ACCOMMODATE DRAINAGE BASED UPON A 10-YEAR FLOW FREQUENCY.

B11.16 AT SOME POINT WITHIN THE FIRST TEN FEET FROM THE EDGE OF THE ROADWAY GUTTER, THE ENTIRE WIDTH OF A DRIVEWAY SHALL HAVE THE SAME OR GREATER ELEVATION AS THE TOP OF THE CURB AT THE EDGE OF THE ROADWAY.

B11.17 MAINTENANCE RESPONSIBILITY FOR DRAINAGE WILL NOT TO BE ACCEPTED BY THE COUNTY OTHER THAN THAT ACCEPTED IN CONNECTION WITH DRAINING OR PROTECTING THE ROAD SYSTEM. MAINTENANCE RESPONSIBILITY FOR STORM WATER MANAGEMENT CONTROLS WILL REMAIN WITH THE OWNER.

B11.18 EASEMENTS SHALL BE PROVIDED, WHERE NECESSARY, FOR ALL DRAINAGE COURSES AND IDENTIFIED FLOODPLAINS IN AND ACROSS PROPERTY TO BE PLATTED. THE LOCATION AND WIDTH SHALL BE SHOWN ON THE PLAT AND MARKED "DRAINAGE EASEMENT" OR "DRAINAGE AND UNDERGROUND UTILITIES EASEMENT". IN GENERAL, A "DRAINAGE EASEMENT" SHALL BE A MINIMUM OF 20 FEET IN WIDTH AND A "DRAINAGE AND UNDERGROUND UTILITIES EASEMENT" SHALL BE A MINIMUM OF 30 FEET IN WIDTH.

B11.19 ALL ROADSIDE DITCHES SHALL HAVE A MINIMUM DEPTH, AS MEASURED FROM THE EDGE OF THE ROAD PAVEMENT, EQUAL TO THE DIAMETER OF THE DRIVEWAY CULVERT PIPE(S) PLUS NINE INCHES, AND A BOTTOM WIDTH EQUAL TO THE DIAMETER OF THE DRIVEWAY CULVERT PIPE(S). THE SIDE SLOPES OF THE DITCHES ARE TO BE 3:1 OR FLATTER, EXCEPT AT PARALLEL CULVERTS WHICH SHALL BE 4:1 OR FLATTER TO ACCOMMODATE A STANDARD SAFETY END TREATMENT.

B11.20 WHERE ALL LOTS ARE 2 ACRES OR MORE AND EXEMPT FROM DETENTION, ROADSIDE DITCHES MAY BE ELIMINATED WITHIN A RURAL SUBDIVISION PROVIDED THAT THE ROAD HAS 18-INCH RIBBON CURBS, THE ROADWAY SURFACE HAS AN ADEQUATE CROSS SLOPE, AND THE OVERALL DRAINAGE PATTERNS THROUGHOUT THE SUBDIVISION REMAIN AS IN AN UNDEVELOPED STATE. IF INTERNAL SUBDIVISION ROADWAYS ARE PROPOSED WITHIN A NATURAL DRAINAGE PATTERN OR SHEET FLOW SUBDIVISION, A TYPICAL SECTION IS REQUIRED WITHIN CONSTRUCTION PLANS REQUIRING THE CONTRACTOR TO INSURE A MINIMUM 1.5" DROP ON FINISHED GRADE, WITH GRASS OR OTHER LAND COVER, FROM THE BACK OF CURB TO THE SHOULDER ON THE DOWNSLOPE SIDE OF ALL SHEET FLOW STREET SECTIONS, TO INSURE POSITIVE DRAINAGE FROM THE ROADWAY. IT IS THE PROPERTY OWNER'S RESPONSIBILITY TO ENSURE TOP OF GRASS AND OTHER LANDSCAPING ALONG RIBBON CURB, ON THE DOWNSLOPE SIDE OF THE ROADWAY, DOES NOT OBSTRUCT OR REDIRECT FLOW WITHIN THE RIGHT-OF-WAY.

B11.21 STORMWATER MANAGEMENT CONTROLS AND INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO DETENTION AND WATER QUALITY PONDS, SHALL NOT BE LOCATED WITHIN THE RIGHT-OF-WAY NOR ANY ROADWAY EASEMENTS. STORMWATER MANAGEMENT CONTROLS SHALL BE CONTAINED WITHIN A SEPARATE LOT OR EASEMENT FOR DRAINAGE, DETENTION OR WATER QUALITY PURPOSES AND DEDICATED TO THE ENTITY THAT WILL BE RESPONSIBLE FOR THEIR MAINTENANCE. NO PORTION OF ANY STORMWATER MANAGEMENT CONTROLS INCLUDING BUT NOT LIMITED TO WALLS, IMPOUNDMENT STRUCTURES, INLET/OUTLET STRUCTURES, UNDERGROUND VAULTS OR LEVEL SPREADERS SHALL BE PHYSICALLY CONNECTED TO THE ROADWAY, ROADWAY EMBANKMENT OR THE CROSS-DRAINAGE SYSTEM THAT DRAINS THE ROADWAY. THE ROADWAY EMBANKMENT SHALL NOT BE USED FOR THE DUAL PURPOSE OF TEMPORARILY OR PERMANENTLY IMPOUNDING WATER FOR STORMWATER MANAGEMENT OR DETENTION PURPOSES.

DESIGNED BY: SPC
DRAFTED BY: CEL
DATE
REVISION

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SHEET NAME: GENERAL NOTES (1 OF 2)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
12-20-2024

DATE: DEC 2024
JOB NUMBER: 5559
SHEET: 2 OF 70
SHEET NO.: 2

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;

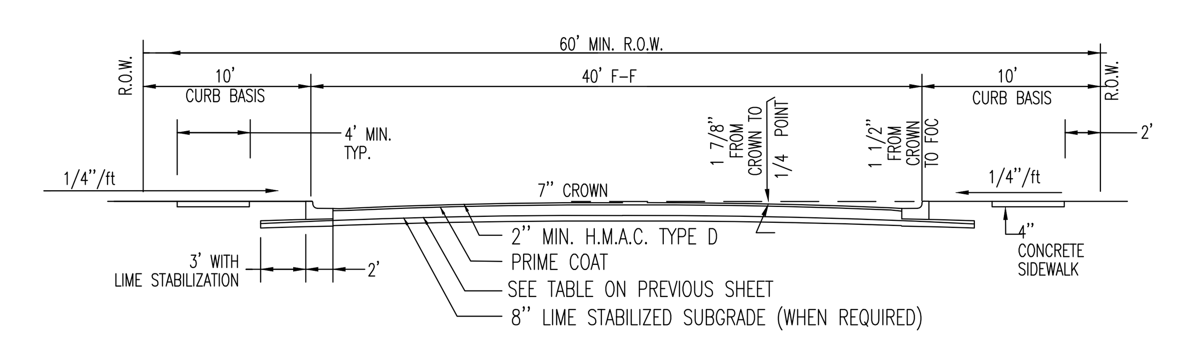
   B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;

   C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

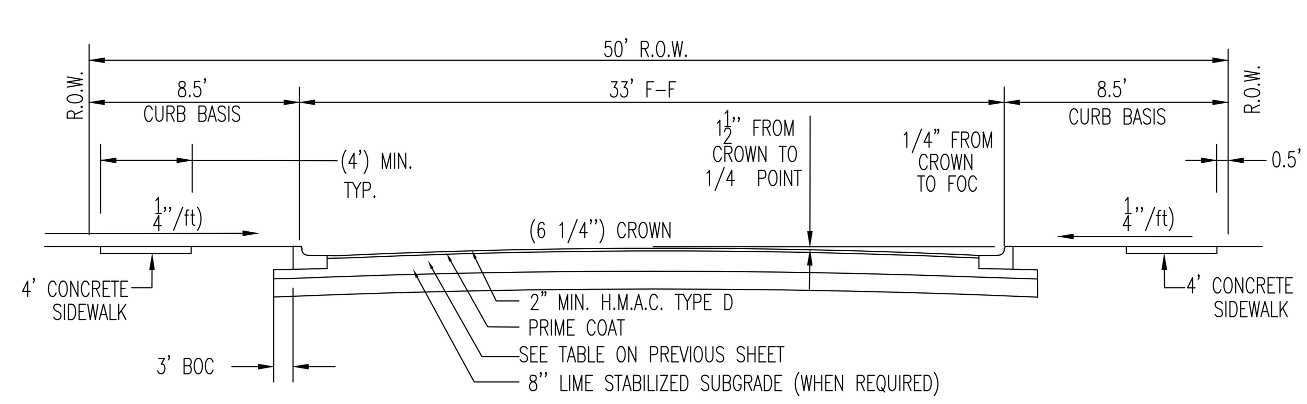
AUSTIN REGIONAL OFFICE
12100 PARK 35 CIRCLE, BUILDING A
AUSTIN, TEXAS 78753-1808
PHONE (512) 339-2929
FAX (512) 339-3795

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.
TCEQ-0592 (REV. JULY 15, 2015)



RIG ROSE DR & PLATFORM PARKWAY
(0+00 TO END)
N.T.S.



ALL OTHER LOCAL STREETS
(0+00 TO END)
N.T.S.

FILE PATH:J:\AC3D\5559\dwg\5559-GENERAL NOTES.dwg - Dec 19, 2024 - 7:36am

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 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, 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.

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 55 - 65 OF 70.

   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: THERE SHALL BE NO CURVATURE OF SANITARY SEWER LINE PIPES.

   IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: THERE SHALL BE NO FLEXURE OF SANITARY SEER LINE PIPES.

   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.

   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).~~ (NOT APPLICABLE)

   THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET 70 OF 70 AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET 70 OF 70.

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	0.8550
8	454	298	1.5200
10	567	239	2.3740
12	680	199	3.4190
15	850	159	5.3420
18	1020	133	7.6930
21	1190	114	10.4710
24	1360	100	13.6760
27	1530	88	17.3090
30	1700	80	21.3690
33	1870	72	25.8560

(D) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME. 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.
(E) 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.
(F) 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.

1. 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.
2. 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.

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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.
TCEQ-0596 (REV. JULY 15, 2015)

TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1. This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "Rules and Regulations for Public Water Systems."
2. All newly installed pipes and related products must conform to American National Standards Institute (ANSI)/NSF International Standard 61 and must be certified by an organization accredited by ANSI [§290.44(a)(1)].
3. Plastic pipe for use in public water systems must bear the NSF International Seal of Approval (NSF-pw) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less [§290.44(a)(2)].
4. No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply [§290.44(a)(3)].
5. All water line crossings of wastewater mains shall be perpendicular [§290.44(e)(4)(B)].
6. Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface [§290.44(a)(4)].
7. The maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent [§290.44(b)].
8. The contractor shall install appropriate air release devices with vent openings to the atmosphere covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent [§290.44(d)(1)].
9. The contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation [§290.44(f)(1)].
10. When waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the waterline shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested [§290.44(f)(2)].
11. Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.
    - The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$Q = \frac{LD\sqrt{P}}{148{,}000}$$

      Where:
      - Q = the quantity of makeup water in gallons per hour,
      - L = the length of the pipe section being tested, in feet,
      - D = the nominal diameter of the pipe in inches, and
      - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
    - The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

      Where:
      - L = the quantity of makeup water in gallons per hour,
      - S = the length of the pipe section being tested, in feet,
      - D = the nominal diameter of the pipe in inches, and
      - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
12. The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet §290.44(e)(1)-(4).
13. The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(e)(5)].
14. Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(e)(6)].
15. Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(e)(7)].
16. Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(e)(8)].
17. The contractor shall disinfect the new waterlines in accordance with AWWA Standard C-651-14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(f)(3)].
18. Dechlorination of disinfecting water shall be in strict accordance with current AWWA Standard C655-09 or most recent.

Revised October 2017

DESIGNED BY: SPC
DRAFTED BY: CEL
DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ❖ Surveying
FIRM ID #F3791
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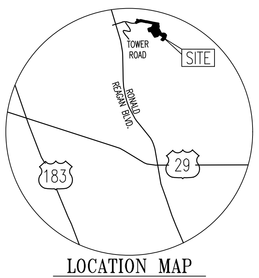
Austin, Texas 78749
Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
Fax No. (512) 280-5165

SHEET NAME: GENERAL NOTES (2 OF 2)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED
PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
12-20-2024

DATE
DEC 2024
JOB NUMBER
5559
SHEET
3 OF 70
SHEET NO.
3

SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT



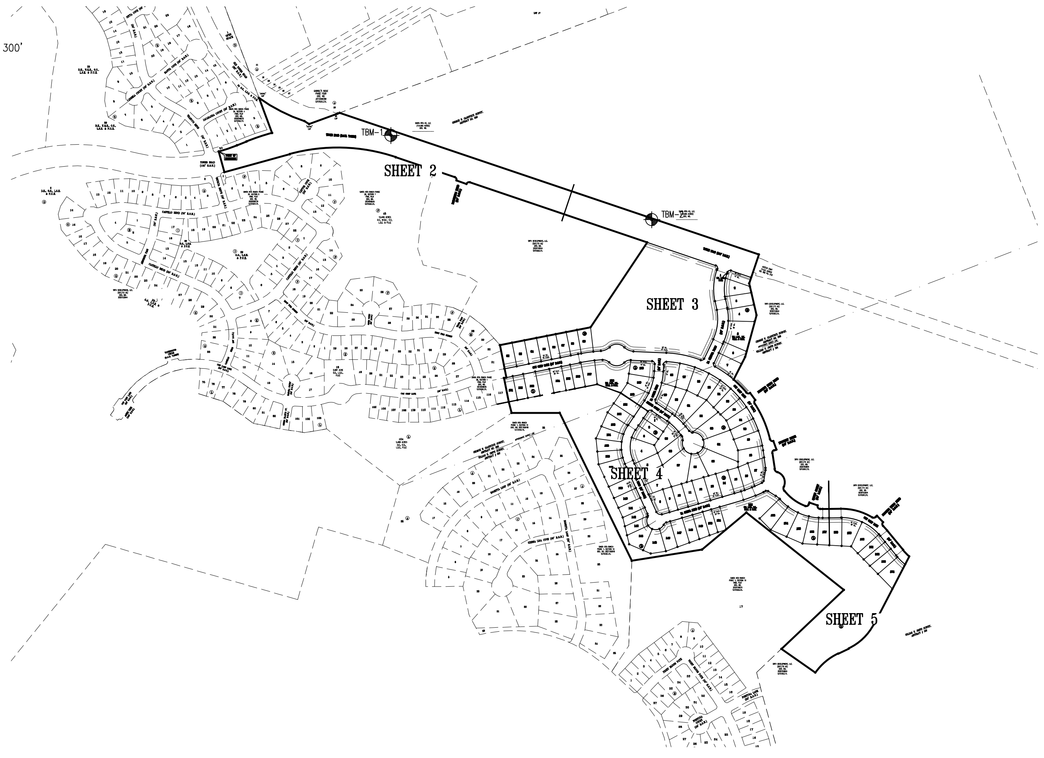
LOCATION MAP

GRAPHIC SCALE

300 0 150 300 600

(IN FEET)
1 inch = 300 ft.

SCALE: 1" = 300'



LEGEND

- ● CAPPED 1/2" IRON ROD FOUND STAMPED "CBD SETSTONE" (UNLESS NOTES)
- ○ CAPPED 1/2" CAPPED IRON ROD SET STAMPED "CBD SETSTONE"
- B.L. BUILDING SETBACK LINE
- D.E. DRAINAGE EASEMENT
- L.S.E. LANDSCAPE EASEMENT
- P.U.E. PUBLIC UTILITY EASEMENT
- O.S. OPEN SPACE
- D.R.W.C.TX. DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
- O.P.R.W.C.TX. OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS

ORIGINAL SUBMITTAL DATE: _____

REVISED DATE: DECEMBER 16, 2024

OWNER:
SRFV DEVELOPMENT, LLC.
1700 CROSS CREEK DRIVE, STE. 100
LIBERTY HILL, TX 78642

SANTA RITA KC, LLC.
1700 CROSS CREEK DRIVE, STE. 100
LIBERTY HILL, TX 78642

DEVELOPER:
SRFV DEVELOPMENT, LLC.
1700 CROSS CREEK LANE, STE. 100
LIBERTY HILL, TX 78642

SURVEYOR:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE
AUSTIN, TEXAS 78749
(512) 280-5160 PHONE

ENGINEER:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE
AUSTIN, TEXAS 78749
(512) 280-5160 PHONE

TOTAL ACREAGE: 58.109 ACRES

SURVEY: GEORGE W. GLASSCOCK SURVEY, ABSTRACT NO. 266 AND WILLIAM W. SMITH SURVEY, ABSTRACT NO. 591

F.E.M.A. MAP NO. 48491C0275E
WILLIAMSON COUNTY, TEXAS AND INCORPORATED AREAS.
DATED: SEPTEMBER 26, 2008

TBM 1:
CAPPED 1/2 INCH IRON ROD SET STAMPED "CONTROL"
N = 10220913.74
E = 3083105.25
ELEVATION = 908.45' (NAVD '88)

TBM 2:
CAPPED 1/2 INCH IRON ROD SET STAMPED "CONTROL"
N = 10220440.10
E = 2084571.90
ELEVATION = 1013.31' (NAVD '88)

BASIS OF BEARINGS – TEXAS COORDINATE SYSTEM, CENTRAL ZONE (4203), NAD83

ELEVATION DATUM – NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88)

TOTAL OF LOTS	99
SINGLE FAMILY LOTS:	96
W.Q.E., D.E., O.S., L.S.E. & P.U.E. LOTS:	3

ROAD TABLE

STREET NAMES	LINEAR FOOTAGE	R.O.W. WIDTH	PAVEMENT WIDTH	DESIGN SPEED	DESIGNATION	CLASSIFICATION
AMADOR COURT	342'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
BARCELLUS BEND	83'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
COW CAMP LANE	2,859'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
HUNTLEY DRIVE	46'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
LA COLINA BEND	1,704'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
LA CRESTA PASS	649'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
PIONEER HILLS BEND	83'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
QUEEN COURT	49'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
TOWER ROAD	3,138'	136' R.O.W./R.O.W. VARIES	48' FOC-FOC	45 M.P.H.	PUBLIC	ARTERIAL
TOTAL	8,953'					

SHEET NO. 1 OF 8

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J:\AC3D\5559\Survey\PLAT – SRR 2B-2

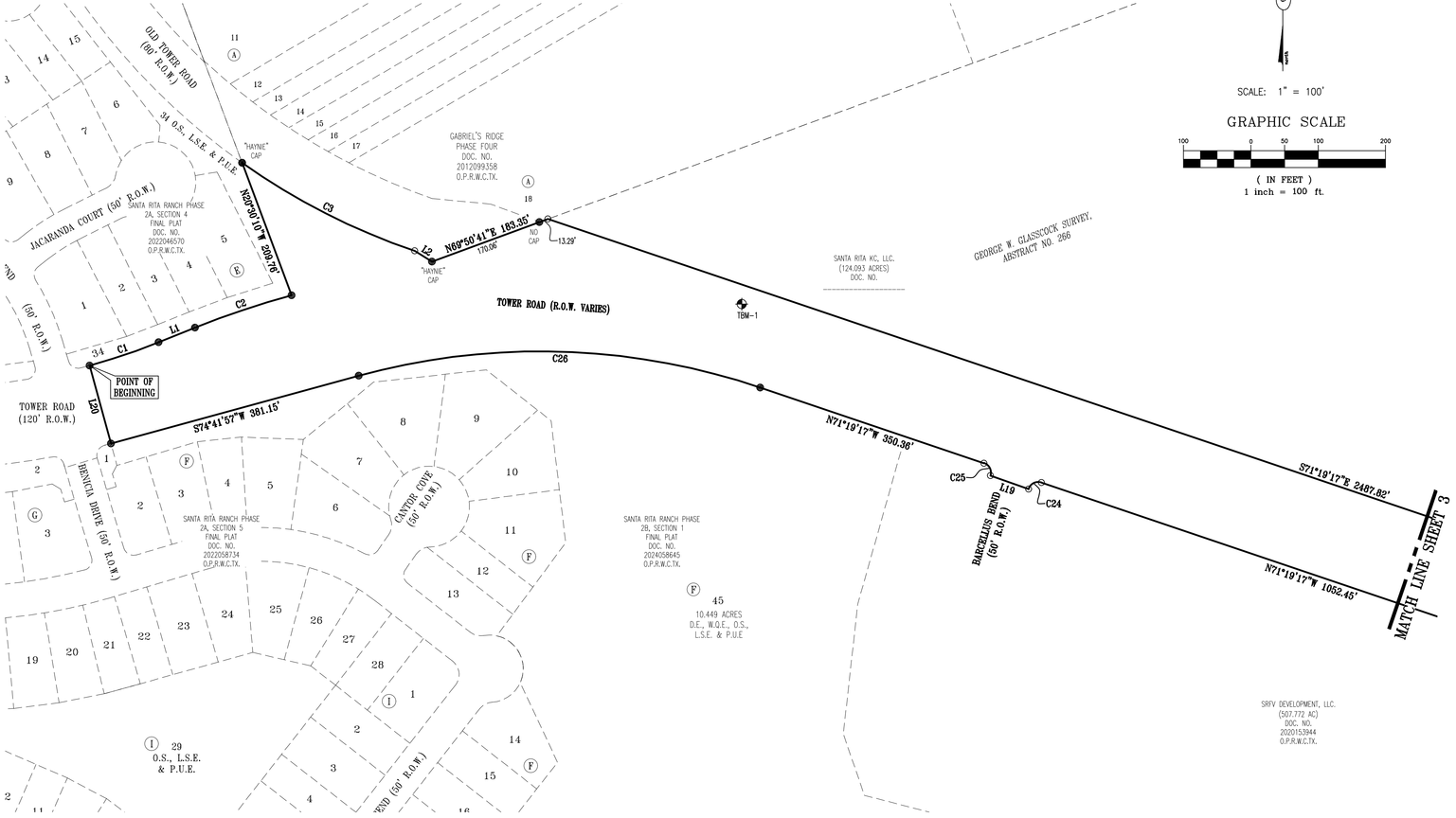
SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT

SCALE: 1" = 100'

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.



SHEET NO. 2 OF 8

Carlson, Brigance & Doering, Inc.
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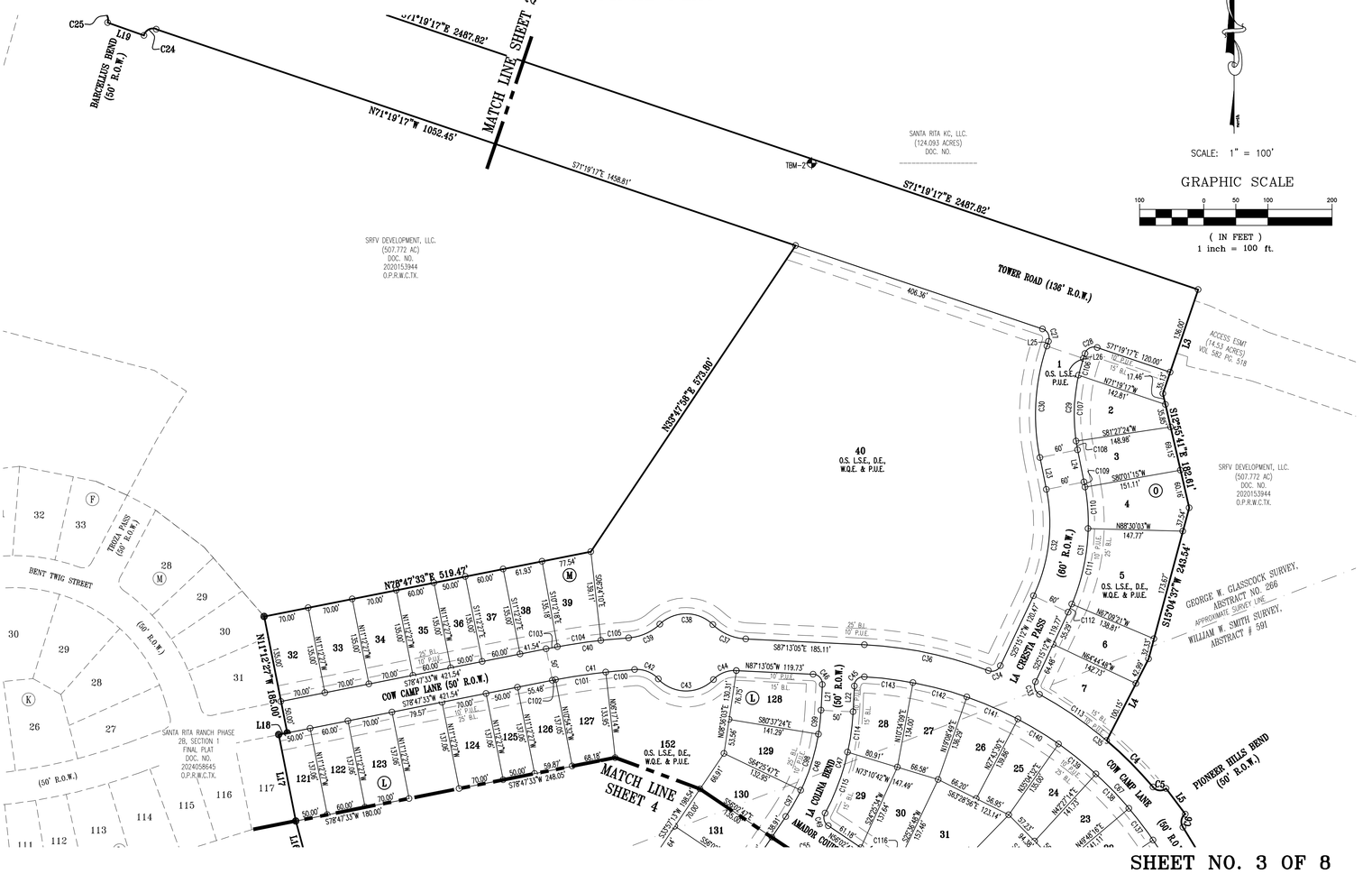
J:\AC3D\5559\Survey\PLAT – SRR 2B-2

SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT



SHEET NO. 3 OF 8

Carlson, Brigance & Doering, Inc.
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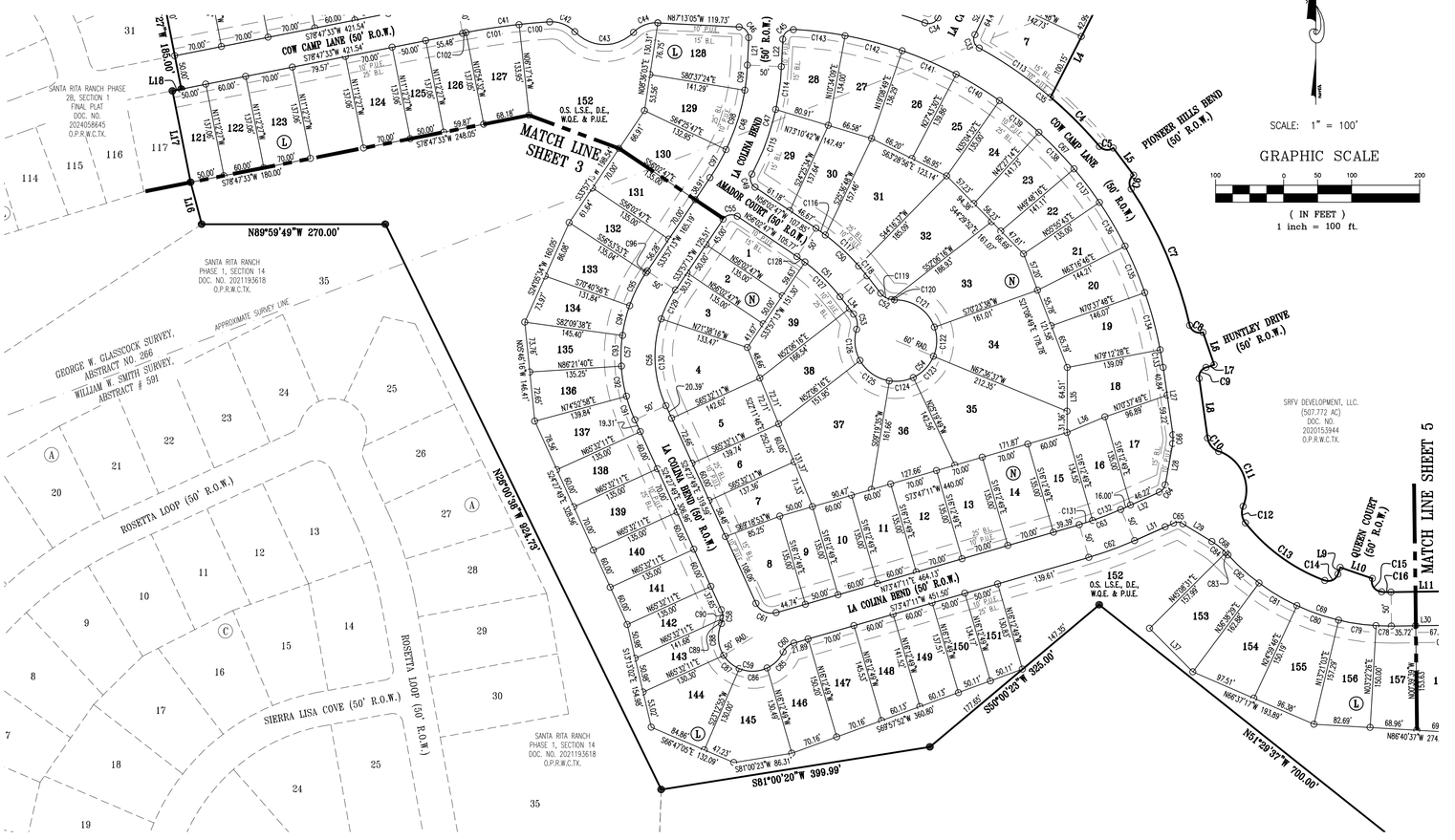
J:\AC3D\5559\Survey\PLAT - SRR 2B-2

SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT



SHEET NO. 4 OF 8

Carlson, Brigance & Doering, Inc.
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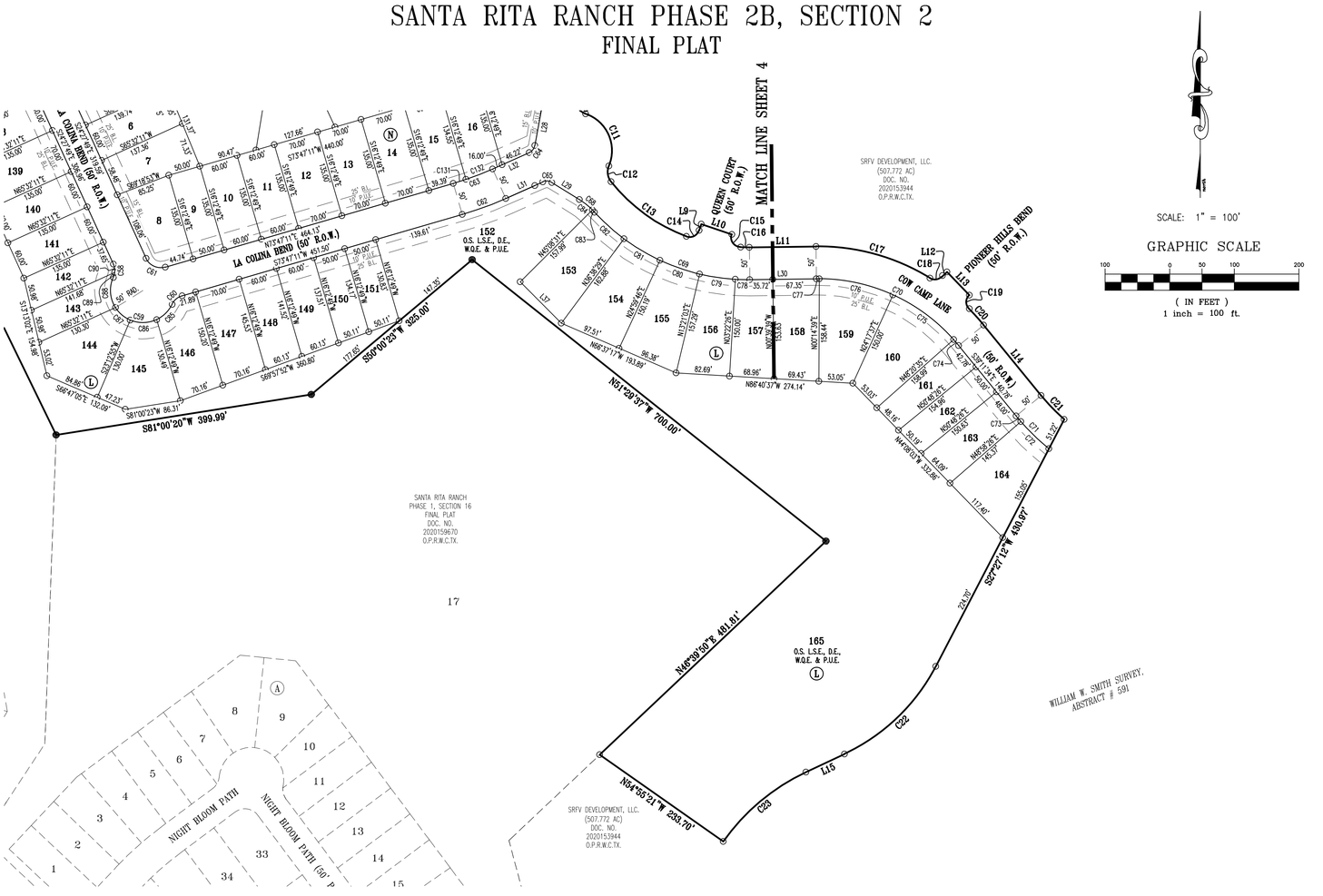
J:\AC3D\5559\Survey\PLAT - SRR 2B-2

SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT



SHEET NO. 5 OF 8

Carlson, Brigance & Doering, Inc.
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J:\AC3D\5559\Survey\PLAT – SRR 2B-2

SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C1	108.02	940.00	N71°24'25"E	107.96	54.07	6°35'03"
C2	151.28	1300.00	N71°26'55"E	151.19	75.72	6°40'02"
C3	288.53	994.93	S62°59'03"E	287.52	145.28	16°36'56"
C4	102.31	630.00	S44°57'20"E	102.19	51.27	9°18'15"
C5	22.63	15.00	S83°31'33"E	20.54	14.10	86°26'40"
C6	22.63	15.00	S17°01'47"W	20.54	14.10	86°26'40"
C7	219.08	630.00	S23°13'50"E	217.97	110.65	19°55'26"
C8	25.08	15.00	S61°09'47"E	22.26	16.60	95°47'20"
C9	20.71	15.00	S31°23'22"W	19.10	12.39	79°06'23"
C10	26.52	24.00	S39°49'03"E	25.19	14.80	63°18'27"
C11	99.27	60.00	S24°04'32"E	88.33	65.24	94°47'29"
C12	25.94	24.00	S07°38'24"E	24.69	14.40	61°55'13"
C13	145.92	270.00	S54°04'58"E	144.15	74.79	30°57'54"
C14	24.00	15.00	N64°35'23"E	21.52	15.45	91°41'25"
C15	27.88	15.00	S34°30'43"E	24.04	20.09	106°30'46"
C16	13.63	270.00	S89°12'52"E	13.63	6.82	2°53'33"
C17	185.49	330.00	S74°33'29"E	183.06	95.27	32°12'20"
C18	19.74	15.00	N83°50'31"E	18.35	11.59	75°24'21"
C19	23.86	15.00	S00°33'49"W	21.43	15.30	91°09'04"
C20	33.52	330.00	S42°06'08"E	33.50	16.77	5°49'09"
C21	51.29	300.00	S44°05'26"E	51.23	25.71	9°47'45"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C22	199.33	305.00	S46°10'33"W	195.80	103.37	37°26'41"
C23	169.15	325.00	S49°59'16"W	167.25	86.54	29°49'15"
C24	23.94	15.00	S82°57'11"W	21.48	15.38	91°27'04"
C25	23.18	15.00	N27°02'49"W	20.94	14.62	88°32'56"
C26	604.92	1020.00	N88°18'40"W	596.09	311.65	33°58'46"
C27	23.56	15.00	N26°19'17"W	21.21	15.00	90°00'00"
C28	23.56	15.00	S63°40'43"W	21.21	15.00	90°00'00"
C29	144.44	275.00	S03°37'55"W	142.78	73.93	30°05'37"
C30	175.95	335.00	S03°37'55"W	173.94	90.06	30°05'37"
C31	207.99	325.00	N06°55'09"E	204.46	107.70	36°40'06"
C32	169.60	265.00	N06°55'09"E	166.72	87.82	36°40'06"
C33	22.63	15.00	S17°58'08"E	20.54	14.10	86°26'40"
C34	22.40	15.00	N68°01'49"E	20.37	13.88	85°33'14"
C35	229.67	630.00	N50°44'50"W	228.40	116.13	20°53'16"
C36	198.20	630.00	N78°12'19"W	197.38	99.92	18°01'31"
C37	57.16	79.50	S66°37'08"E	55.94	29.88	41°11'53"
C38	91.10	60.00	N89°31'08"W	82.60	56.94	86°59'46"
C39	54.17	79.50	N66°30'10"E	53.13	28.18	39°02'27"
C40	129.99	1030.00	S82°24'29"W	129.90	65.08	7°13'51"
C41	129.34	980.00	S82°34'25"W	129.25	64.76	7°33'43"
C42	41.09	47.00	N68°35'53"W	39.80	21.96	50°05'41"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C43	96.04	60.00	S89°24'24"E	86.11	61.82	91°42'43"
C44	39.41	47.00	S68°45'35"W	38.27	20.95	48°02'41"
C45	23.62	15.00	S47°53'57"W	21.26	15.06	90°14'02"
C46	23.56	15.00	N42°13'05"W	21.21	15.00	90°00'00"
C47	165.18	375.00	N15°24'04"E	163.85	83.95	25°14'17"
C48	176.82	325.00	N18°22'04"E	174.64	90.65	31°10'18"
C49	22.01	15.00	S14°00'47"E	20.09	13.52	84°04'00"
C50	102.96	325.00	N46°58'16"W	102.53	51.91	18°09'03"
C51	87.12	275.00	N46°58'16"W	86.75	43.93	18°09'03"
C52	23.55	25.00	S64°52'47"E	22.69	12.73	53°58'05"
C53	23.55	25.00	N10°54'42"W	22.69	12.73	53°58'05"
C54	301.53	60.00	N52°06'16"E	70.59	43.64	287°56'10"
C55	23.56	15.00	S78°57'13"W	21.21	15.00	90°00'00"
C56	178.43	175.00	S04°44'42"W	170.80	97.84	58°25'02"
C57	229.40	225.00	S04°44'42"W	219.60	125.79	58°25'02"
C58	21.03	25.00	N00°22'08"W	20.41	11.18	48°11'23"
C59	155.45	50.00	S65°20'19"E	99.99	3062.64	178°07'46"
C60	21.03	25.00	S49°41'30"W	20.41	11.18	48°11'23"
C61	35.67	25.00	S65°20'19"E	32.72	21.64	81°45'00"
C62	71.80	525.00	N69°52'06"E	71.75	35.96	7°50'11"
C63	64.97	475.00	N69°52'06"E	64.91	32.53	7°50'11"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C64	14.46	15.00	N38°19'50"E	13.91	7.85	55°14'22"
C65	14.58	15.00	N86°12'19"W	14.01	7.92	55°41'21"
C66	12.91	40.00	N01°05'10"E	12.86	6.51	18°29'58"
C67	797.89	580.00	N47°34'26"W	736.45	476.59	78°49'13"
C68	30.76	110.00	N50°20'55"W	30.66	15.48	16°01'26"
C69	269.90	320.00	S66°29'54"E	261.97	143.56	48°19'30"
C70	251.52	280.00	N64°55'36"W	243.15	134.96	51°28'05"
C71	71.85	350.00	S45°04'25"E	71.72	36.05	11°45'43"
C72	60.65	350.00	N45°59'25"W	60.57	30.40	9°55'42"
C73	11.20	350.00	N40°06'34"W	11.20	5.60	1°50'01"
C74	12.04	280.00	N40°25'29"W	12.04	6.02	2°27'51"
C75	117.53	280.00	N53°40'54"W	116.67	59.64	24°02'58"
C76	117.53	280.00	N77°43'52"W	116.67	59.64	24°02'58"
C77	4.42	280.00	S89°47'30"W	4.42	2.21	0°54'18"
C78	22.53	320.00	N88°38'37"W	22.53	11.27	4°02'05"
C79	55.72	320.00	N81°38'15"W	55.65	27.93	9°58'38"
C80	65.04	320.00	N70°49'35"W	64.93	32.63	11°38'43"
C81	65.04	320.00	N59°10'52"W	64.93	32.63	11°38'43"
C82	61.56	320.00	N47°50'50"W	61.47	30.88	11°01'22"
C83	4.84	110.00	N43°35'51"W	4.84	2.42	2°31'17"
C84	25.92	110.00	N51°36'34"W	25.86	13.02	13°30'09"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C85	34.23	50.00	S45°12'33"W	33.57	17.82	39°13'30"
C86	42.23	50.00	S89°01'06"W	40.99	22.47	48°23'36"
C87	30.47	50.00	N49°19'38"W	30.00	15.72	34°54'55"
C88	48.52	50.00	N04°04'18"W	46.64	26.36	55°35'45"
C89	8.11	25.00	N14°25'44"E	8.08	4.09	18°35'40"
C90	12.91	25.00	N09°39'58"W	12.77	6.60	29°35'43"
C91	36.70	225.00	N19°47'26"W	36.66	18.39	9°20'47"
C92	45.08	225.00	N09°22'41"W	45.00	22.61	11°28'42"
C93	45.08	225.00	N02°06'01"E	45.00	22.61	11°28'42"
C94	45.08	225.00	N13°34'43"E	45.00	22.61	11°28'42"
C95	54.13	225.00	N26°12'35"E	54.00	27.20	13°47'03"
C96	3.34	225.00	N33°31'40"E	3.34	1.67	0°51'06"
C97	47.55	325.00	N29°45'43"E	47.51	23.82	8°23'00"
C98	91.85	325.00	N17°28'24"E	91.55	46.24	16°11'37"
C99	37.41	325.00	N06°04'46"E	37.39	18.72	6°35'41"
C100	45.18	980.00	S85°02'01"W	45.18	22.60	2°38'30"
C101	79.05	980.00	S81°24'07"W	79.03	39.55	4°37'19"
C102	5.10	980.00	S78°56'30"W	5.10	2.55	0°17'54"
C103	18.02	1030.00	N79°17'38"E	18.02	9.01	1°00'09"
C104	68.35	1030.00	N81°41'46"E	68.34	34.19	3°48'08"
C105	43.61	1030.00	N84°48'37"E	43.61	21.81	2°25'34"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C106	27.16	275.00	S15°50'56"W	27.15	13.59	5°39'34"
C107	103.49	275.00	S02°14'17"W	102.88	52.37	21°33'46"
C108	13.78	275.00	S09°58'45"E	13.78	6.89	2°52'18"
C109	8.14	325.00	S10°41'50"E	8.14	4.07	1°26'08"
C110	65.11	325.00	S04°14'24"E	65.00	32.66	11°28'42"
C111	121.08	325.00	S12°10'18"W	120.38	61.25	21°20'43"
C112	13.66	325.00	S24°02'56"W	13.66	6.83	2°24'33"
C113	127.37	630.00	N50°23'58"W	127.15	63.90	11°35'01"
C114	63.54	375.00	S07°38'09"W	63.46	31.84	9°42'27"
C115	101.65	375.00	S20°15'18"W	101.34	51.14	15°31'50"
C116	17.02	325.00	S54°32'47"E	17.02	8.51	3°00'00"
C117	67.02	325.00	S47°08'18"E	66.91	33.63	11°48'58"
C118	18.92	325.00	S39°33'47"E	18.91	9.46	3°20'05"
C119	18.79	25.00	S59°25'44"E	18.35	9.86	43°04'00"
C120	4.76	25.00	S86°24'47"E	4.75	2.39	10°54'05"
C121	75.67	60.00	S55°44'06"E	70.75	43.80	72°15'27"
C122	43.98	60.00	S01°23'30"W	43.00	23.03	41°59'46"
C123	44.28	60.00	S43°31'47"W	43.28	23.20	42°16'48"
C124	36.29	60.00	S81°59'53"W	35.74	18.72	34°39'24"
C125	54.19	60.00	N54°47'58"W	52.37	29.10	51°44'54"
C126	47.12	60.00	N00°25'36"W	45.92	24.85	44°59'52"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C127	72.88	275.00	N45°29'15"W	72.66	36.65	15°11'01"
C128	14.24	275.00	N54°33'46"W	14.24	7.12	2°58'01"
C129	47.62	175.00	S26°09'29"W	47.47	23.96	15°35'29"
C130	130.80	175.00	S03°03'02"E	127.78	68.63	42°49'33"
C131	20.62	475.00	N72°32'34"E	20.62	10.31	2°29'14"
C132	44.35	475.00	N68°37'29"E	44.33	22.19	5°20'57"
C133	26.61	580.00	N09°28'40"W	26.61	13.31	2°37'42"
C134	86.83	580.00	N15°04'52"W	86.75	43.50	8°34'40"
C135	74.41	580.00	N23°02'43"W	74.36	37.26	7°21'02"
C136	74.41	580.00	N30°23'46"W	74.36	37.26	7°21'02"
C137	62.00	580.00	N37°08'00"W	61.97	31.03	6°07'27"
C138	74.41	580.00	N43°52'15"W	74.36	37.26	7°21'02"
C139	74.69	580.00	N51°14'07"W	74.64	37.40	7°22'42"
C140	74.41	580.00	N58°35'59"W	74.36	37.26	7°21'02"
C141	86.83	580.00	N66°33'51"W	86.75	43.50	8°34'40"
C142	86.83	580.00	N75°08'31"W	86.75	43.50	8°34'40"
C143	76.46	580.00	N83°12'27"W	76.40	38.28	7°33'11"

Line Table		
Line #	Length	Direction
L1	58.28	N68°06'53"E
L2	30.05	S57°57'37"E
L3	171.13	S18°40'43"W
L4	143.14	S27°05'09"W
L5	50.00	S36°44'53"E
L6	50.00	S19°03'23"E
L7	12.79	S70°56'33"W
L8	88.71	S08°09'49"E
L9	10.41	N18°44'40"E
L10	50.00	S71°15'20"E
L11	103.07	N89°20'21"E
L12	11.06	N44°08'21"E
L13	50.00	S43°51'39"E
L14	140.78	S39°11'34"E
L15	65.98	S84°53'54"W
L16	63.85	N14°56'50"W
L17	137.06	N11°12'27"W
L18	13.51	N78°47'33"E
L19	60.04	N70°35'47"W

Line Table		
Line #	Length	Direction
L20	120.00	N15°18'03"W
L21	40.25	N02°46'55"E
L22	40.25	S02°46'55"W
L23	50.88	S11°24'54"E
L24	50.88	S11°24'54"E
L25	7.88	S18°40'43"W
L26	7.88	N18°40'43"E
L27	100.06	N08°09'49"W
L28	61.55	N10°20'08"E
L29	50.08	N58°21'38"W
L30	103.07	N89°20'21"E
L31	62.71	S65°57'00"W
L32	62.22	N65°57'00"E
L33	32.57	N37°53'44"W
L34	32.57	N37°53'44"W
L35	95.87	S00°12'56"W
L36	60.36	N67°29'35"E
L37	90.30	N44°51'29"W

GENERAL:

1. BEARINGS ARE BASED ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE (4203), NAD83.
2. THIS SUBDIVISION LIES WITHIN THE CITY OF LIBERTY HILL EXTRA-TERRITORIAL JURISDICTION.
3. IT IS THE RESPONSIBILITY OF THE OWNER, NOT THE COUNTY, TO ASSURE COMPLIANCE WITH PROVISIONS OF ALL APPLICABLE STATE, FEDERAL AND LOCAL LAWS, AND REGULATIONS RELATING TO PLATTING AND DEVELOPMENT OF THIS PROPERTY. THE COUNTY ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF REPRESENTATIONS BY OTHER PARTIES IN THIS PLAT. FLOODPLAIN DATA, IN PARTICULAR, MAY CHANGE. IT IS FURTHER UNDERSTOOD THAT THE OWNERS OF THE TRACT OF LAND COVERED BY THIS PLAT MUST INSTALL AT THEIR OWN EXPENSE ALL TRAFFIC CONTROL DEVICES AND SIGNAGE THAT MAY BE REQUIRED BEFORE THE ROADS IN THE SUBDIVISION HAVE FINALLY BEEN ACCEPTED FOR MAINTENANCE BY THE COUNTY.
4. THIS PROPERTY IS SUBJECT TO A BLANKET-TYPE UTILITY EASEMENT GRANTED TO CHISHOLM TRAIL WATER SUPPLY CORPORATION IN VOLUME 939, PAGE 271, DEED RECORDS OF WILLIAMSON COUNTY, TEXAS.
5. ALL PUBLIC ROADWAYS AND EASEMENTS AS SHOWN ON THIS PLAT ARE FREE OF LIENS.

DRAINAGE AND FLOODPLAIN:

1. EXCEPT IN CERTAIN ISOLATED AREAS REQUIRED TO MEET ACCESSIBILITY REQUIREMENTS, THE MINIMUM LOWEST FINISHED FLOOR ELEVATION SHALL BE ONE FOOT HIGHER THAN THE HIGHEST SPOT ELEVATION THAT IS LOCATED WITHIN FIVE FEET OUTSIDE THE PERIMETER OF THE BUILDING, OR ONE FOOT ABOVE THE BFE, WHICHEVER IS HIGHER.
2. A DE FACTO CERTIFICATE OF COMPLIANCE IS HEREBY ISSUED FOR ALL LOTS WITHIN THIS SUBDIVISION EXCEPT LOTS 25–33, BLOCK F, LOTS 75–80, BLOCK L, AND LOTS 28–30, BLOCK M. THIS CERTIFICATE IS VALID UNTIL SUCH TIME AS FEMA REVISES OR NEWLY ADOPTS FLOODPLAIN BOUNDARIES IN THIS AREA.
3. THE PROPOSED 100-YR WATER SURFACE ELEVATION PER ATLAS 14 SHOWN ON THE PLAT WAS DETERMINED BY A STUDY PREPARED BY CARLSON, BRIGANCE & DOERING, INC., DATED DECEMBER 29, 2023. THE MINIMUM FINISHED FLOOR ELEVATIONS SHOWN ON THE PLAT WERE DETERMINED BY ADDING ONE (1) FOOT TO THE PROPOSED 100-YR WATER SURFACE ELEVATION PER ATLAS 14.
4. THIS SUBDIVISION IS SUBJECT TO STORM-WATER MANAGEMENT CONTROLS AS REQUIRED BY WILLIAMSON COUNTY SUBDIVISION REGULATIONS, SECTION 811.1, ON NEW DEVELOPMENT THAT WOULD EVOKE SUCH CONTROLS BEYOND EXISTING CONDITIONS.
5. MAINTENANCE RESPONSIBILITY FOR DRAINAGE WILL NOT BE ACCEPTED BY THE COUNTY OTHER THAN THAT ACCEPTED IN CONNECTION WITH DRAINING OR PROTECTING THE ROAD SYSTEM. MAINTENANCE RESPONSIBILITY FOR STORM WATER MANAGEMENT CONTROLS WILL REMAIN WITH THE OWNER.
6. ANY PROPOSED DEVELOPMENT THAT OBSTRUCTS OR DIVERTS FLOW WITHIN A DRAINAGE EASEMENT MAY NOT BE PERMITTED AND IS AT THE DISCRETION OF THE FLOODPLAIN ADMINISTRATOR.

WATER AND WASTEWATER:

1. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTION IS MADE TO AN APPROVED PUBLIC SEWER SYSTEM.
2. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL WATER SATISFACTORY FOR HUMAN CONSUMPTION IS AVAILABLE FROM A SOURCE IN ADEQUATE AND SUFFICIENT SUPPLY.
3. WATER SERVICE IS PROVIDED BY: WILLIAMSON COUNTY MUD 19C/ GEORGETOWN UTILITY SYSTEMS
4. WASTEWATER SERVICE IS PROVIDED BY: WILLIAMSON COUNTY MUD 19C/CITY OF LIBERTY HILL
5. ELECTRIC SERVICE IS PROVIDED BY: PEC

ROADWAY AND RIGHT-OF-WAY:

1. IN APPROVING THIS PLAT BY THE COMMISSIONERS COURT OF WILLIAMSON COUNTY, TEXAS, IT IS UNDERSTOOD THAT THE BUILDING OF ALL ROADS, AND OTHER PUBLIC THOROUGHFARES AND ANY BRIDGES OR CULVERTS NECESSARY TO BE CONSTRUCTED OR PLACED IS THE RESPONSIBILITY OF THE OWNER(S) OF THE TRACT OF LAND COVERED BY THIS PLAT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS PRESCRIBED BY THE COMMISSIONERS COURT OF WILLIAMSON COUNTY, TEXAS. SAID COMMISSIONERS COURT ASSUMES NO OBLIGATION TO BUILD ANY OF THE ROADS, OR PUBLIC THOROUGHFARES SHOWN ON THIS PLAT, OR OF CONSTRUCTING ANY OF THE BRIDGES OR DRAINAGE IMPROVEMENTS IN CONNECTION THEREWITH. THE COUNTY WILL ASSUME NO RESPONSIBILITY FOR DRAINAGE WAYS OR EASEMENTS IN THE SUBDIVISION, OTHER THAN THOSE DRAINING OR PROTECTING THE ROAD SYSTEM.
2. SIDEWALKS SHALL BE MAINTAINED BY THE HOMEOWNERS' ASSOCIATION.
3. DRIVEWAY ACCESS TO LOTS WITHIN THIS SUBDIVISION FROM SIDE STREETS IS PROHIBITED.
4. IMPROVEMENTS WITHIN THE COUNTY ROAD RIGHT-OF-WAY INCLUDING, BUT NOT LIMITED TO LANDSCAPING, IRRIGATION, LIGHTING, CUSTOM SIGNS, ARE PROHIBITED WITHOUT FIRST OBTAINING AN EXECUTED LICENSE AGREEMENT WITH WILLIAMSON COUNTY.
5. NO CONSTRUCTION, PLANTING OR GRADING SHALL BE PERMITTED TO INTERFERE WITH SIGHT EASEMENTS BETWEEN THE HEIGHTS OF THREE AND EIGHT FEET AS MEASURED FROM THE CROWNS OF THE ADJACENT STREETS.
6. THE OWNER SHALL CREATE A MANDATORY HOMEOWNERS' ASSOCIATION THAT SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND LIABILITY OF ANY LANDSCAPING, IRRIGATION, SIDEWALKS, ILLUMINATION, SUBDIVISION IDENTIFICATION SIGNS, WATER QUALITY FEATURES, ETC. PLACED WITHIN THE WILLIAMSON COUNTY RIGHT-OF-WAY. THIS ASSOCIATION SHALL HAVE ASSESSMENT AUTHORITY TO ENSURE THE PROPER FUNDING FOR MAINTENANCE.
7. A PUBLIC UTILITY EASEMENT 10 FEET WIDE IS HEREBY DEDICATED ADJACENT TO ALL STREET RIGHT-OF-WAY.

SHEET NO. 6 OF 8

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5559\Survey\PLAT – SRR 2B-2

SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT

METES AND BOUNDS

BEING ALL OF A 58.109 ACRE TRACT OF LAND SITUATED IN THE GEORGE W. GLASSCOCK SURVEY, ABSTRACT NUMBER 417, AND THE WILLIAM W. SMITH SURVEY, ABSTRACT NUMBER 591, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF A CALLED 507.772 ACRE TRACT CONVEYED TO SRFV DEVELOPMENT, LLC. BY DEED RECORDED IN DOCUMENT NUMBER 2020153944, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND A PORTION OF A CALLED 124.093 ACRE TRACT OF LAND CONVEYED TO SANTA RITA KC, LLC. BY DEED RECORDED IN ______________, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, SAID 58.109 ACRE TRACT OF LAND BEING MORE FULLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, AT A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT THE NORTHEAST TERMINUS CORNER OF TOWER ROAD (120' R.O.W.), BEING ON THE SOUTH LINE OF LOT 34, BLOCK E, SANTA RITA RANCH PHASE 2A, SECTION 4 FINAL PLAT, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2022046570, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, SAME BEING AT THE BEGINNING OF A CURVE TO THE LEFT, FOR THE NORTHWEST CORNER AND THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT, AND WITH THE SOUTH AND EAST LINES OF SAID SANTA RITA RANCH PHASE 2A, SECTION 4, THE FOLLOWING FOUR (4) COURSES AND DISTANCES, NUMBERED 1 THROUGH 4,

1) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 940.00 FEET, AN ARC LENGTH OF 108.02 FEET, AND A CHORD THAT BEARS N71°24'25"E, A DISTANCE OF 107.96 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
2) N68°06'53"E, A DISTANCE OF 58.28 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
3) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 1,300.00 FEET, AN ARC LENGTH OF 151.28 FEET, AND A CHORD THAT BEARS N71°26'55"E, A DISTANCE OF 151.19 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, AND
4) N20°30'10"W, A DISTANCE OF 209.76 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "HAYNIE" ON THE EAST LINE OF SAID LOT 34, BEING ON THE SOUTH RIGHT-OF-WAY LINE OF OLD TOWER ROAD (80' R.O.W.), SAME BEING ON THE NORTH LINE OF SAID 507.772 ACRE TRACT, FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,

THENCE, WITH THE COMMON LINE OF SAID OLD TOWER ROAD AND SAID 507.772 ACRE TRACT OF LAND, THE FOLLOWING TWO (2) COURSES AND DISTANCES, NUMBERED 1 AND 2,

1) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 994.93 FEET, AN ARC LENGTH OF 288.53 FEET, AND A CHORD THAT BEARS S62°59'03"E, A DISTANCE OF 287.52 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, AND
2) S57°57'37"E, A DISTANCE OF 30.05 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "HAYNIE" FOR CORNER,

THENCE, N69°50'41"E, OVER AND ACROSS SAID OLD TOWER ROAD, PASSING AT A DISTANCE OF 170.06 FEET A 1/2 INCH IRON ROD FOUND ON THE NORTH LINE OF SAID OLD TOWER ROAD, BEING AT A CORNER ON THE NORTH LINE OF SAID 507.772 ACRE TRACT OF LAND, SAME BEING AT THE SOUTHWEST CORNER OF SAID 124.093 ACRE TRACT OF LAND, ALSO BEING AT THE SOUTH CORNER OF LOT 18, BLOCK A, GABRIEL'S RIDGE PHASE FOUR, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2012099358, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, AND CONTINUING WITH THE SOUTHEAST LINE OF SAID LOT 18, FOR A TOTAL DISTANCE OF 183.35 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,

THENCE, S71°19'17"E, OVER AND ACROSS SAID 124.093 ACRE TRACT OF LAND, A DISTANCE OF 2,487.82 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" AT A CORNER ON THE SOUTH LINE OF SAID 124.093 ACRE TRACT, FOR THE NORTHEAST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND,

THENCE, S18°40'43"W, PASSING A CORNER ON THE SOUTH LINE OF SAID 124.093 ACRE TRACT, AND OVER AND ACROSS SAID 507.772 ACRE TRACT OF LAND, A DISTANCE OF 171.13 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT OF LAND, THE FOLLOWING THIRTY-SIX (36) COURSES AND DISTANCES, NUMBERED 1 THROUGH 36,

1) S12°55'41"E, A DISTANCE OF 182.61 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
2) S15°04'37"W, A DISTANCE OF 243.54 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
3) S27°05'09"W, A DISTANCE OF 143.14 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
4) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 630.00 FEET, AN ARC LENGTH OF 102.31 FEET, AND A CHORD THAT BEARS S44°57'20"E, A DISTANCE OF 102.19 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
5) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 22.63 FEET, AND A CHORD THAT BEARS S83°31'33"E, A DISTANCE OF 20.54 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
6) S36°44'53"E, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
7) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 22.63 FEET, AND A CHORD THAT BEARS S10°01'47"W, A DISTANCE OF 20.54 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
8) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 630.00 FEET, AN ARC LENGTH OF 219.08 FEET, AND A CHORD THAT BEARS S23°13'50"E, A DISTANCE OF 217.97 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
9) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 25.08 FEET, AND A CHORD THAT BEARS S61°09'47"E, A DISTANCE OF 22.26 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
10) S19°03'27"E, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
11) S70°56'33"W, A DISTANCE OF 12.79 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
12) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 20.71 FEET, AND A CHORD THAT BEARS S31°23'22"W, A DISTANCE OF 19.10 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
13) S08°09'49"E, A DISTANCE OF 88.71 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
14) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 24.00 FEET, AN ARC LENGTH OF 26.52 FEET, AND A CHORD THAT BEARS S39°49'03"E, A DISTANCE OF 25.19 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
15) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 60.00 FEET, AN ARC LENGTH OF 99.27 FEET, AND A CHORD THAT BEARS S24°04'32"E, A DISTANCE OF 88.33 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
16) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 24.00 FEET, AN ARC LENGTH OF 25.94 FEET, AND A CHORD THAT BEARS S07°38'24"E, A DISTANCE OF 24.69 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
17) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 270.00 FEET, AN ARC LENGTH OF 145.92 FEET, AND A CHORD THAT BEARS S54°04'58"E, A DISTANCE OF 144.15 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
18) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 24.00 FEET, AND A CHORD THAT BEARS N64°35'23"E, A DISTANCE OF 21.52 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
19) N18°44'40"E, A DISTANCE OF 10.41 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
20) S71°15'20"E, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
21) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 27.88 FEET, AND A CHORD THAT BEARS S34°30'43"E, A DISTANCE OF 24.04 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
22) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 270.00 FEET, AN ARC LENGTH OF 13.63 FEET, AND A CHORD THAT BEARS S89°12'52"E, A DISTANCE OF 13.63 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
23) N89°20'21"E, A DISTANCE OF 103.07 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
24) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 330.00 FEET, AN ARC LENGTH OF 185.49 FEET, AND A CHORD THAT BEARS S74°33'29"E, A DISTANCE OF 183.06 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
25) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 19.74 FEET, AND A CHORD THAT BEARS N83°50'31"E, A DISTANCE OF 18.35 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
26) N46°08'21"E, A DISTANCE OF 11.06 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
27) S43°51'39"E, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
28) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.86 FEET, AND A CHORD THAT BEARS S00°33'49"W, A DISTANCE OF 21.43 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
29) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 330.00 FEET, AN ARC LENGTH OF 33.52 FEET, AND A CHORD THAT BEARS S42°06'08"E, A DISTANCE OF 33.50 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
30) S39°11'34"E, A DISTANCE OF 140.78 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
31) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 300.00 FEET, AN ARC LENGTH OF 51.29 FEET, AND A CHORD THAT BEARS S44°05'26"E, A DISTANCE OF 51.23 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
32) S27°27'12"W, A DISTANCE OF 430.97 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
33) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 305.00 FEET, AN ARC LENGTH OF 199.33 FEET, AND A CHORD THAT BEARS S46°10'33"W, A DISTANCE OF 195.80 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
34) S64°53'54"W, A DISTANCE OF 65.98 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
35) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 325.00 FEET, AN ARC LENGTH OF 169.15 FEET, AND A CHORD THAT BEARS S49°59'16"W, A DISTANCE OF 167.25 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
36) N54°55'21"W, A DISTANCE OF 233.70 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" ON THE SOUTHEAST LINE OF LOT 17, BLOCK A, SANTA RITA RANCH PHASE 1, SECTION 16, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2020159670, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, FOR CORNER,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT, AND ALONG THE SOUTHEAST, NORTHEAST AND NORTHWEST LINES OF SAID LOT 17, THE FOLLOWING FOUR(4) COURSES AND DISTANCES, NUMBERED 1 THOUGH 4,

1) N46°39'50"E, A DISTANCE OF 481.81 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
2) N51°29'37"W, A DISTANCE OF 700.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
3) S50°00'23"W, A DISTANCE OF 325.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
4) S81°00'20"W, A DISTANCE OF 399.99 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT THE NORTHWEST CORNER OF SAID LOT 17 FOR CORNER, BEING AT A CORNER ON THE EAST LINE OF LOT 35, BLOCK A, SANTA RITA RANCH PHASE 1, SECTION 14, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2021193618, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, FOR CORNER,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT, AND ALONG THE EAST LINE OF SAID LOT 35, THE FOLLOWING TWO (2) COURSES AND DISTANCES, NUMBERED 1 AND 2,

1) N26°00'38"W, A DISTANCE OF 924.73 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, AND
2) N89°59'49"W, A DISTANCE OF 270.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" ON THE NORTH LINE OF SAID LOT 35, BEING AT THE SOUTHEAST CORNER OF LOT 104, BLOCK L, SAID SANTA RITA RANCH PHASE 2B, SECTION 1, FOR CORNER,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT OF LAND, AND WITH THE EAST LINE OF SAID SANTA RITA RANCH PHASE 2B, SECTION 1, THE FOLLOWING FOUR (4) COURSES AND DISTANCES, NUMBERED 1 THROUGH 4,

1) N14°59'50"W, A DISTANCE OF 63.85 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
2) N11°12'27"W, A DISTANCE OF 137.06 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
3) N78°47'33"E, A DISTANCE OF 13.51 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, AND
4) N11°12'27"W, A DISTANCE OF 185.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT A CORNER ON THE EAST LINE OF LOT 30, BLOCK M, SAID SANTA RITA RANCH PHASE 2B, SECTION 1, FOR CORNER,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT OF LAND, THE FOLLOWING SEVEN (7) COURSES AND DISTANCES, NUMBERED 1 THROUGH 7,

1) N78°47'33"E, A DISTANCE OF 519.47 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
2) N33°47'58"E, A DISTANCE OF 573.80 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
3) N71°19'17"W, A DISTANCE OF 1,052.45 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
4) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.94 FEET, AND A CHORD THAT BEARS S62°57'11"W, A DISTANCE OF 21.48 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
5) N70°35'47"W, A DISTANCE OF 60.04 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
6) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.18 FEET, AND A CHORD THAT BEARS N27°02'49"W, A DISTANCE OF 20.94 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, AND
7) N71°19'17"W, PASSING THE NORTHEAST CORNER OF LOT 45, BLOCK F, SANTA RITA RANCH PHASE 2B, SECTION 1, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2024058645, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, AND CONTINUING WITH THE NORTH LINE OF SAID LOT 45, A TOTAL DISTANCE OF 350.36 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT OF LAND, AND WITH THE NORTH LINE OF SAID LOT 45 THE FOLLOWING TWO (2) COURSES AND DISTANCES, NUMBERED 1 AND 2,

1) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 1020.00 FEET, AN ARC LENGTH OF 604.92 FEET, AND A CHORD THAT BEARS N88°18'40"W, A DISTANCE OF 596.09 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
2) S74°41'57"W, A DISTANCE OF 381.15 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT THE NORTHEAST CORNER OF LOT 1, BLOCK F, SAID SANTA RITA RANCH PHASE 2B, SECTION 1, BEING AT THE SOUTH TERMINUS CORNER OF SAID TOWER ROAD, SAME BEING AT THE SOUTHEAST CORNER OF SAID SANTA RITA RANCH PHASE 2A, SECTION 4, FOR CORNER,

THENCE, N15°18'03"W, WITH THE TERMINUS LINE OF SAID TOWER ROAD, A DISTANCE OF 120.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 58.109 ACRES OF LAND.

SHEET NO. 7 OF 8

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5559\Survey\PLAT – SRR 2B-2

SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF WILLIAMSON §

I, JAMES EDWARD HORNE, VICE PRESIDENT, SRFV DEVELOPMENT, LLC, OWNER A CALLED 507.772 ACRE TRACT OF LAND CONVEYED IN DOCUMENT NUMBER 2020153944, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, AND THE OWNER OF A CALLED 124.093 ACRE TRACT OF LAND CONVEYED IN DOCUMENT NUMBER ______________, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, SITUATED IN THE GEORGE W. GLASSCOCK SURVEY, ABSTRACT NUMBER 266, AND THE WILLIAM W. SMITH SURVEY, ABSTRACT NUMBER 591, WILLIAMSON COUNTY, TEXAS, AND DO HEREBY SUBDIVIDE SAID TRACTS AS SHOWN HEREON, AND DO HEREBY CONSENT TO ALL PLAT NOTE REQUIREMENTS SHOWN HEREON, AND DO HEREBY FOREVER DEDICATE TO THE PUBLIC THE ROADS, ALLEYS, RIGHTS-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS WILLIAMSON COUNTY MAY DEEM APPROPRIATE. THIS SUBDIVISION IS TO BE KNOWN AS,

"SANTA RITA RANCH PHASE 2B, SECTION 2 FINAL PLAT"

TO CERTIFY WHICH, WITNESS BY MY HAND THIS ________ DAY OF ______________, 20___.

SRFV DEVELOPMENT, LLC.
A TEXAS LIMITED LIABILITY COMPANY

BY: ______________________
JAMES EDWARD HORNE, VICE PRESIDENT
1700 CROSS CREEK LANE, STE. 100
LIBERTY HILL, TX 78642

STATE OF TEXAS §

COUNTY OF WILLIAMSON §

BEFORE ME THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED JAMES EDWARD HORNE, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT OF WRITING, AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

WITNESS MY HAND AND SEAL OF OFFICE, THIS THE _______ DAY OF ______________, 20___ A.D.

____
NOTARY PUBLIC IN AND FOR WILLIAMSON COUNTY, TEXAS

SANTA RITA KC, LLC.
A TEXAS LIMITED LIABILITY COMPANY

BY: ______________________
JAMES EDWARD HORNE, VICE PRESIDENT
1700 CROSS CREEK LANE, STE. 100
LIBERTY HILL, TX 78642

STATE OF TEXAS §

COUNTY OF WILLIAMSON §

BEFORE ME THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED JAMES EDWARD HORNE, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT OF WRITING, AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

WITNESS MY HAND AND SEAL OF OFFICE, THIS THE _______ DAY OF ______________, 20___ A.D.

____
NOTARY PUBLIC IN AND FOR WILLIAMSON COUNTY, TEXAS

CONSENT OF MORTGAGEE

THE UNDERSIGNED, BEING THE HOLDER OF TWO DEEDS OF TRUST LIENS SECURED BY THE PROPERTY, THE FIRST DATED OCTOBER 31, 2013 RECORDED AS DOCUMENT NO. 2013103003 IN THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, SECURING A NOTE OF EVEN DATE THEREWITH, AND THE SECOND DATED JANUARY 31, 2018 RECORDED AS DOCUMENT NO. 2018009177, SECURING A NOTE OF EVEN DATE THEREWITH, EXECUTES THIS DECLARATION SOLELY FOR THE PURPOSES OF EVIDENCING ITS CONSENT TO THE TERMS AND PROVISIONS HEREOF.

INTERNATIONAL BANK OF COMMERCE,
A TEXAS BANKING ASSOCIATION

BY: ______________________

PRINTED NAME: ______________________

TITLE: ______________________

STATE OF TEXAS
COUNTY OF ______________

BEFORE ME ON THIS DAY PERSONALLY APPEARED ______________________, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS THE _______ DAY OF ______________, 20___, A.D.

BY: ______________________
NOTARY PUBLIC, STATE OF TEXAS

PRINTED NAME: ______________________

MY COMMISSION EXPIRES: ______________

CITY OF LIBERTY HILL APPROVAL

THE CITY OF LIBERTY HILL, TEXAS ACKNOWLEDGES RECEIPT OF THIS PLAT FOR REVIEW AND/OR APPROVAL IN CONJUNCTION WIH PLANNING PURPOSES AND PAYMENT OF APPLICABLE FEES FOR THE PROVISION OF WATER AND/OR WASTEWATER SERVICES.

______________________ ______________
PAUL BRANDENBURG, CITY MANAGER DATE
CITY OF LIBERTY HILL, TEXAS

ROAD NAME & 911 ADDRESSING APPROVAL

ROAD NAME AND ADDRESS ASSIGNMENTS VERIFIED THIS THE _____ DAY OF ______________, 20___ A.D.

____
WILLIAMSON COUNTY ADDRESSING COORDINATOR
WILLIAMSON COUNTY, TEXAS

PRINTED NAME: ______________________

STATE OF TEXAS §

COUNTY OF TRAVIS §

NO PORTION OF THIS TRACT IS WITHIN THE 100 YEAR FLOOD PLAIN AS SHOWN ON FLOOD INSURANCE RATE COMMUNITY PANEL #48491C0275E, EFFECTIVE SEPTEMBER 26, 2008 FOR WILLIAMSON COUNTY, TEXAS.

I, STEVEN P. CATES, P.E., AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS, TO PRACTICE THE PROFESSION OF ENGINEERING, AND HEREBY CERTIFY THAT THIS SUBDIVISION PLAT COMPLIES WITH THE REQUIREMENTS OF WILLIAMSON COUNTY.

ENGINEERING BY: ______________________ DATE
STEVEN P. CATES, P.E. NO. 93648
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE,
AUSTIN, TEXAS 78749

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED
PROFESSIONAL ENGINEER

CARLSON, BRIGANCE, & DOERING, INC.
ID # F3791

THIS FLOOD STATEMENT, AS DETERMINED BY A H.U.D.-F.I.A. FLOOD INSURANCE RATE MAP, DOES NOT IMPLY THAT THE PROPERTY OR THE IMPROVEMENTS THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. ON RARE OCCASIONS, GREATER FLOODS CAN AND WILL OCCUR, AND FLOOD HEIGHTS MAY INCREASE BY MAN-MADE OR NATURAL CAUSES.

THIS STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF ENGINEER OR SURVEYOR.

STATE OF TEXAS §

COUNTY OF TRAVIS §

I, AARON V. THOMASON, R.P.L.S., AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS, TO PRACTICE THE PROFESSION OF SURVEYING, AND HEREBY CERTIFY THAT THIS SUBDIVISION PLAT COMPLIES WITH THE WILLIAMSON COUNTY SUBDIVISION ORDINANCE. ALL EASEMENTS OF RECORD ARE SHOWN OR NOTED ON THE PLAT AS FOUND ON THE TITLE POLICY ISSUED BY TITLE RESOURCES GUARANTY COMPANY, GF NO. 2010289-COM, EFFECTIVE DATE JUNE 10, 2020, ISSUED DATE JUNE 19, 2020.

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. FOR REVIEW PURPOSES ONLY. RELEASED DECEMBER 10, 2024

SURVEYED BY: ______________________ DATE
AARON V. THOMASON, R.P.L.S. NO. 6214
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE,
AUSTIN, TEXAS 78749
AARON@CBDENG.COM

STATE OF TEXAS
REGISTERED
JOHN DAVID KIPP
5844
PROFESSIONAL LAND SURVEYOR

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF WILLIAMSON §

I, BILL GRAVELL JR., COUNTY JUDGE OF WILLIAMSON COUNTY, TEXAS, DO HEREBY CERTIFY THAT THIS MAP OR PLAT, WITH FIELD NOTES HEREON, FOR A SUBDIVISION HAVING BEEN FULLY PRESENTED TO THE COMMISSIONERS COURT OF WILLIAMSON COUNTY, TEXAS, AND BY THE SAID COURT DULY CONSIDERED, WERE ON THIS DAY APPROVED AND THAT THIS PLAT IS AUTHORIZED TO BE REGISTERED AND RECORDED IN THE PROPER RECORDS OF THE COUNTY CLERK OF WILLIAMSON COUNTY, TEXAS.

______________________ ______________
BILL GRAVELL JR., COUNTY JUDGE DATE
WILLIAMSON COUNTY, TEXAS

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF WILLIAMSON §

I, NANCY RISTER, CLERK OF THE COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IN WRITING, WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE ON THE _____ DAY OF ______________, 20___ A.D., AT _______ O'CLOCK, _____M., AND DULY RECORDED THIS THE_____ DAY OF ______________, 20___ A.D., AT _______ O'CLOCK, _____M. IN THE OFFICIAL PUBLIC RECORDS OF SAID COUNTY IN INSTRUMENT NO. ______________.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT THE COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GEORGETOWN, TEXAS, THE DATE LAST SHOWN ABOVE WRITTEN.

NANCY RISTER, CLERK COUNTY COURT
OF WILLIAMSON COUNTY, TEXAS

BY: ______________________, DEPUTY

PRINTED NAME: ______________________

SHEET NO. 8 OF 8

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5559\Survey\PLAT – SRR 2B-2

CONCRETE WASHOUT
SEE DETAIL SHEET 10

CONTRACTOR STAGING
AND TEMPORARY
SPOILS AREA

ROCK
BERM

INLET
PROTECTION
(TYP.)

STABILIZED
CONSTRUCTION
ENTRANCE
(50'L x 20'W)
SEE DETAIL SHEET 10

TEMPORARY
SEDIMENT BASIN
SEE SHEET 74

CONCRETE WASHOUT
SEE DETAIL SHEET 10

CONTRACTOR STAGING
AND TEMPORARY
SPOILS AREA

INSTALL TEMPORARY
ORANGE CONSTRUCTION
FENCING AND SILK FENCE
ALONG BUFFER ZONE

TCEQ BUFFER
ZONE

STABILIZED
CONSTRUCTION
ENTRANCE
(50'L x 20'W)
SEE DETAIL SHEET 10

LOC AND SILT FENCE AT
PROPERTY LINE. LINES
ARE SHOWN OFFSET FOR
GRAPHICAL PURPOSE ONLY

INLET
PROTECTION
(TYP.)

INLET
PROTECTION
(TYP.)

FUTURE
SANTA RITA RANCH
PHASE 2B SECTION 3

FUTURE
SANTA RITA RANCH
PHASE 2C SECTION 1

40
O.S., L.S.E., D.E.
& P.U.E.

152
O.S., L.S.E., D.E.
& P.U.E.

BARCELLUS BEND
TOWER ROAD
LA CRESTA PASS
COW CAMP LANE
PIONEER HILLS BEND
LA COLINA BEND
AMADOR COURT
HUNTLEY
DRIVE

MATCH LINE SEE NEXT SHEET FOR CONTINUATION

*ALL AREAS DISTURBED OUTSIDE OF THE SINGLE FAMILY LOTS ARE REQUIRED TO BE REVEGETATED BY THE CONTRACTOR

SCALE: 1" = 60'

LEGEND

- SF — SILT FENCE
- JH — SILT FENCE J-HOOK
- LOC — LIMITS OF CONSTRUCTION
- TEMPORARY ORANGE CONSTRUCTION FENCING
- IP — INLET PROTECTION
- RB — ROCK BERM
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- DIVERSION BERM
- SEEDING & TOPSOIL (PERMANENT) WITHIN THE ROW ONLY
- ROLLED EROSION CONTROL MATTING, SEEDING & TOPSOIL (PERMANENT) FOR SLOPES 5:1 & STEEPER
- SEEDING & TOPSOIL (PERMANENT) FOR EASEMENTS, OPEN SPACE LOTS, AND VEGETATIVE FILTER STRIPS ON ALL SLOPES FLATTER THAN 5:1
- IMPERMEABLE FABRIC CHANNEL LINING

DESIGNED BY: SPC
DRAFTED BY: CEI

DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
Phone No. (512) 280-5160 Fax No. (512) 280-5165
Main Office
5501 West William Cannon Dr.
Austin, Texas 78749

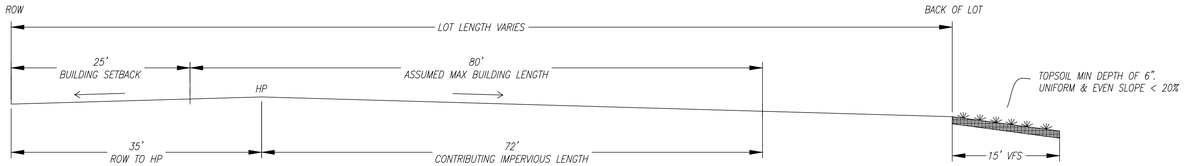
SHEET NAME: EROSION CONTROL PLAN (1 OF 2)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
5-21-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 8 OF 75
SHEET NO.: 8

FILE PATH:J:\ACAD\5555\dwg\5555-EROSION.dwg - May 20, 2025 - 3:43pm

Engineered Vegetative Filter Strip Detail



Notes:

The filter strip should extend along the entire length of the contributing area an the slope should not exceed 20%. The minimum dimension of the filter strip (in the direction of flow) should be no less than 15 feet. The maximum width (in the direction of flow) of the contributing impervious area should not exceed 72 feet.

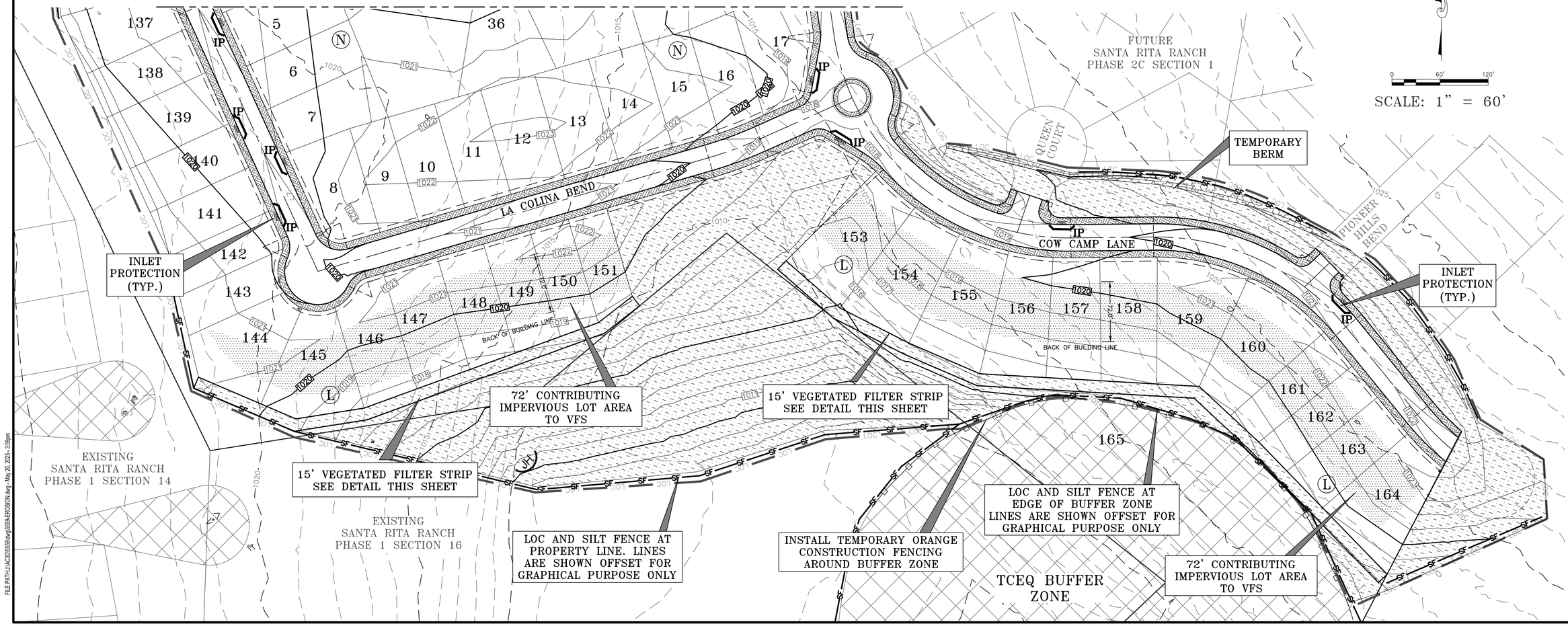
1. The minimum vegetated cover for engineered strip is 80%.
2. The area contributing runoff to a filter strip should be relatively flat so that the runoff is distributed evenly to the vegetated area without the use of a level spreader.
3. The area to be used for the strip should be free of gullies or rills that can concentrate overland flow.
4. The top edge of the filter strip along the pavement will be designed to avoid the situation where runoff would travel along the top of the filter, rather than through it.
5. Top edge of the filter strip should be level, otherwise runoff will tend to form a channel in the low spot. A level spreader should not be used to distribute runoff to an engineering filter strip.
6. Filter strips should be landscaped after other potions of the project are completed.

LEGEND

- SF — SILT FENCE
- JH — SILT FENCE J-HOOK
- LOC — LIMITS OF CONSTRUCTION
- TEMPORARY ORANGE CONSTRUCTION FENCING
- IP — INLET PROTECTION
- RB — ROCK BERM
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- DIVERSION BERM
- SEEDING & TOPSOIL (PERMANENT) WITHIN THE ROW ONLY
- ROLLED EROSION CONTROL MATTING, SEEDING & TOPSOIL (PERMANENT) FOR SLOPES 5:1 & STEEPER
- SEEDING & TOPSOIL (PERMANENT) FOR EASEMENTS, OPEN SPACE LOTS, AND VEGETATIVE FILTER STRIPS ON ALL SLOPES FLATTER THAN 5:1

*ALL AREAS DISTURBED OUTSIDE OF THE SINGLE FAMILY LOTS ARE REQUIRED TO BE REVEGETATED BY THE CONTRACTOR

MATCH LINE SEE PREVIOUS SHEET FORCONTINUATION



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DESIGNED BY: SPC
DRAFTED BY: CEL

DATE
REVISION

Carlson, Brigance & Doering, Inc.
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North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
Fax No. (512) 280-5165

SHEET NAME: EROSION CONTROL PLAN (2 OF 2)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
5-21-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 9 OF 75
SHEET NO.: 9

Specifications

Western Excelsior manufactures a full line of Rolled Erosion Control Products (RECPs). Excel SS-2 temporary Erosion Control Blanket is composed of a 100% certified weed free agricultural straw matrix mechanically (stitch) bound on two inch centers between two photodegradable, synthetic nets. Excel SS-2 is intended for use in channels or on slopes requiring erosion protection for a period up to twelve months. Actual field longevity is dependent on soil and climatic conditions.

Each roll of EXCEL SS-2 is made in the USA and manufactured under Western Excelsior's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness. Typical manufactured properites are provided in Table 1 and product characteristics are provided in Table 2.

Table 1 - Specified Expected Values

Tested Property	Test Method	Value
Tensile Strength (MD) x (TD)	ASTM D6818	10.0 lb/in (1.8 kN/m) x 6.2 lb/in (1.1 kN/m)
Elongation (MD) x (TD)	ASTM D6818	20 % x 26 %
Mass Per Unit Area	ASTM D6475	8.0 oz/yd^2 (271 g/m^2)
Thickness	ASTM D6525	0.28 in (7 mm)
Light Penetration	ASTM D6567	22 % open
Water Absorption	ASTM D1117	450 %

Table 2 - Netting

Top Net Type	Synthetic, Photodegradable
Bottom Net Type	Synthetic, Photodegradable
Top Net Opening Dimensions	0.5 in (13 mm) x 0.5 in (13 mm)
Bottom Net Opening Dimensions	0.5 in (13 mm) x 0.5 in (13 mm)

Excel SS-2 is available in multiple roll sizes ranging in width from 8.0 ft to 16.0 ft. and 112.5 ft to 600 ft in length. Standard roll sizes are 100 square yards, measuring 8.0 ft wide by 112.5 ft long. Custom roll sizes are available upon request.

Document # WE_DICD_SS2_SPEC. This document has been developed to provide the characteristic properties of the product described. For questions, to request performance data or installation recommendations, contact Western Excelsior at 866-540-9810 or wexcotech@westernexcelsior.com. Updated 4/14/2014.

I. PERMANENT EROSION CONTROL:

1. All disturbed areas outside of the single family lots shall be revegetated as noted below.
2. All revegetated areas require a minimum of four (4) inches of topsoil be placed prior to revegetation. Do not add topsoil within the critical root zone of existing trees.
3. All revegetated areas are required to be watered immediately after installation to achieve germination and a healthy stand of plants that can ultimately survive without supplemental water. Apply the water uniformly to the planted areas without causing displacement or erosion of the materials or soil. Maintain the seedbed in a moist condition favorable for grass growth. A temporary sprinkler system must be installed in areas not accessible to a water truck. The sprinkler system must remain in place until acceptable grass growth per #4 below is established.
4. Permanent erosion control shall be acceptable when the grass has grown at least 1½ inches high with a minimum of 95 percent with no bare spots larger than 10 square feet.

II. VEGETATIVE STABILIZATION:

1. Seed Mix:
   a) Seed mix shall be ordered from Native American Seed - 10101 FM 1102 New Braunfels, TX 78130 – (800) 728-4043
   b) Dam Slope Mix Item #2808MIX 31222 (see mix below). You must submit to the engineer (via email at steve@cbdeng.com), a receipt showing total pounds purchased is equal to the seed rate multiplied by the total square footage of area to be revegetated. The dam slope mix seed rate is 2 lbs. per 1000 sq.ft. for Hydromulch.

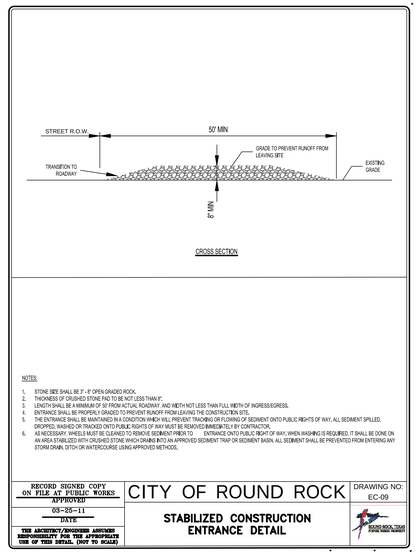
Name	% by wt	Test Date	Germination	Dormant	Total Germ
Prairie Wildrye	16.70%	8/2022	15%	70%	85%
Virginia Wildrye	14.32%	8/2022	7%	85%	92%
Sideoats Grama	11.93%	8/2022	54%	14%	68%
Big Bluestem	11.93%	7/2022	97%	2%	99%
Tall Dropseed	8.95%	11/2022	31%	51%	82%
Indiangrass	5.97%	7/2022	51%	47%	98%
Purity: 85.18%	Inert: 14.81%	Other: 0.01%	Weed: 0%	Noxious: None	**Origin: USA**
Germ: 39.47%	Dormant: 45.22%	Ttl Germ: 84.69%	PLS: 72.14%	Seeds/lb: 264,245	**Net Weight: 50 Lbs**

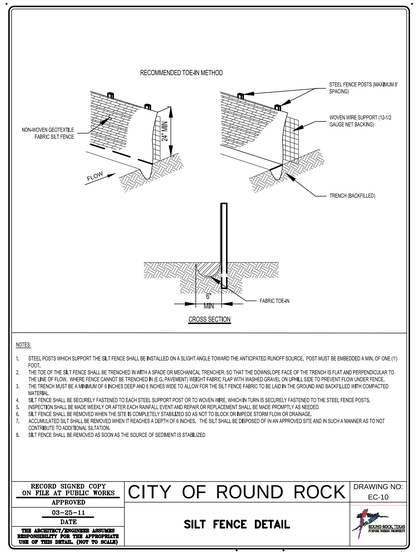
Little Bluestem 4.89%, Blue Grama 4.89%, Little Bluestem - Pineywoods 4.89%, Buffalograss 2.98%, Western Wheatgrass 2.98%, Switchgrass 1.79%, Eastern Gamagrass 1.12%, Sand Lovegrass 1.01%, Cane Bluestem 0.89%, Sand Dropseed 0.89%, Curly Mesquite 0.36%, Texas Cupgrass 0.18%, Slender Grama 0.030%

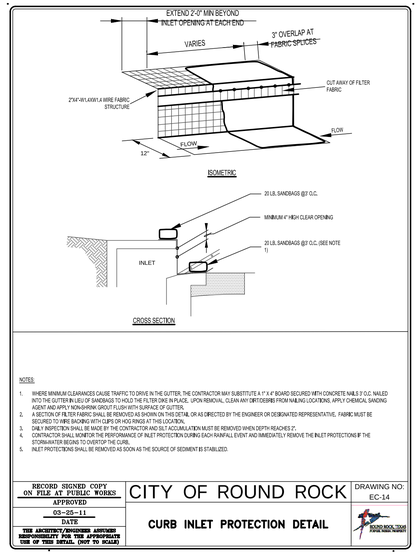
2. Revegetation between September 15th to March 1st:
   a) Add Cereal Rye Grain to Dam Slope Mix. You must submit to the engineer (via email at steve@cbdeng.com), a receipt showing total pounds purchased is equal to the seed rate multiplied by the total square footage of area to be revegetated. The cereal rye grain seed rate is 10 lbs. per 1000 sq.ft. for Hydromulch.
   b) Hydromulch shall comply with Table 1, below.

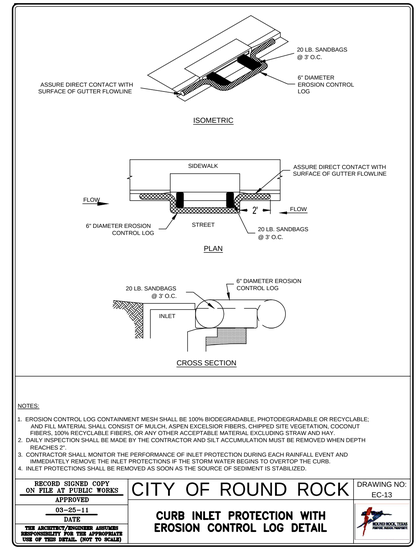
Material	Description	Longevity	Typical Applications	Application Rates
Bonded Fiber Matrix (BFM)	80% Organic defibrated fibers			
10% Tackifier		6 months	On slopes up to 2:1 and erosive soil conditions	2,500 to 4,000 lbs per acre (see manufacturers recommendations)
Fiber Reinforced Matrix (FRM)	65% Organic defibrated fibers 25% Reinforcing Fibers or less 10% Tackifier	Up to 12 months	On slopes up to 1:1 and erosive soil conditions	3,000 to 4,500 lbs per acre (see manufacturers recommendations)

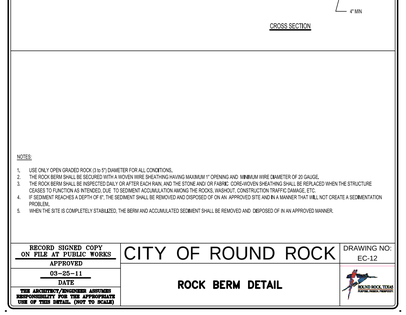
1. Erosion Control Matting:
   a) Erosion control matting shall be installed within areas delineated on the Erosion Control Plan. Matting shall be EXCEL SS-2 per the specification on this sheet.

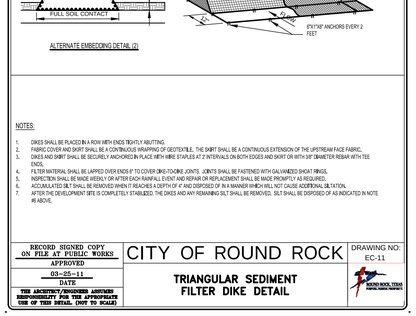


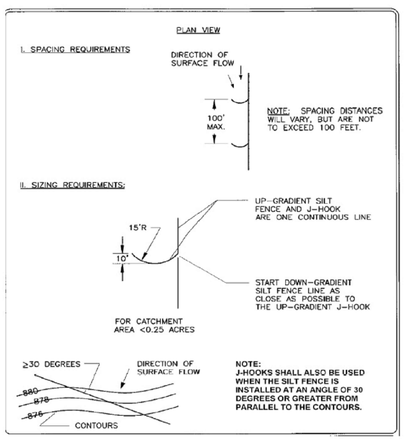


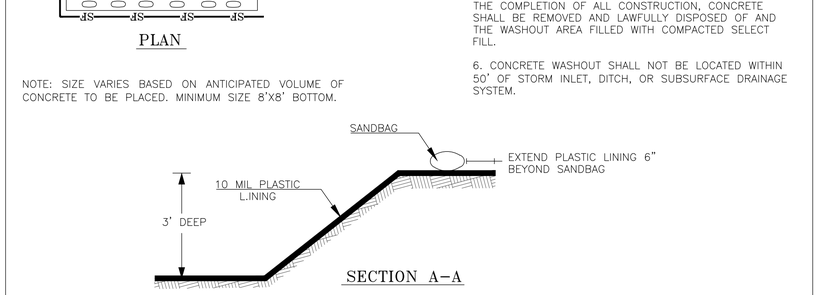












CONCRETE WASHOUT AREA NOTES:

1. WASHOUT SHALL BE INSTALLED PRIOR TO PLACING ANY CONCRETE ON-SITE.
2. INSTALL DIRECTIONAL SIGNS AS NECESSARY TO INDICATE WASHOUT LOCATION TO CONCRETE SUPPLY VEHICLES.
3. WASHOUT SHALL BE INSPECTED WEEKLY AND AFTER RAIN EVENTS IN ACCORDANCE WITH SWPPP.
4. CONTRACTOR TO MAINTAIN, REPAIR, ENLARGE OR RELOCATE WASHOUT AS NECESSARY TO MEET PROJECT REQUIREMENTS.
5. WHEN NECESSARY DURING CONSTRUCTION, OR AT THE COMPLETION OF ALL CONSTRUCTION, CONCRETE SHALL BE REMOVED AND LAWFULLY DISPOSED OF AND THE WASHOUT AREA FILLED WITH COMPACTED SELECT FILL.
6. CONCRETE WASHOUT SHALL NOT BE LOCATED WITHIN 50' OF STORM INLET, DITCH, OR SUBSURFACE DRAINAGE SYSTEM.

CONCRETE WASHOUT DETAIL
N.T.S

DESIGNED BY: SPC | DRAFTED BY: CEL

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
5501 West William Cannon Dr. 78749 | North Office 12129 RR 620 N. Suite 600 Austin, Texas 78750
Phone No. (512) 280-5160 | Fax No. (512) 280-5165
FIRM ID #F3791

SHEET NAME: EROSION CONTROL NOTES & DETAILS
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
12-20-2024

DATE: DEC 2024
JOB NUMBER: 5559
SHEET: 9 OF 70
SHEET NO.: 9

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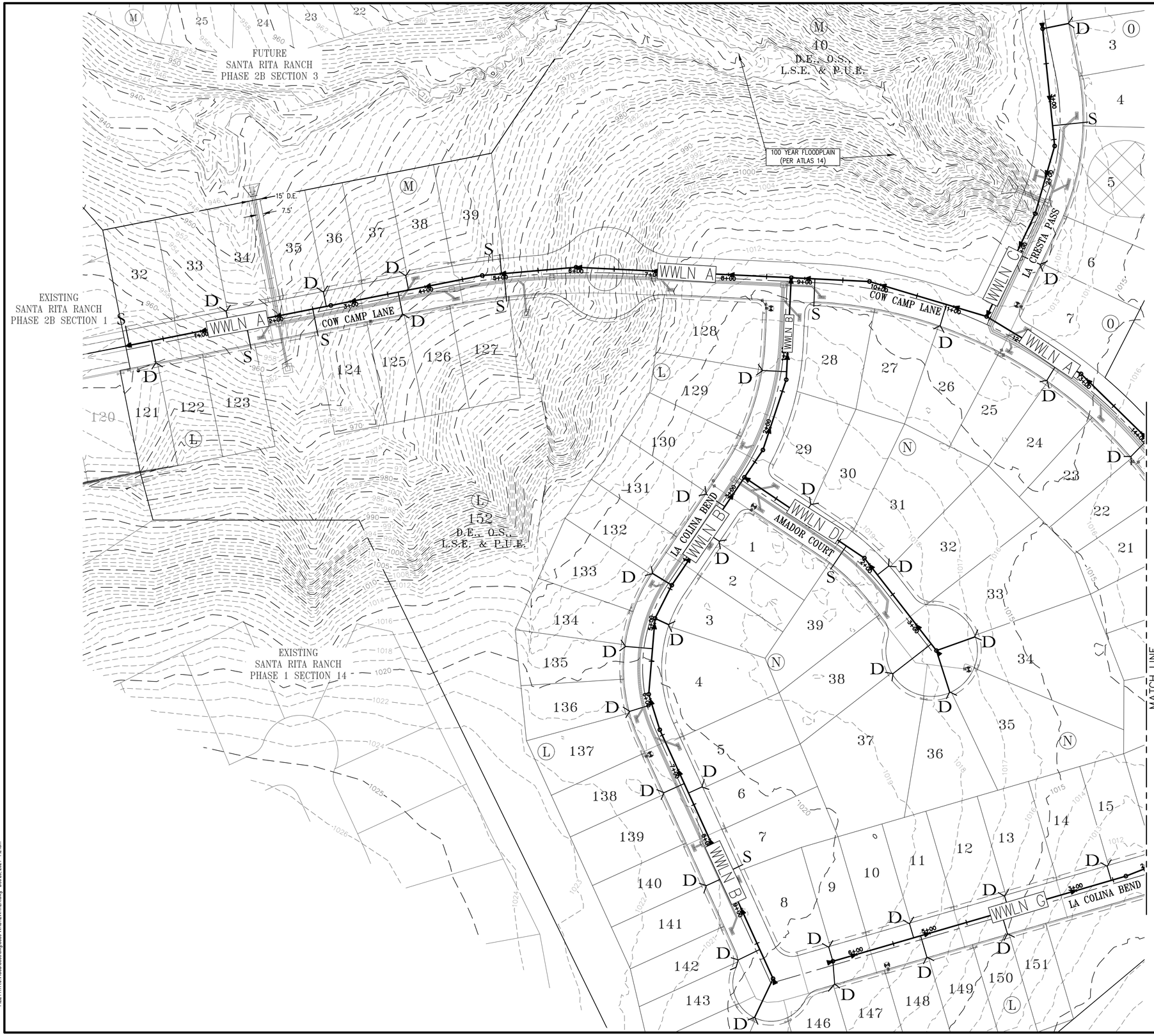

WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

0 60' 120'

SCALE: 1" = 60'

WASTEWATER NOTES

1. ALL STREETS ARE TO BE BUILT TO SUB-GRADE PRIOR TO UTILITY INSTALLATION.
2. PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 150), SDR26. HIGHER PRESSURE RATED (160 PSI). OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). PIPE MATRIAL FOR GRAVITY WASTEWATER MAINS SHALL BE SDR26 PVC, PVC (ASTM D2241 OR D3034, MAX. DR-26), DUCTILE IRON (AWWA C-100, MIN. CLASS 200).
3. UNLESS OTHERWISE ACCEPTED BY THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT, MINIMUM DEPTH OF COVER FOR ALL LINES OUTSIDE OF THE PAVED AREAS SHALL BE 42" BELOW FINISHED GRADE AND 30" BELOW SUBGRADE FOR ALL LINES LOCATED IN PAVED AREAS.
4. THE CONTRACTOR SHALL CONTACT THE CITY OF LIBERTY HILL INSPECTOR @ 512-778-5449 TO COORDINATE UTILITY TIE-INS AND NOTIFY HIM AT LEAST 48 HOURS PRIOR TO CONNECTING EXISTING LINES.
5. CONTRACTOR SHALL FIELD LOCATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ANY PROPOSED CITY OF LIBERTY HILL UTILITY CONNECTION PRIOR TO CONSTRUCTION. NO CONNECTION OR MODIFICATION TO AN EXISTING CITY OF LIBERTY HILL UTILITY SHALL BE MADE WITHOUT THE PRESENCE OF A CITY OF LIBERTY HILL REPRESENTATIVE.
6. ALL MANHOLES TO HAVE 0.1' DROP ACROSS MANHOLE.
7. ALL MANHOLES ARE 48" DIA. MANHOLE, UNLESS NOTED OTHERWISE.
8. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS AND GASKETED COVERS AND HAVE RIM ELEVATIONS 6" MIN. ABOVE FINISHED GRADE. TAPPING OF FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.
9. FOR ALL MANHOLES SHOWING RESIDENTIAL CONNECTIONS, NO CORING OF MANHOLE SHALL BE ALLOWED TO MAKE THESE CONNECTIONS. MANHOLES SHALL BE ORDERED AND DELIVERED WITH THE CONNECTIONS AND INVERTS SHOWN ON THE PLANS.
10. ALL MANHOLES SHALL BE LINED WITH RAVEN LINING SYSTEMS RAVEN 405 OR APPROVED EQUAL.
11. ALL WASTEWATER SERVICES MUST HAVE 2' MINIMUM SEPARATION FROM WATER LINES.
12. THE CONTRACTOR, AT CONTRACTOR'S EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GUAGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY THE CITY OF LIBERTY HILL PERSONNEL.
13. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF LIBERTY HILL INSPECTOR AND PROVIDE NO LESS THAN 24 HOURS NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING, OR PRESSURE TESTING.
14. CONTACT THE CITY OF LIBERTY HILL WATER & WASTEWATER SUPERINTENDENT @ 512-778-5449 FOR ASSISTANCE IN OBTAINING EXISTING WASTEWATER LOCATIONS.
15. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ATSM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

SIEVE SIZE BY WEIGHT	PERCENT RETAINED
2"	0
3/8"	0-2
#4	40-85
#10	95-100

16. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTION TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12AM AND 6AM.
17. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 317, AS APPLICABLE. WHENEVER TCEQ AND CITY OF LIBERTY HILL SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.
18. ALL WASTEWATER SERVICE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:
    - WASTEWATER SERVICE – "S" ON TOP OF CURB
    - TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SHALL BE SPECIFIED BY THE DESIGN ENGINEER AND APPROVED BY THE CITY OF ROUND ROCK.
19. TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE AND VALVE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE DESIGN ENGINEER AND APPROVED BY THE CITY OF ROUND ROCK.
20. FRANCHISE UTILITY NOTE; OTHER UTILITIES SUCH AS GAS, ELECTRIC, TELEPHONE, CABLE, ETC. MAY SHARE THE WASTEWATER SERVICE LINE TRENCH PROVIDED SUCH UTILITIES ARE OFFSET A MINIMUM OF 5' FROM THE WASTEWATER SERVICE LINE.

DESIGNED BY: SPC | DRAFTED BY: CEJ

DATE | REVISION

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121 2RR SUITE 600
Austin, Texas 78750

SHEET NAME: OVERALL WASTEWATER PLAN (1 OF 2)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
@ F3791
12-20-2024

DATE: DEC 2024
JOB NUMBER: 5559
SHEET: 55 OF 70
SHEET NO.: 55

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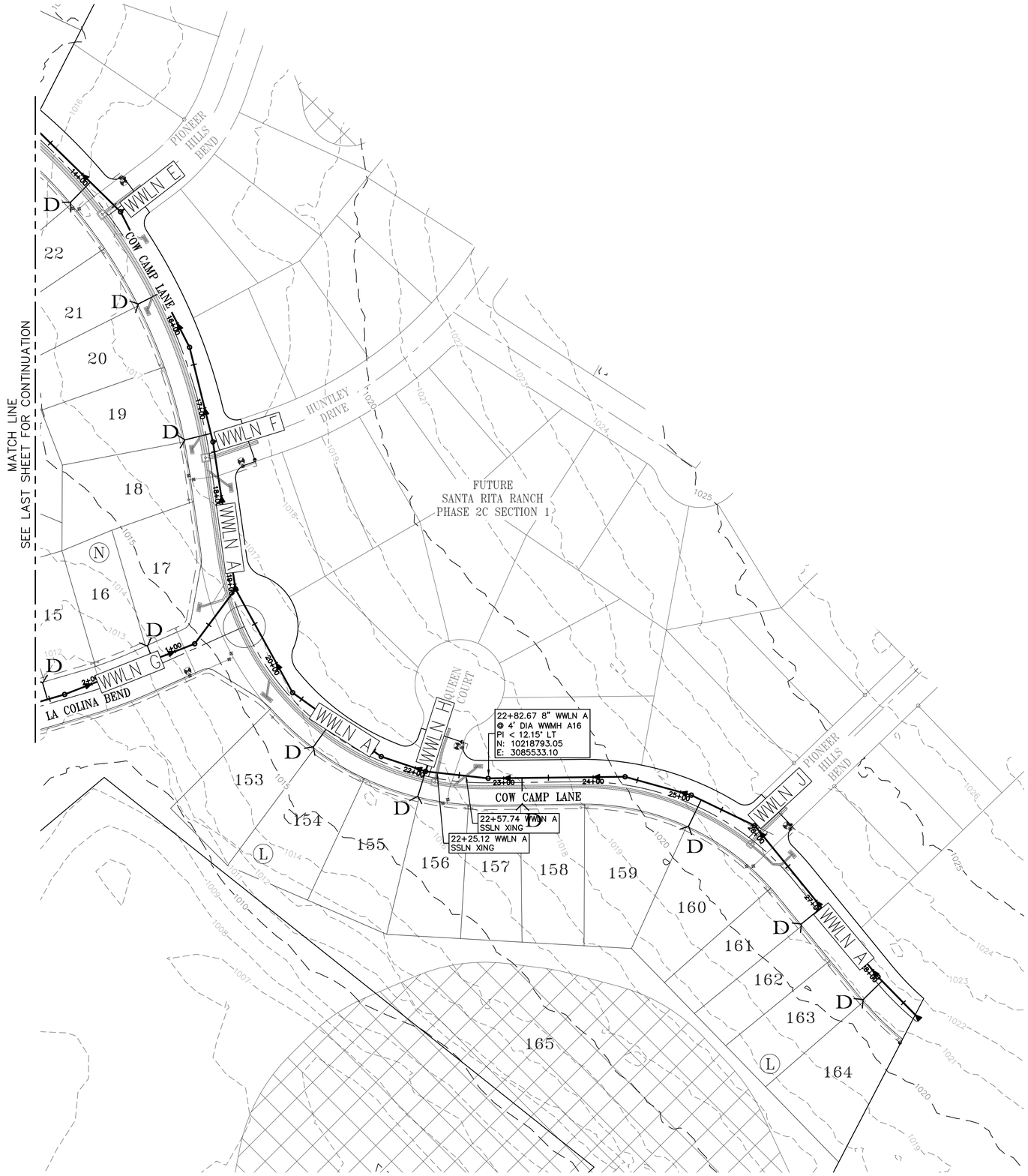

WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
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- FLOW DIRECTION ARROW

WASTEWATER NOTES

1. ALL STREETS ARE TO BE BUILT TO SUB-GRADE PRIOR TO UTILITY INSTALLATION.
2. PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 150), SDR26. HIGHER PRESSURE RATED (160 PSI). OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). PIPE MATRIAL FOR GRAVITY WASTEWATER MAINS SHALL BE SDR26 PVC, PVC (ASTM D2241 OR D3034, MAX. DR-26), DUCTILE IRON (AWWA C-100, MIN. CLASS 200).
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4. THE CONTRACTOR SHALL CONTACT THE CITY OF LIBERTY HILL INSPECTOR @ 512-778-5449 TO COORDINATE UTILITY TIE-INS AND NOTIFY HIM AT LEAST 48 HOURS PRIOR TO CONNECTING EXISTING LINES.
5. CONTRACTOR SHALL FIELD LOCATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ANY PROPOSED CITY OF LIBERTY HILL UTILITY CONNECTION PRIOR TO CONSTRUCTION. NO CONNECTION OR MODIFICATION TO AN EXISTING CITY OF LIBERTY HILL UTILITY SHALL BE MADE WITHOUT THE PRESENCE OF A CITY OF LIBERTY HILL REPRESENTATIVE.
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12. THE CONTRACTOR, AT CONTRACTOR'S EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GUAGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY THE CITY OF LIBERTY HILL PERSONNEL.
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SIEVE SIZE BY WEIGHT	PERCENT RETAINED
1"	0
⅜"	0-2
#4	40-85
#10	95-100

16. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTION TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12AM AND 6AM.
17. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 317, AS APPLICABLE. WHENEVER TCEQ AND CITY OF LIBERTY HILL SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.
18. ALL WASTEWATER SERVICE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:
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DESIGNED BY:	DRAFTED BY:
SPC	CEL

DATE

REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office
5501 West William Cannon Dr. 78749
Austin, Texas 78749
Phone No. (512) 280-5160
North Office
1212RR 620 N. Ste. 600
Austin, Texas 78750
Fax No. (512) 280-5165

SHEET NAME: OVERALL WASTEWATER PLAN (2 OF 2)

JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

12-20-2024

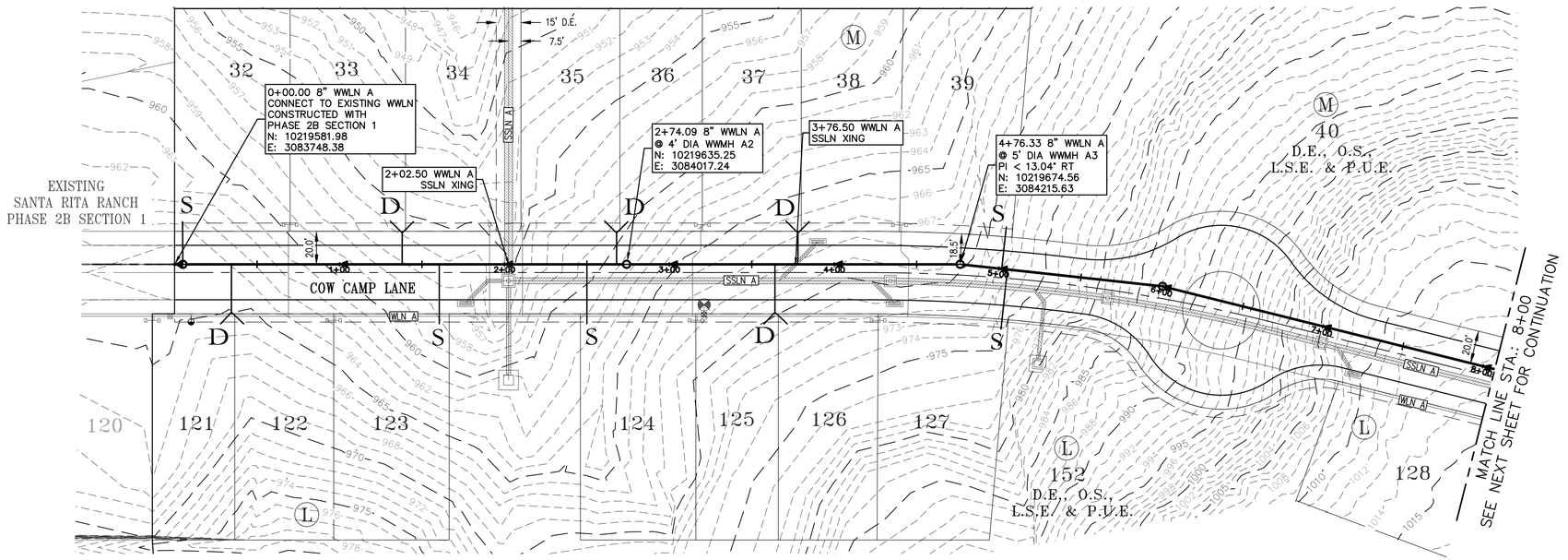
DATE: DEC 2024

JOB NUMBER: 5559

SHEET: 56 OF 70

SHEET NO.: 56

FILE PATH: J:\ACD\5559\dwg\5559-WASTEWATER.dwg - Dec 23, 2024 - 7:25am



SCALE: 1" = 40'

WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

WASTEWATER NOTES

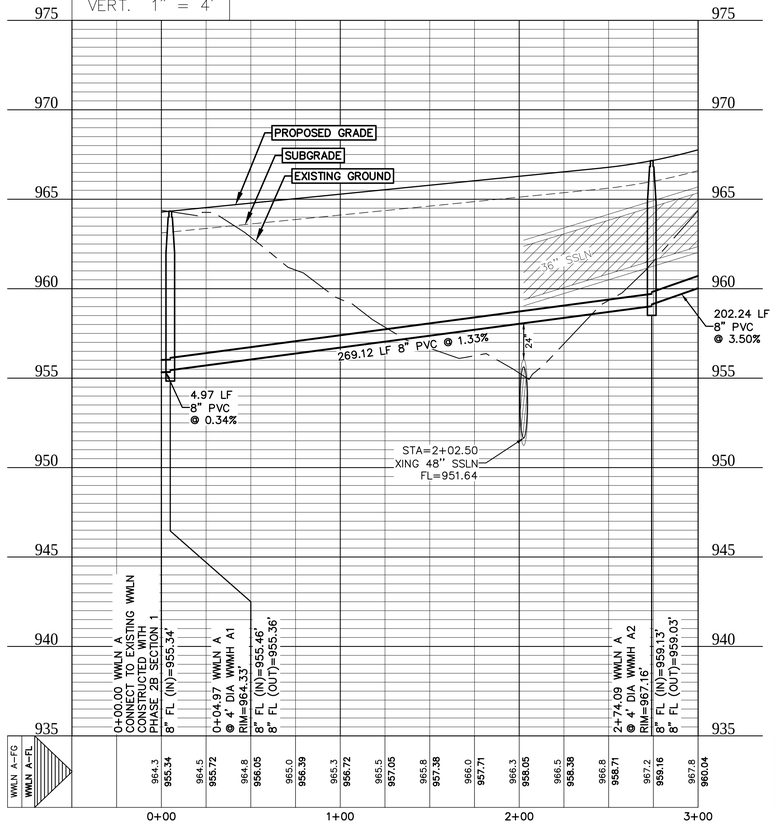
1. ALL STREETS ARE TO BE BUILT TO SUB-GRADE PRIOR TO UTILITY INSTALLATION.
2. PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 150), SDR26. HIGHER PRESSURE RATED (160 PSI). OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). PIPE MATRIAL FOR GRAVITY WASTEWATER MAINS SHALL BE SDR26 PVC, PVC (ASTM D2241 OR D3034, MAX. DR-26), DUCTILE IRON (AWWA C-100, MIN. CLASS 200).
3. UNLESS OTHERWISE ACCEPTED BY THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT, MINIMUM DEPTH OF COVER FOR ALL LINES OUTSIDE OF THE PAVED AREAS SHALL BE 42" BELOW FINISHED GRADE AND 30" BELOW SUBGRADE FOR ALL LINES LOCATED IN PAVED AREAS.
4. THE CONTRACTOR SHALL CONTACT THE CITY OF LIBERTY HILL INSPECTOR @ 512-778-5449 TO COORDINATE UTILITY TIE-INS AND NOTIFY HIM AT LEAST 48 HOURS PRIOR TO CONNECTING EXISTING LINES.
5. CONTRACTOR SHALL FIELD LOCATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ANY PROPOSED CITY OF LIBERTY HILL UTILITY CONNECTION PRIOR TO CONSTRUCTION. NO CONNECTION OR MODIFICATION TO AN EXISTING CITY OF LIBERTY HILL UTILITY SHALL BE MADE WITHOUT THE PRESENCE OF A CITY OF LIBERTY HILL REPRESENTATIVE.
6. ALL MANHOLES TO HAVE 0.1' DROP ACROSS MANHOLE.
7. ALL MANHOLES ARE 48" DIA. MANHOLE, UNLESS NOTED OTHERWSE.
8. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS AND GASKETED COVERS AND HAVE RIM ELEVATIONS 6" MIN. ABOVE FINISHED GRADE. TAPPING OF FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.
9. FOR ALL MANHOLES SHOWING RESIDENTIAL CONNECTIONS, NO CORING OF MANHOLE SHALL BE ALLOWED TO MAKE THESE CONNECTIONS. MANHOLES SHALL BE ORDERED AND DELIVERED WITH THE CONNECTIONS AND INVERTS SHOWN ON THE PLANS.
10. ALL MANHOLES SHALL BE LINED WITH RAVEN LINING SYSTEMS RAVEN 405 OR APPROVED EQUAL.
11. ALL WASTEWATER SERVICES MUST HAVE 2' MINIMUM SEPARATION FROM WATER LINES.
12. THE CONTRACTOR, AT CONTRACTOR'S EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GUAGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY THE CITY OF LIBERTY HILL PERSONNEL.
13. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF LIBERTY HILL INSPECTOR AND PROVIDE NO LESS THAN 24 HOURS NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING, OR PRESSURE TESTING.
14. CONTACT THE CITY OF LIBERTY HILL WATER & WASTEWATER SUPERINTENDENT @ 512-778-5449 FOR ASSISTANCE IN OBTAINING EXISTING WASTEWATER LOCATIONS.
15. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ATSM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

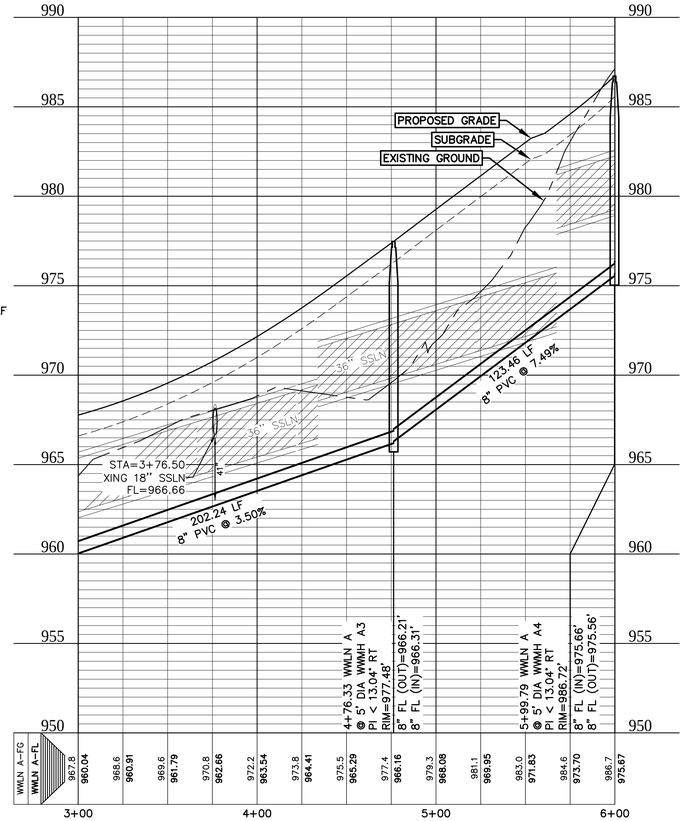
SIEVE SIZE BY WEIGHT	PERCENT RETAINED
1"	0
#4	0-2
#4	40-85
#10	95-100

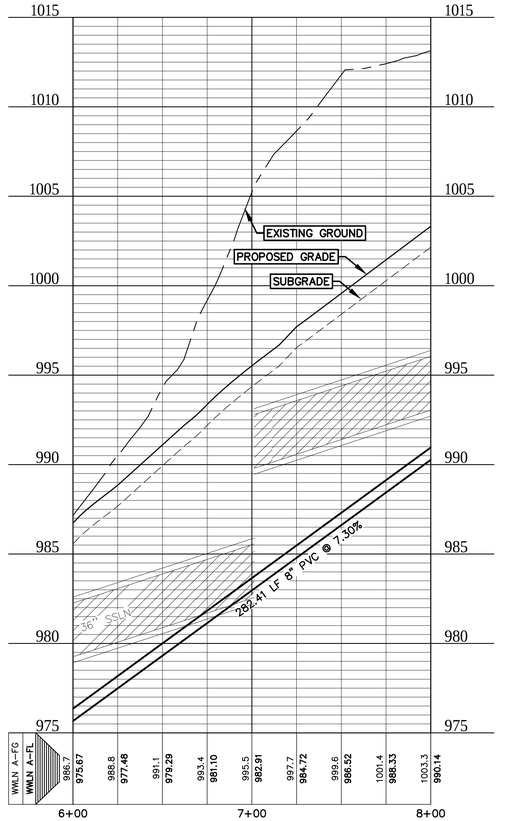
16. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTION TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12AM AND 6AM.
17. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 317, AS APPLICABLE. WHENEVER TCEQ AND CITY OF LIBERTY HILL SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.
18. ALL WASTEWATER SERVICE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:
    - WASTEWATER SERVICE - "S" ON TOP OF CURB
    - TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SHALL BE SPECIFIED BY THE DESIGN ENGINEER AND APPROVED BY THE CITY OF ROUND ROCK.
19. TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE AND VALVE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE DESIGN ENGINEER AND APPROVED BY THE CITY OF ROUND ROCK.
20. FRANCHISE UTILITY NOTE: OTHER UTILITIES SUCH AS GAS, ELECTRIC, TELEPHONE, CABLE, ETC. MAY SHARE THE WASTEWATER SERVICE LINE TRENCH PROVIDED SUCH UTILITIES ARE OFFSET A MINIMUM OF 5' FROM THE WASTEWATER SERVICE LINE.

WWLN "A"
8" SDR-26 PVC STA. 0+00 TO 08+00

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'







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Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINE A (0+00 TO 8+00)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
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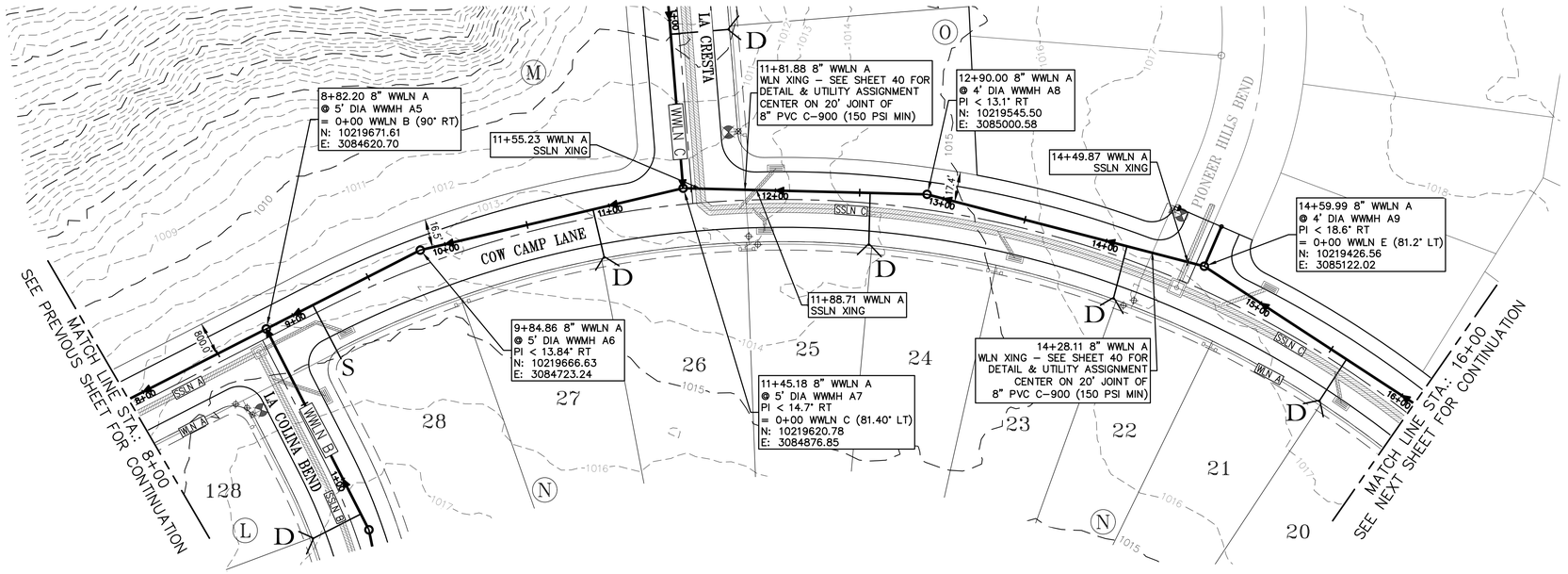
ID# F3791

12-20-2024

DATE: DEC 2024
JOB NUMBER: 5559
SHEET: 57 OF 70
SHEET NO.: 57



WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
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- PROPOSED MANHOLE
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- FLOW DIRECTION ARROW

0 40' 80'

SCALE: 1" = 40'

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4. THE CONTRACTOR SHALL CONTACT THE CITY OF LIBERTY HILL INSPECTOR @ 512-778-5449 TO COORDINATE UTILITY TIE-INS AND NOTIFY HIM AT LEAST 48 HOURS PRIOR TO CONNECTING EXISTING LINES.
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SIEVE SIZE	PERCENT RETAINED BY WEIGHT
1"	0
3/8"	0-2
#4	40-85
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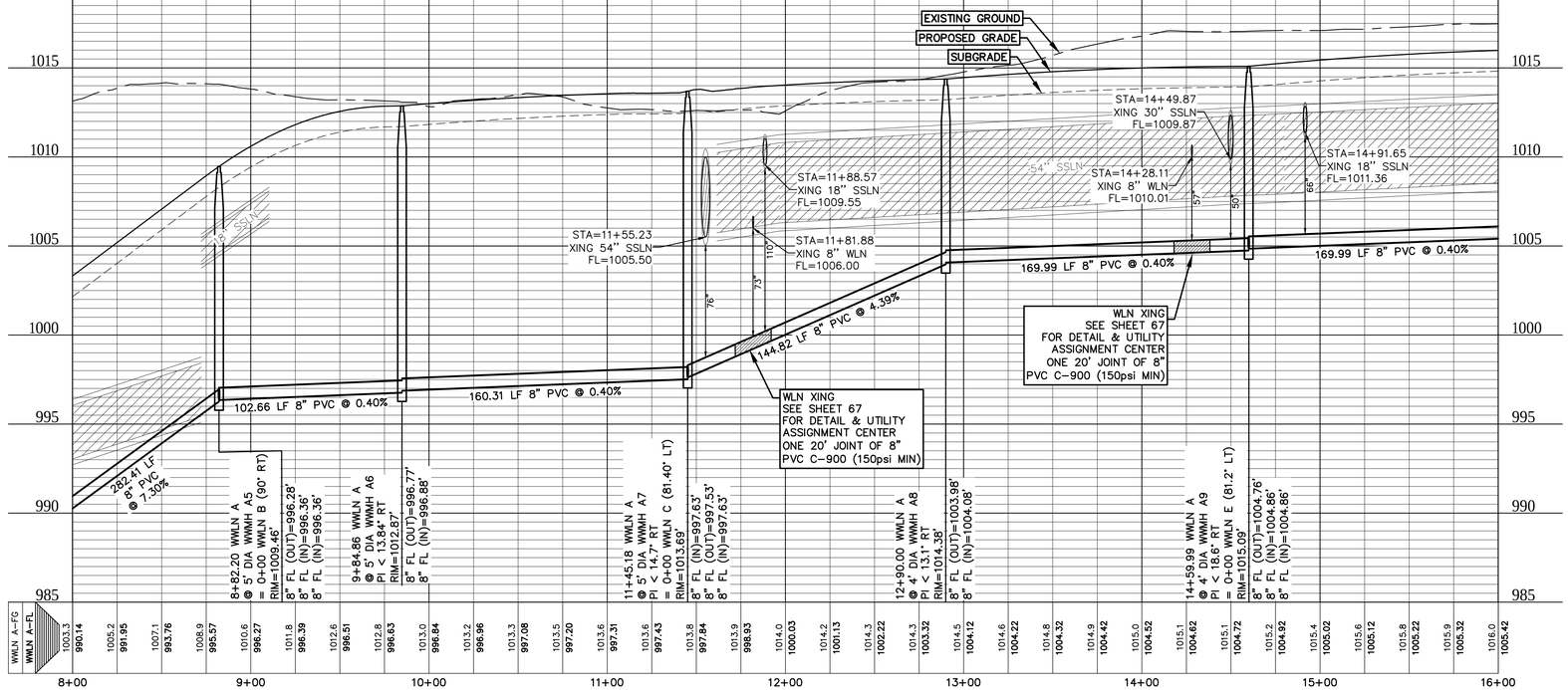
WWLN "A"
8" SDR-26 PVC STA. 8+00 TO 16+00

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



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DESIGNED BY: SPC
DRAFTED BY: CEL
DATE
REVISION

SHEET NAME: WASTEWATER LINE A (8+00 TO 16+00)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
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12-20-2024

DATE: DEC 2024
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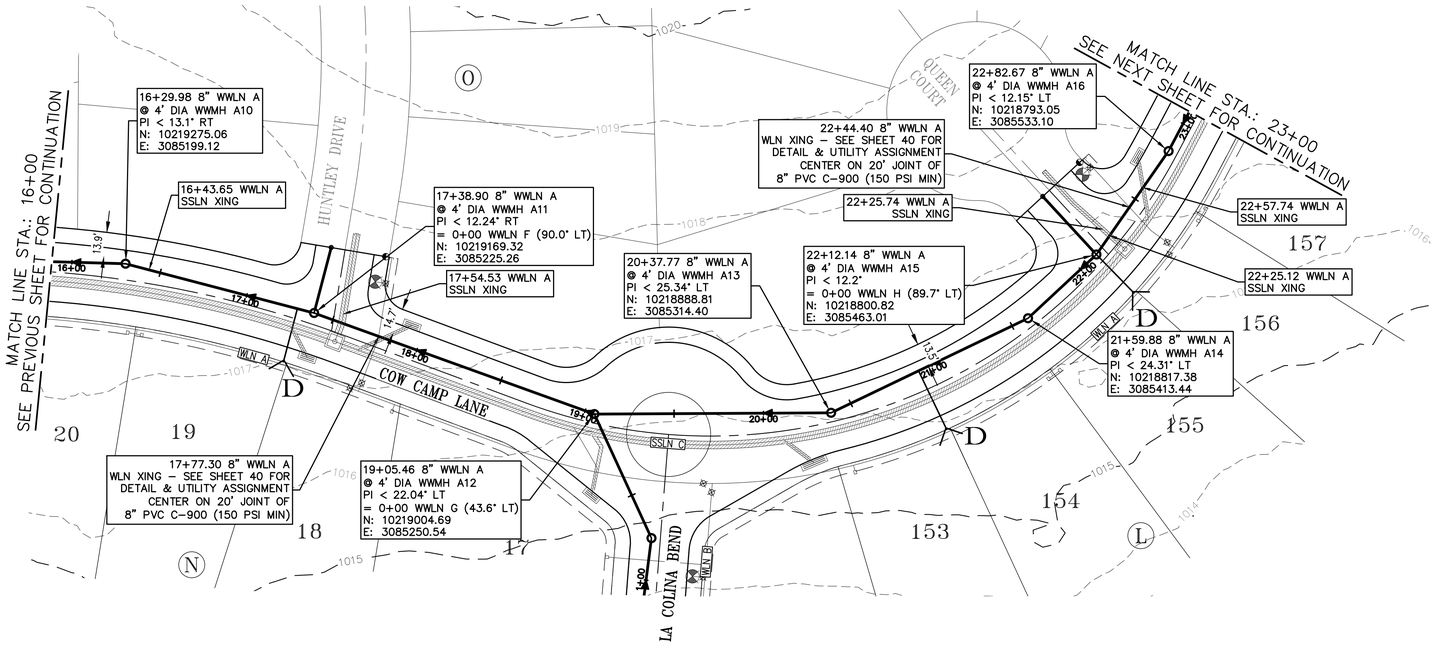

WWLN "A"
8" SDR-26 PVC STA. 16+00 TO 23+00

PROFILE SCALE
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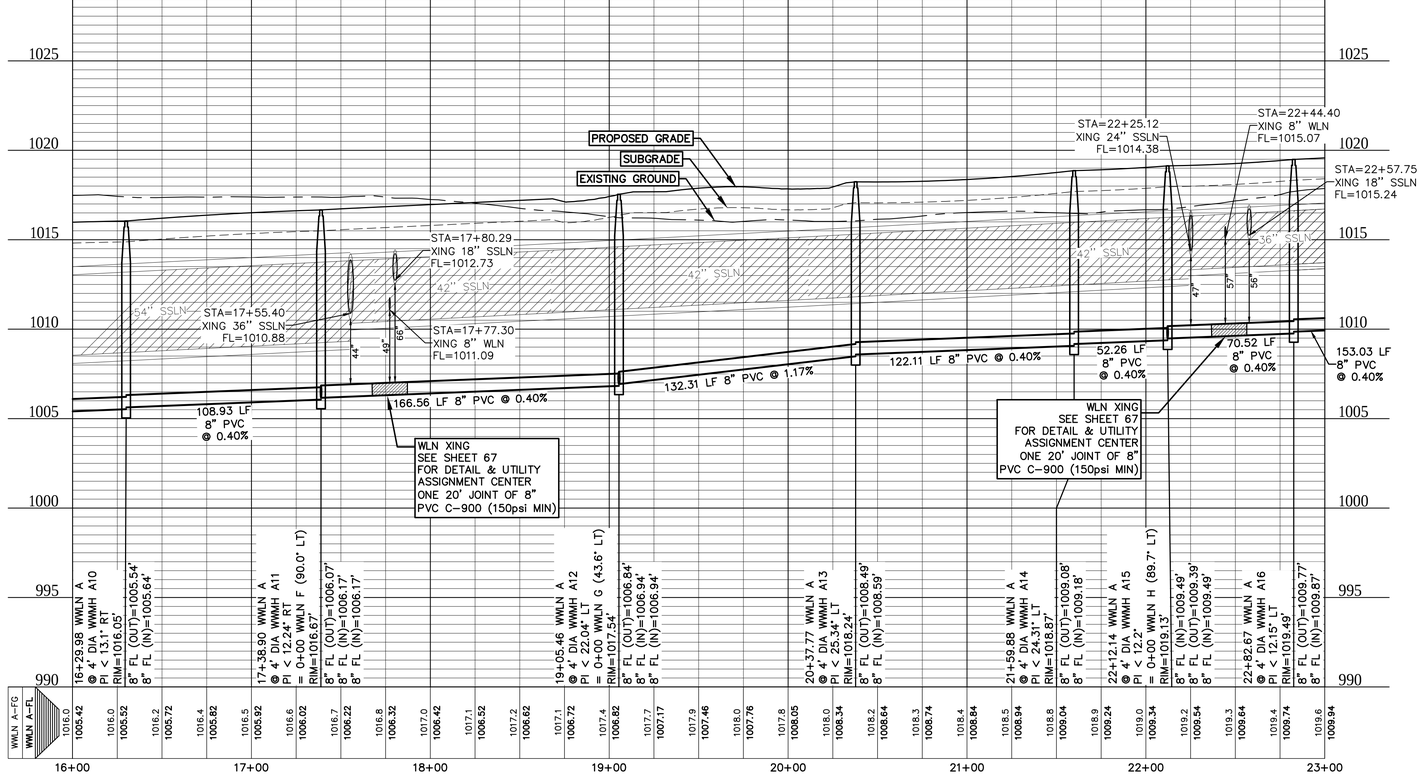

WASTEWATER LEGEND

- S / D — PROPOSED SINGLE SERVICE / PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

SCALE: 1" = 40'

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SHEET NAME: WASTEWATER LINE A (16+00 TO 23+00)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

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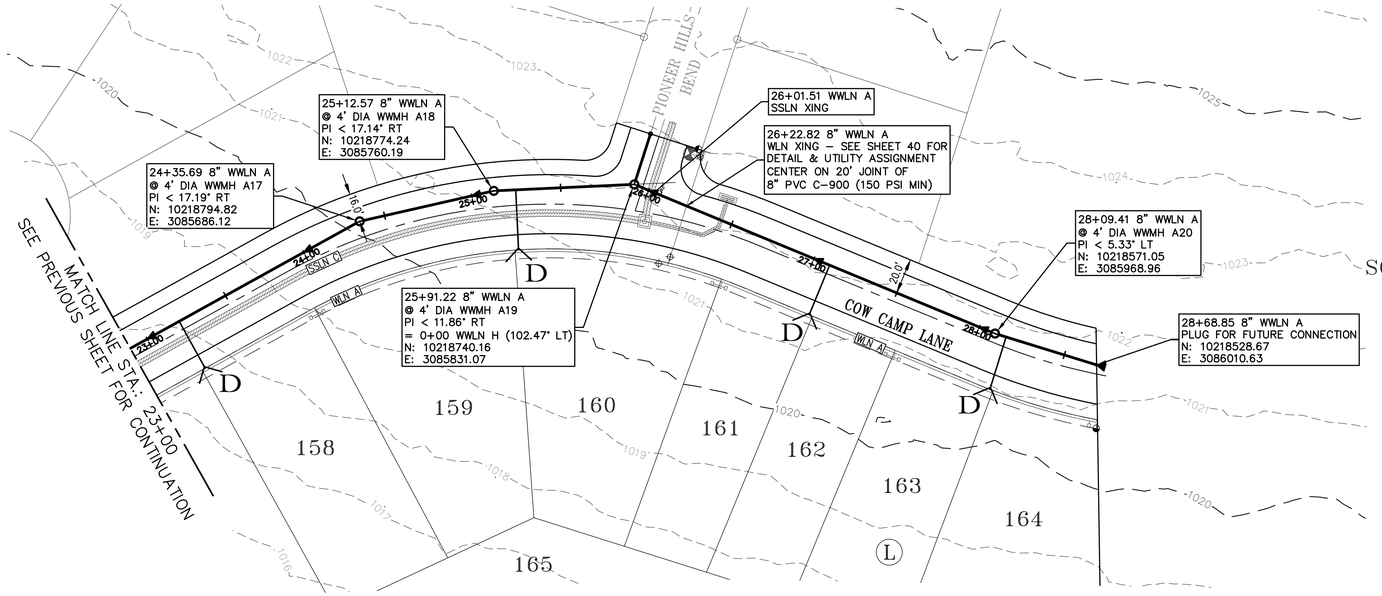

SCALE: 1" = 40'

WASTEWATER LEGEND

- S / D — PROPOSED SINGLE SERVICE
- S / D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

PROFILE SCALE
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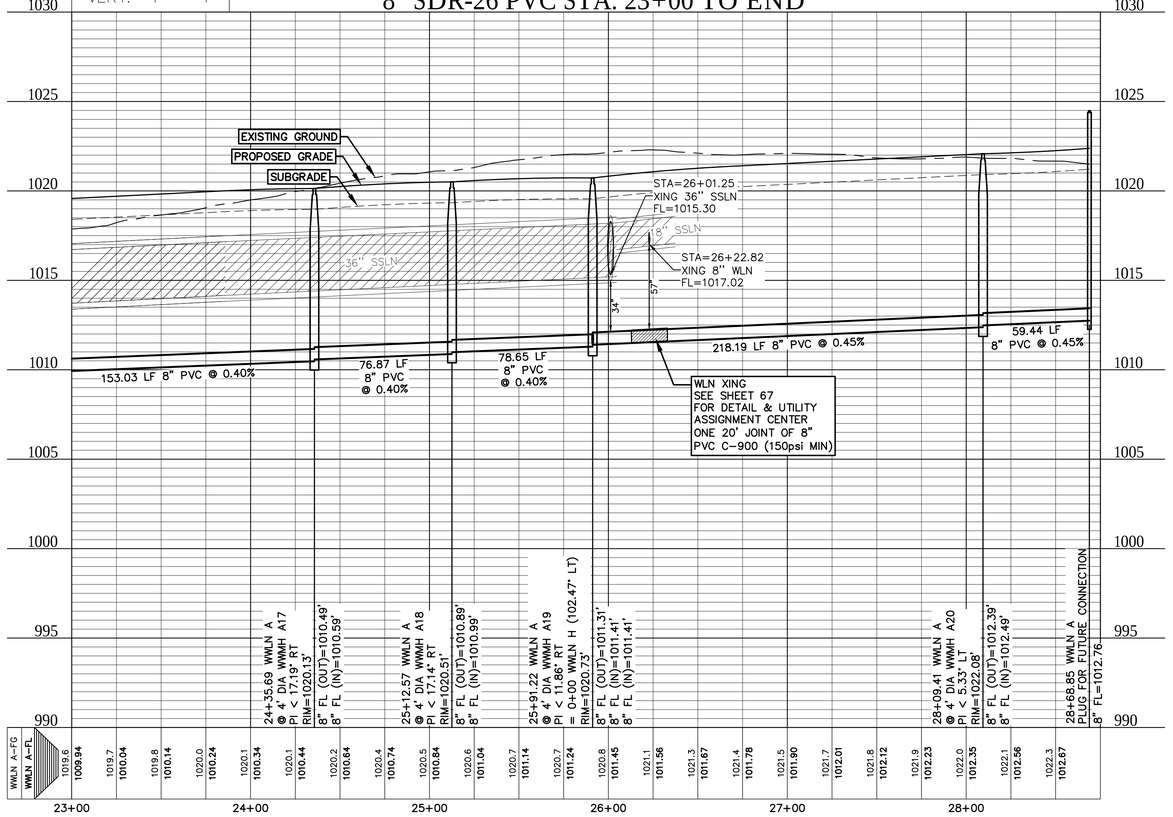
VERT. 1" = 4'

WWLN "A"
8" SDR-26 PVC STA. 23+00 TO END



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8. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS AND GASKETED COVERS AND HAVE RIM ELEVATIONS 6" MIN. ABOVE FINISHED GRADE. TAPPING OF FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.
9. FOR ALL MANHOLES SHOWING RESIDENTIAL CONNECTIONS, NO CORING OF MANHOLE SHALL BE ALLOWED TO MAKE THESE CONNECTIONS. MANHOLES SHALL BE ORDERED AND DELIVERED WITH THE CONNECTIONS AND INVERTS SHOWN ON THE PLANS.
10. ALL MANHOLES SHALL BE LINED WITH RAVEN LINING SYSTEMS RAVEN 405 OR APPROVED EQUAL.
11. ALL WASTEWATER SERVICES MUST HAVE 2' MINIMUM SEPARATION FROM WATER LINES.
12. THE CONTRACTOR, AT CONTRACTOR'S EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GUAGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY THE CITY OF LIBERTY HILL PERSONNEL.
13. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF LIBERTY HILL INSPECTOR AND PROVIDE NO LESS THAN 24 HOURS NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING, OR PRESSURE TESTING.
14. CONTACT THE CITY OF LIBERTY HILL WATER & WASTEWATER SUPERINTENDENT @ 512-778-5449 FOR ASSISTANCE IN OBTAINING EXISTING WASTEWATER LOCATIONS.
15. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURING OR MANUFACTURED STONE MATERIAL CONFORMING TO ATSM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

SIEVE SIZE BY WEIGHT	PERCENT RETAINED
1"	0
⅜"	0–2
#4	40–85
#10	95–100

16. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTION TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12AM AND 6AM.
17. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 317, AS APPLICABLE. WHENEVER TCEQ AND CITY OF LIBERTY HILL SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.
18. ALL WASTEWATER SERVICE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:
    - WASTEWATER SERVICE – "S" ON TOP OF CURB
    - TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SHALL BE SPECIFIED BY THE DESIGN ENGINEER AND APPROVED BY THE CITY OF ROUND ROCK.
19. TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE AND VALVE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE DESIGN ENGINEER AND APPROVED BY THE CITY OF ROUND ROCK.
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DESIGNED BY: SPC | DRAFTED BY: CEJ

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 | Phone No. (512) 280-5160
North Office: 12129 RR 620 N. Suite 600 Austin, Texas 78750 | Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINE A (23+00 TO END)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
12-20-2024

DATE: DEC 2024
JOB NUMBER: 5559
SHEET: 60 OF 70
SHEET NO.: 60

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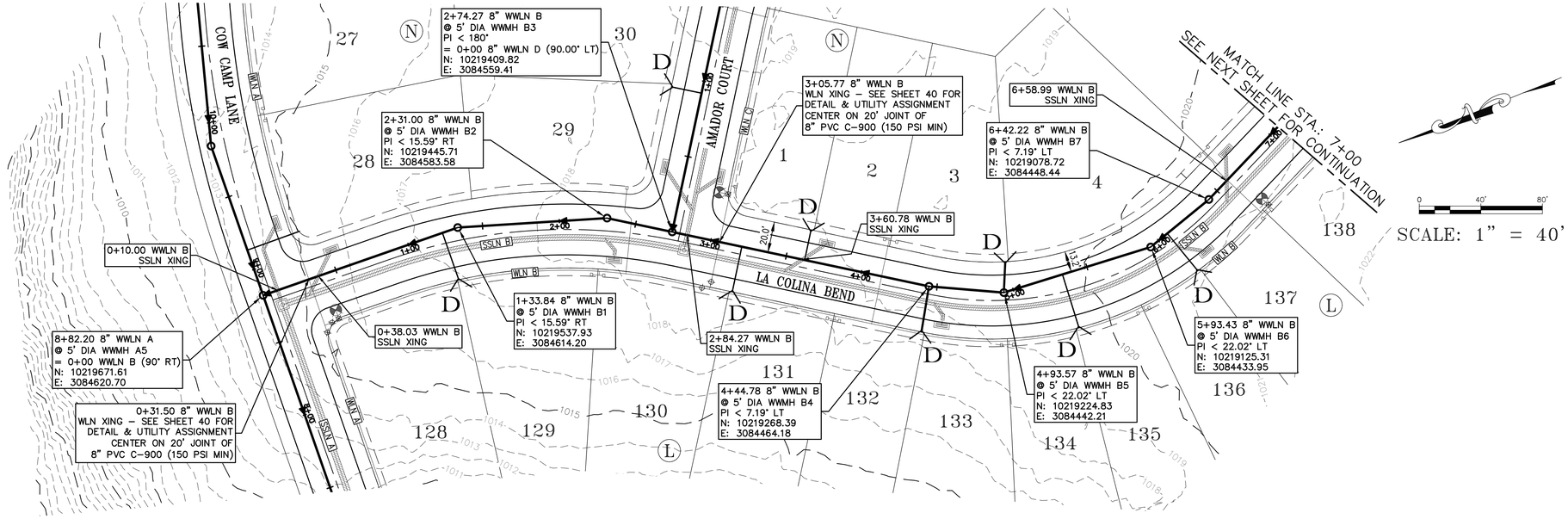

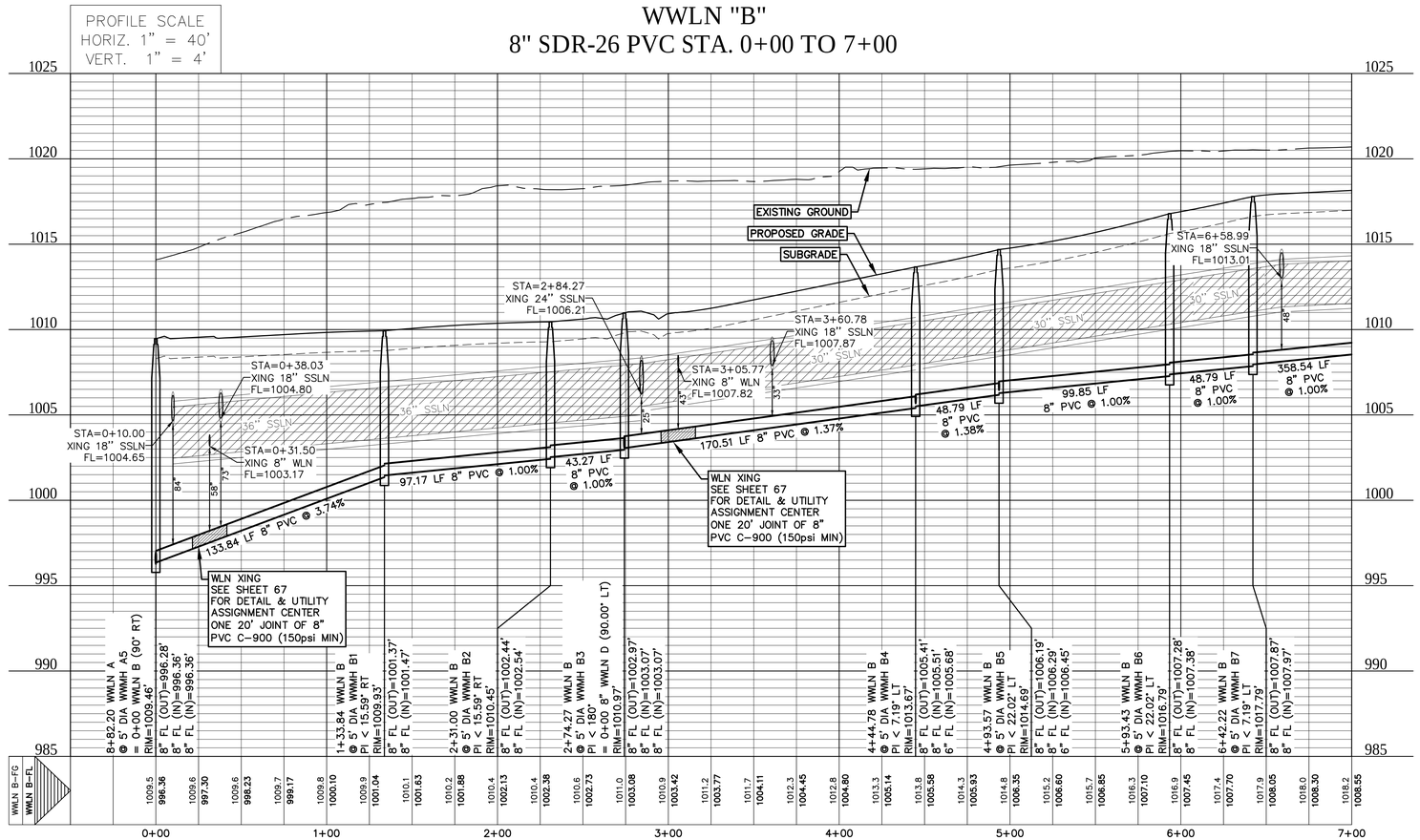

WWLN "B"
8" SDR-26 PVC STA. 0+00 TO 7+00

WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

WASTEWATER NOTES

1. ALL STREETS ARE TO BE BUILT TO SUB-GRADE PRIOR TO UTILITY INSTALLATION.
2. PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 150), SDR26. HIGHER PRESSURE RATED (160 PSI). OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). PIPE MATRIAL FOR GRAVITY WASTEWATER MAINS SHALL BE SDR26 PVC, PVC (ASTM D2241 OR D3034, MAX. DR-26), DUCTILE IRON (AWWA C-100, MIN. CLASS 200).
3. UNLESS OTHERWISE ACCEPTED BY THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT, MINIMUM DEPTH OF COVER FOR ALL LINES OUTSIDE OF THE PAVED AREAS SHALL BE 42" BELOW FINISHED GRADE AND 30" BELOW SUBGRADE FOR ALL LINES LOCATED IN PAVED AREAS.
4. THE CONTRACTOR SHALL CONTACT THE CITY OF LIBERTY HILL INSPECTOR @ 512-778-5449 TO COORDINATE UTILITY TIE-INS AND NOTIFY HIM AT LEAST 48 HOURS PRIOR TO CONNECTING EXISTING LINES.
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SIEVE SIZE BY WEIGHT	PERCENT RETAINED
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DESIGNED BY:	DRAFTED BY:
SPC	CEJ

DATE

REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749
North Office: 12129 RR 620 N, #300, Austin, Texas 78750
Phone No. (512) 280-5160 Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINE B (0+00 TO 7+00)

JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
12-20-2024

DATE: DEC 2024

JOB NUMBER: 5559

SHEET: 61 OF 70

SHEET NO.: 61

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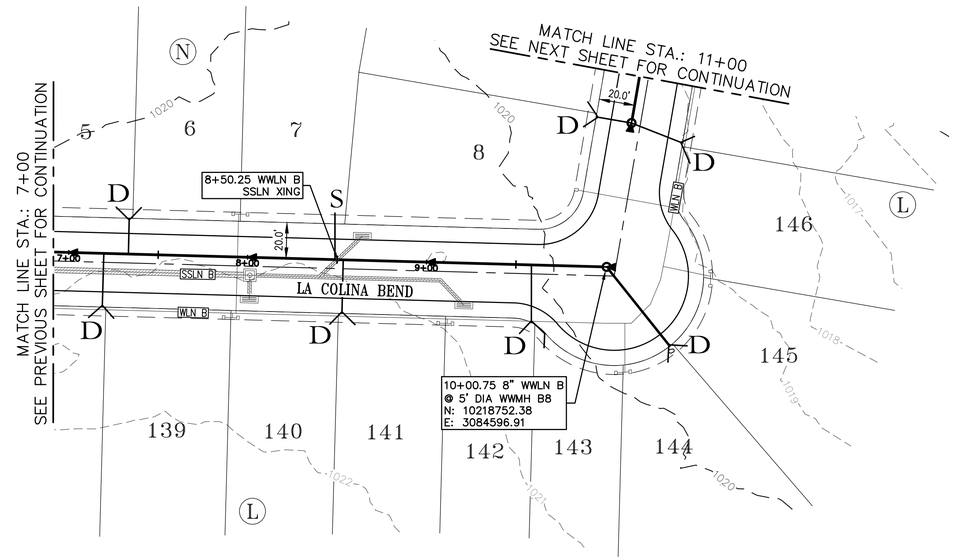

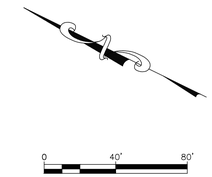

SCALE: 1" = 40'

WASTEWATER LEGEND

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- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
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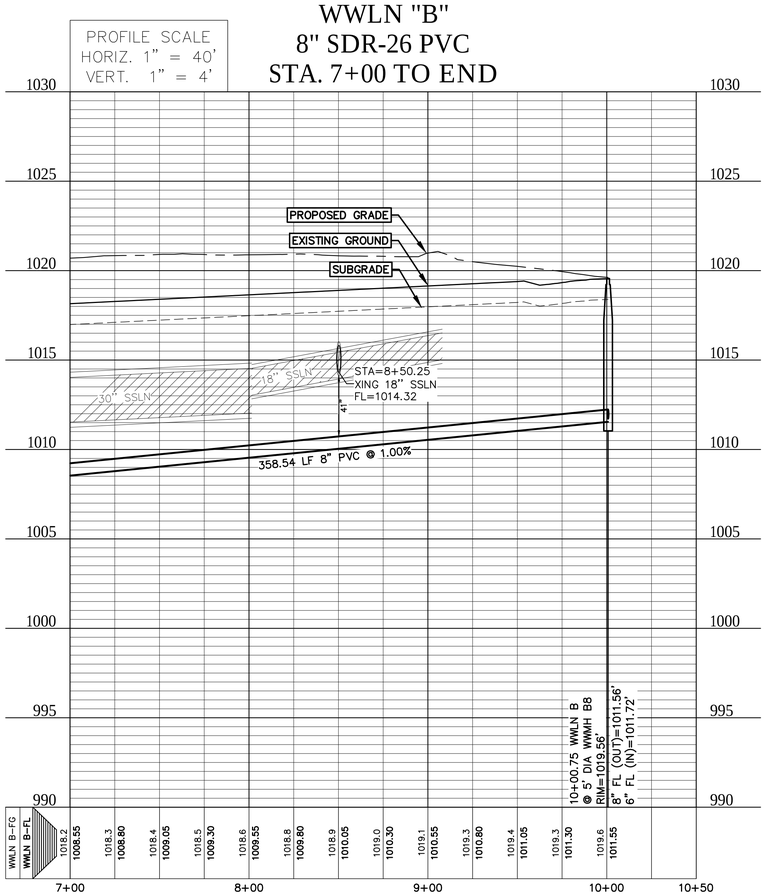
WWLN "B"
8" SDR-26 PVC
STA. 7+00 TO END

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



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SIEVE SIZE BY WEIGHT	PERCENT RETAINED
1"	0
#8	0-2
#4	40-85
#10	95-100

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DESIGNED BY: SPC | DRAFTED BY: CEL

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749
North Office: 12129 RR 620 N, Suite 600 Austin, Texas 78750
Phone No. (512) 280-5160 Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINE B (7+00 TO END)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

12-20-2024

DATE: DEC 2024
JOB NUMBER: 5559
SHEET: 62 OF 70
SHEET NO.: 62

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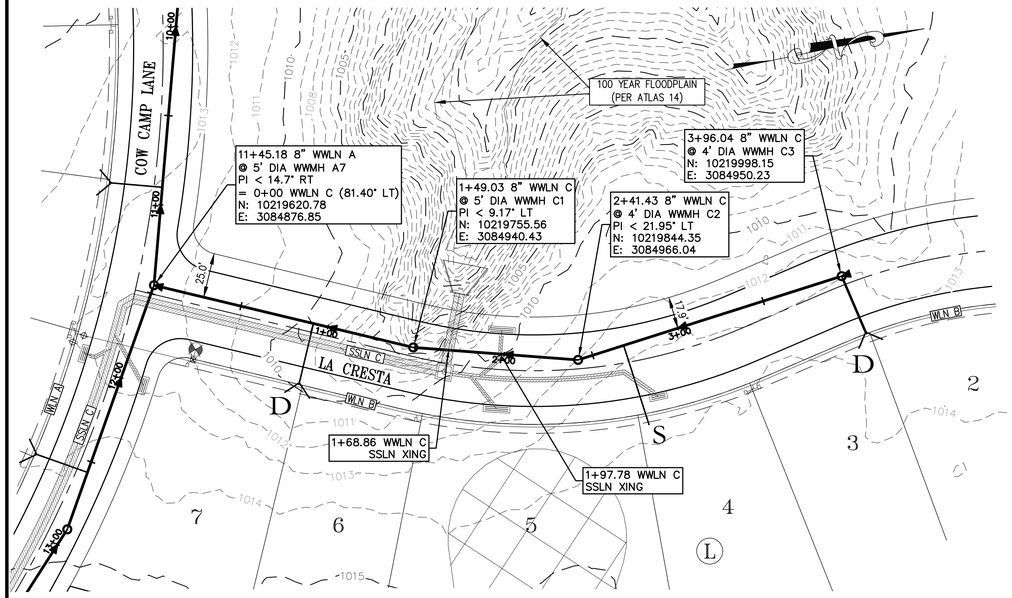
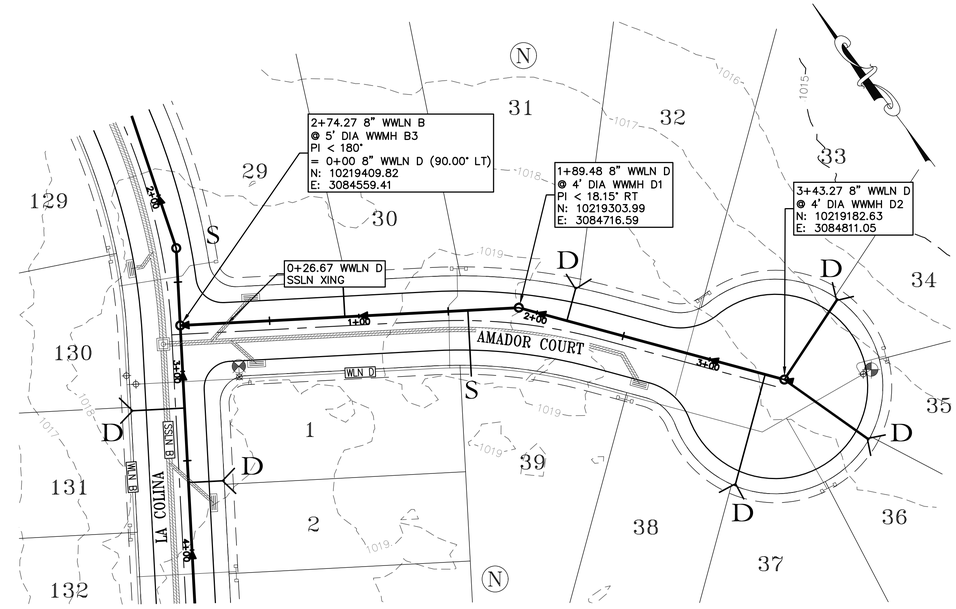
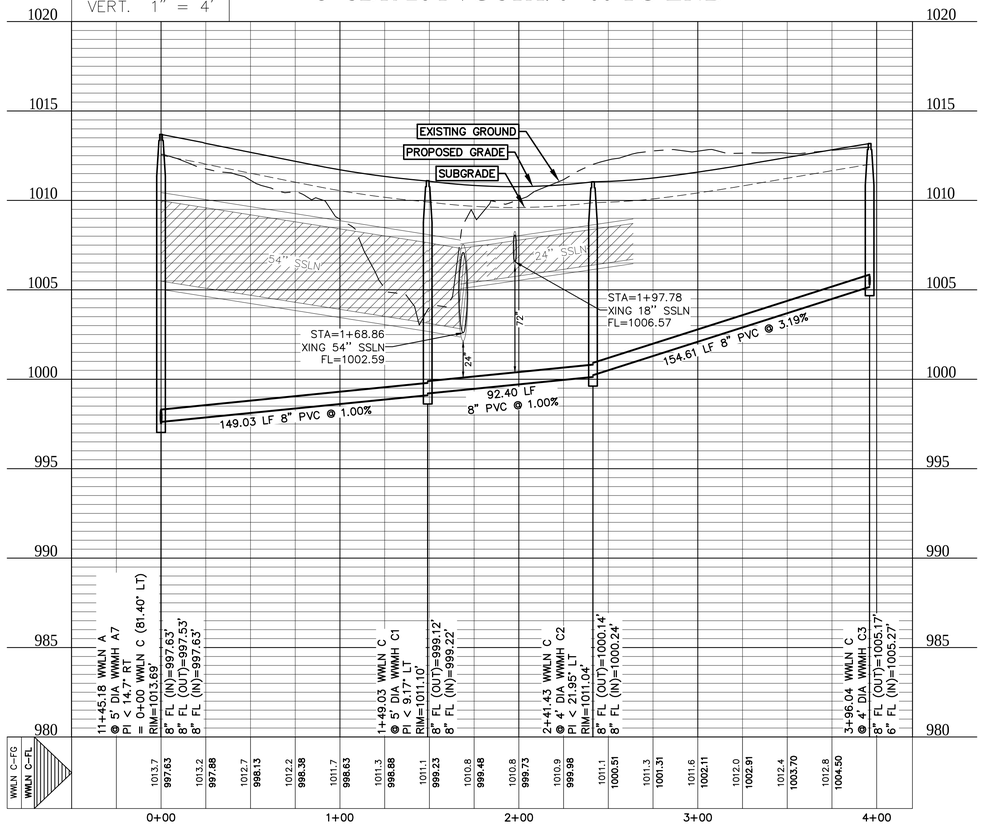


WWLN "C"
8" SDR-26 PVC STA. 0+00 TO END



WWLN "D"
8" SDR-26 PVC STA. 0+00 TO END

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



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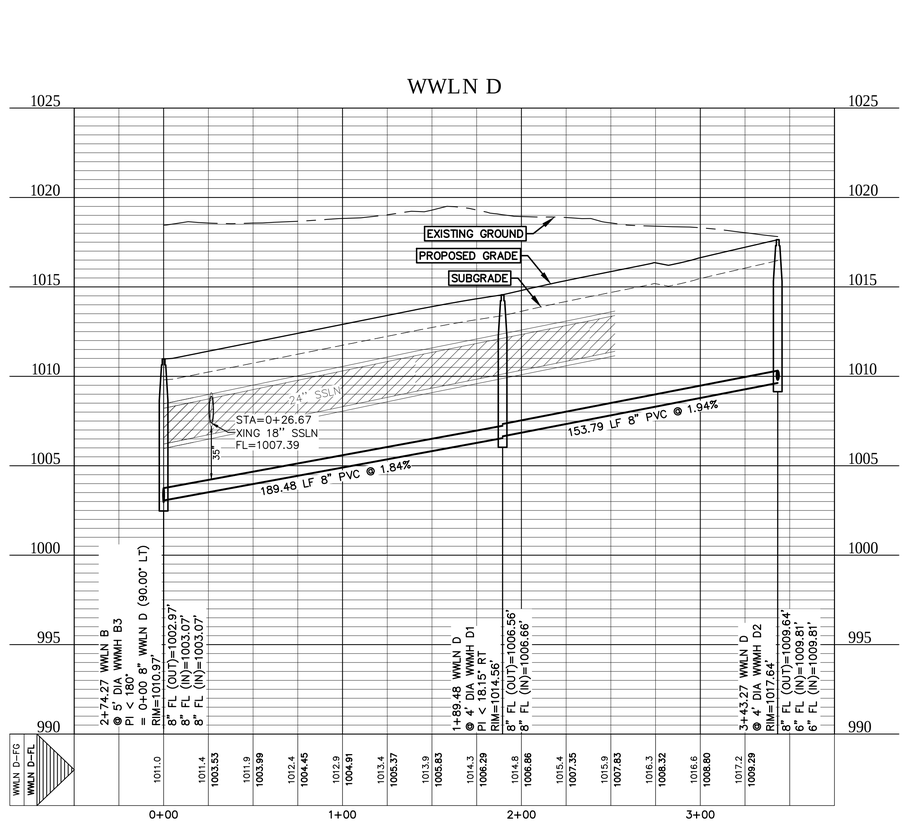

WASTEWATER LEGEND

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0 40' 80'

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SIEVE SIZE	PERCENT RETAINED
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3/8"	0-2
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20. FRANCHISE UTILITY NOTE: OTHER UTILITIES SUCH AS GAS, ELECTRIC, TELEPHONE, CABLE, ETC. MAY SHARE THE WASTEWATER SERVICE LINE TRENCH PROVIDED SUCH UTILITIES ARE OFFSET A MINIMUM OF 5' FROM THE WASTEWATER SERVICE LINE.

DESIGNED BY:	DRAFTED BY:
SPC	CEJ

DATE

REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749
North Office: 12129 RR 620 N. Ste. 600 Austin, Texas 78750
Phone No. (512) 280-5160 Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINES C AND D (0+00 TO END)

JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

12-20-2024

DATE: DEC 2024

JOB NUMBER: 5559

SHEET: 63 OF 70

SHEET NO.: 63

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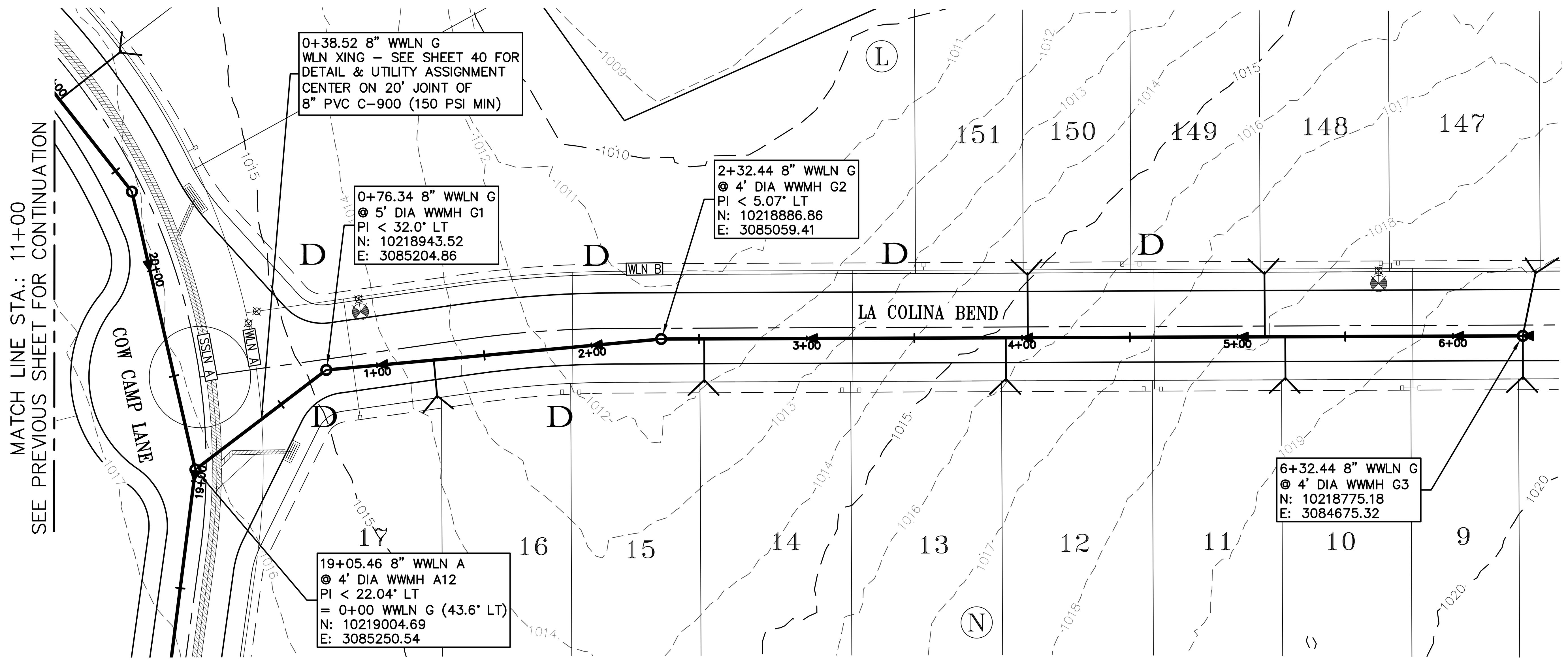


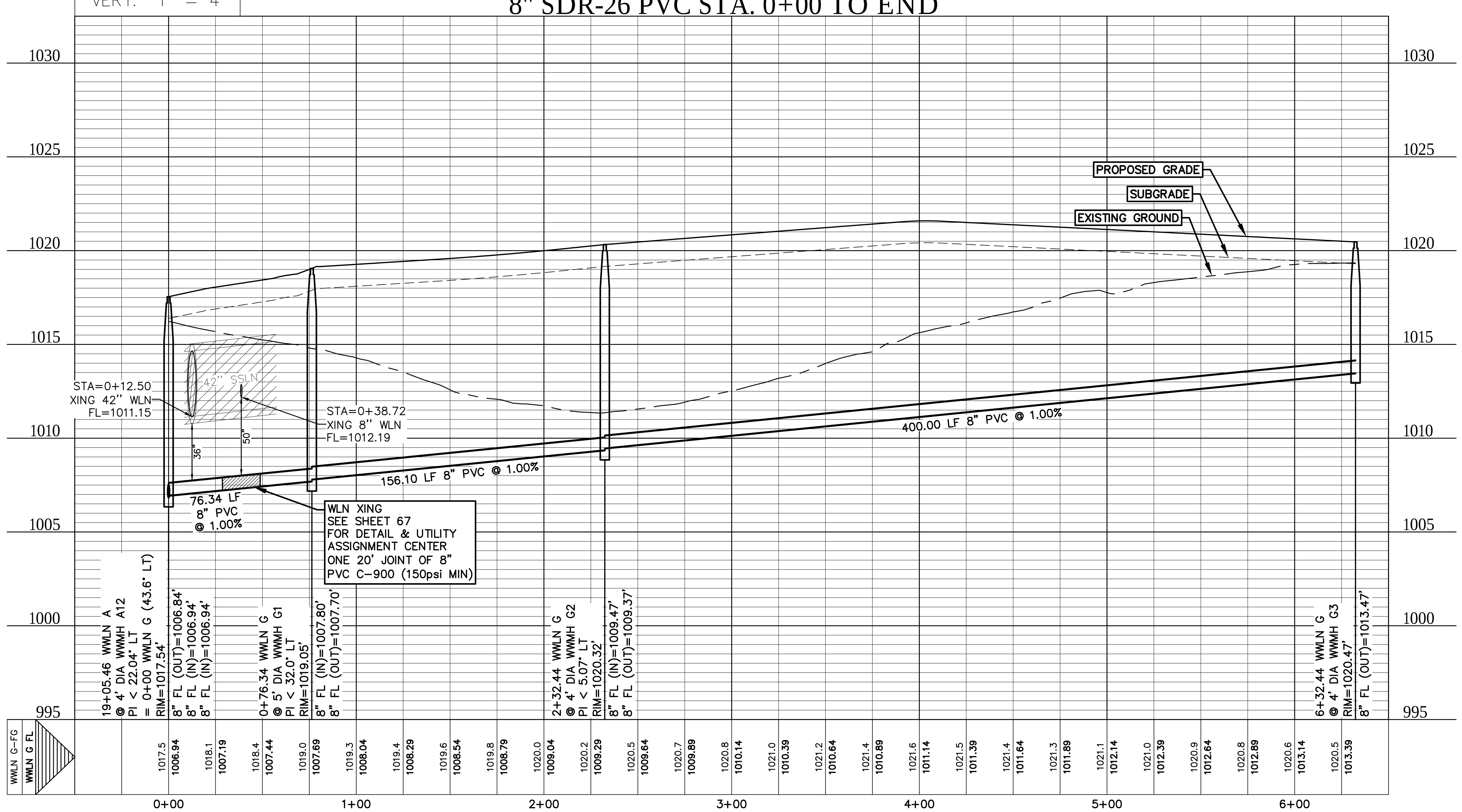
SCALE: 1" = 40'

WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

WWLN "G"
8" SDR-26 PVC STA. 0+00 TO END

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



WASTEWATER NOTES

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3. UNLESS OTHERWISE ACCEPTED BY THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT, MINIMUM DEPTH OF COVER FOR ALL LINES OUTSIDE OF THE PAVED AREAS SHALL BE 42" BELOW FINISHED GRADE AND 30" BELOW SUBGRADE FOR ALL LINES LOCATED IN PAVED AREAS.
4. THE CONTRACTOR SHALL CONTACT THE CITY OF LIBERTY HILL INSPECTOR @ 512–778–5449 TO COORDINATE UTILITY TIE–INS AND NOTIFY HIM AT LEAST 48 HOURS PRIOR TO CONNECTING EXISTING LINES.
5. CONTRACTOR SHALL FIELD LOCATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ANY PROPOSED CITY OF LIBERTY HILL UTILITY CONNECTION PRIOR TO CONSTRUCTION. NO CONNECTION OR MODIFICATION TO AN EXISTING CITY OF LIBERTY HILL UTILITY SHALL BE MADE WITHOUT THE PRESENCE OF A CITY OF LIBERTY HILL REPRESENTATIVE.
6. ALL MANHOLES TO HAVE 0.1' DROP ACROSS MANHOLE.
7. ALL MANHOLES ARE 48" DIA. MANHOLE, UNLESS NOTED OTHERWISE.
8. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS AND GASKETED COVERS AND HAVE RIM ELEVATIONS 6" MIN. ABOVE FINISHED GRADE. TAPPING OF FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.
9. FOR ALL MANHOLES SHOWING RESIDENTIAL CONNECTIONS, NO CORING OF MANHOLE SHALL BE ALLOWED TO MAKE THESE CONNECTIONS. MANHOLES SHALL BE ORDERED AND DELIVERED WITH THE CONNECTIONS AND INVERTS SHOWN ON THE PLANS.
10. ALL MANHOLES SHALL BE LINED WITH RAVEN LINING SYSTEMS RAVEN 405 OR APPROVED EQUAL.
11. ALL WASTEWATER SERVICES MUST HAVE 2' MINIMUM SEPARATION FROM WATER LINES.
12. THE CONTRACTOR, AT CONTRACTOR'S EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GUAGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY THE CITY OF LIBERTY HILL PERSONNEL.
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15. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ATSM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

SIEVE SIZE BY WEIGHT	PERCENT RETAINED
1/2"	0
3/8"	0–2
#4	40–85
#10	95–100

16. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTION TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF–PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12AM AND 6AM.
17. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 317, AS APPLICABLE. WHENEVER TCEQ AND CITY OF LIBERTY HILL SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.
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DESIGNED BY: SPC
DRAFTED BY: CEL

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SHEET NAME: WASTEWATER LINE G (0+00 TO END)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
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CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
12-20-2024

DATE: DEC 2024
JOB NUMBER: 5559
SHEET: 64 OF 70
SHEET NO.: 64

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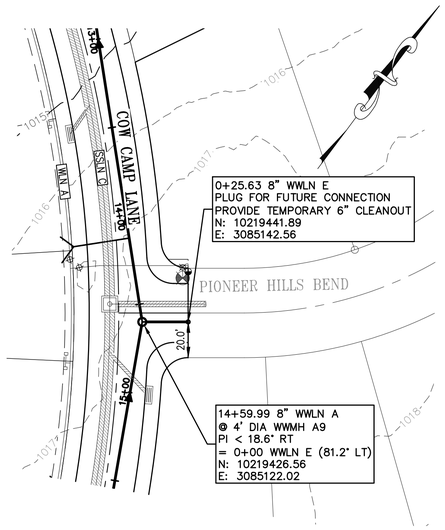

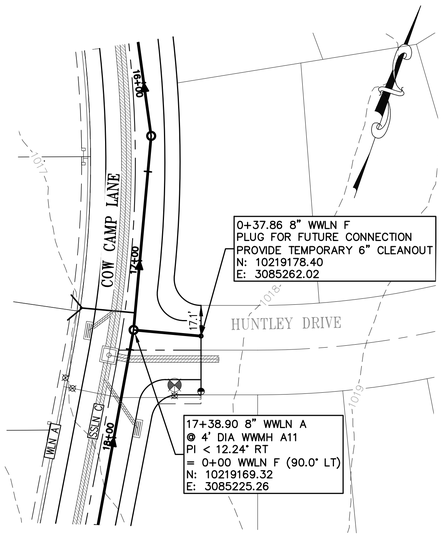

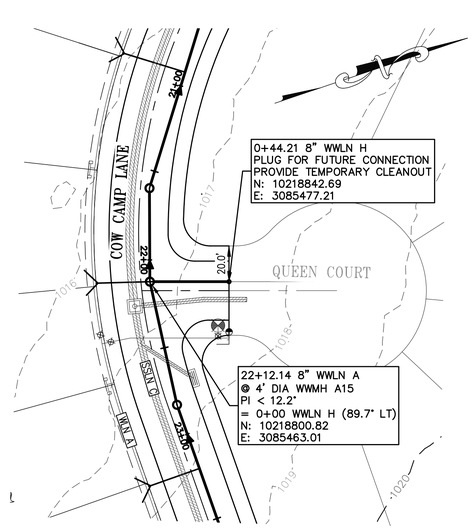

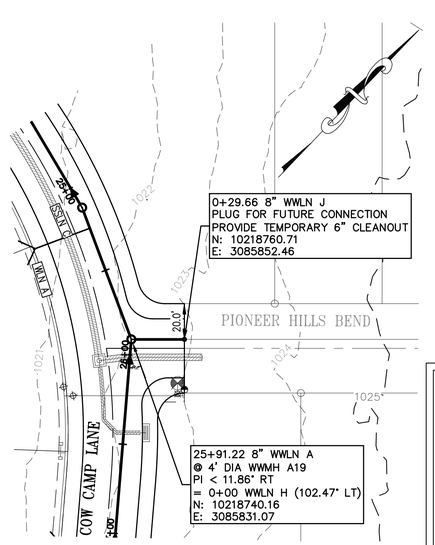

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WWLN "E"
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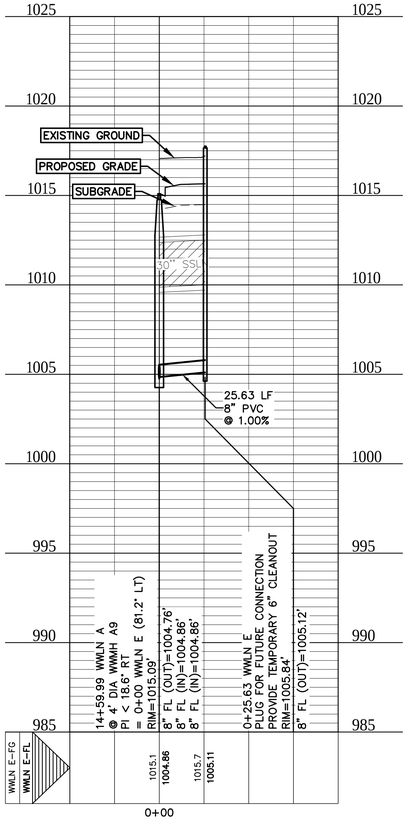

WWLN "F"
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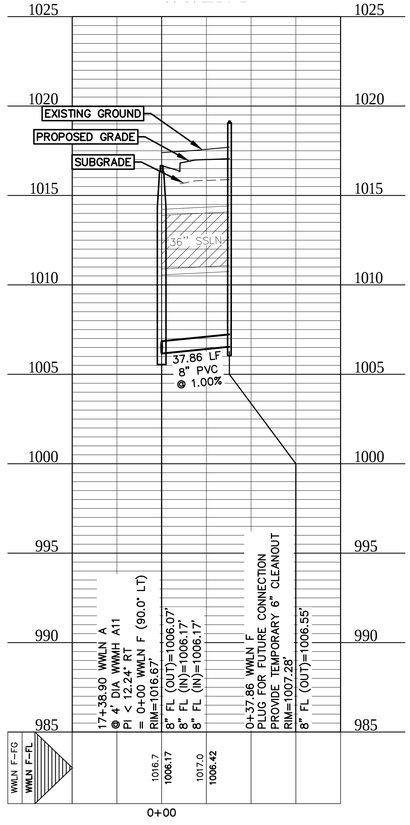

WWLN "H"
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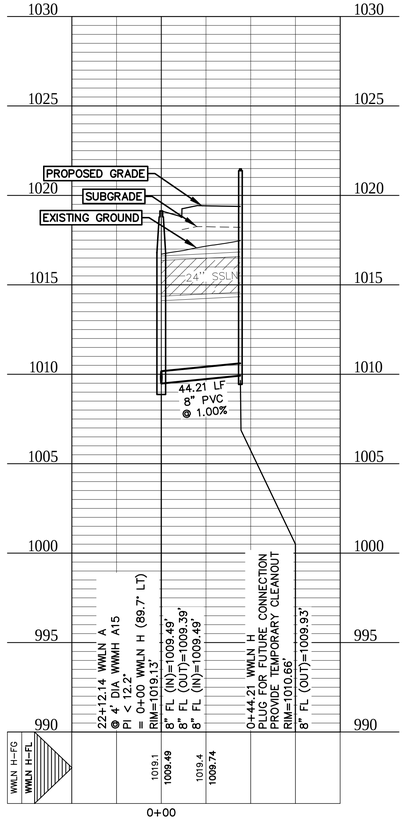

WWLN "J"
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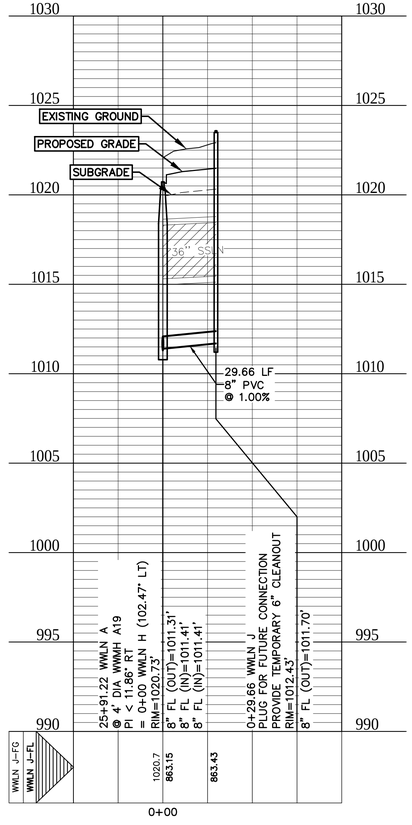

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SHEET NAME: WASTEWATER LINES E, F, H AND J (0+00 TO END)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
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SHEET: 65 OF 70
SHEET NO.: 65

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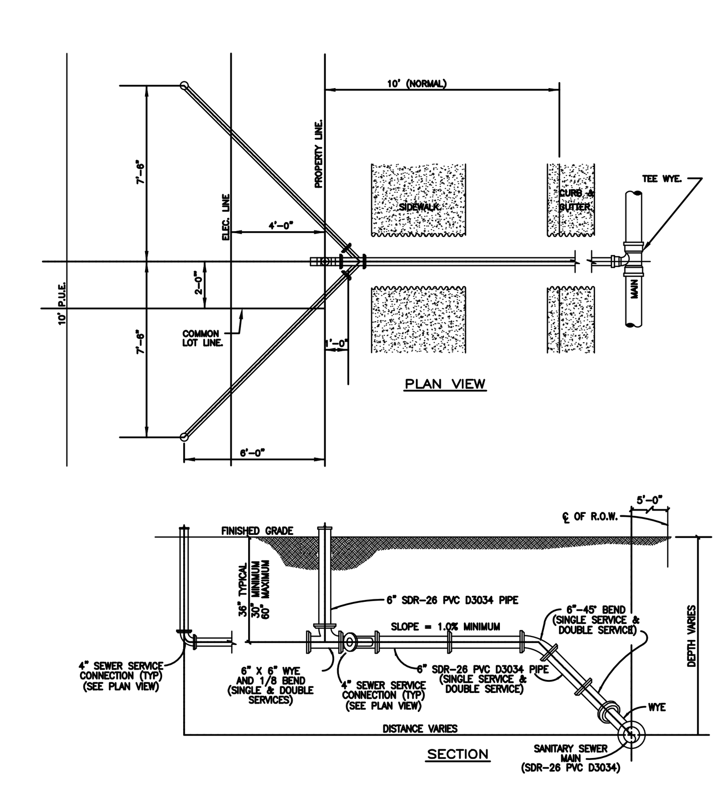
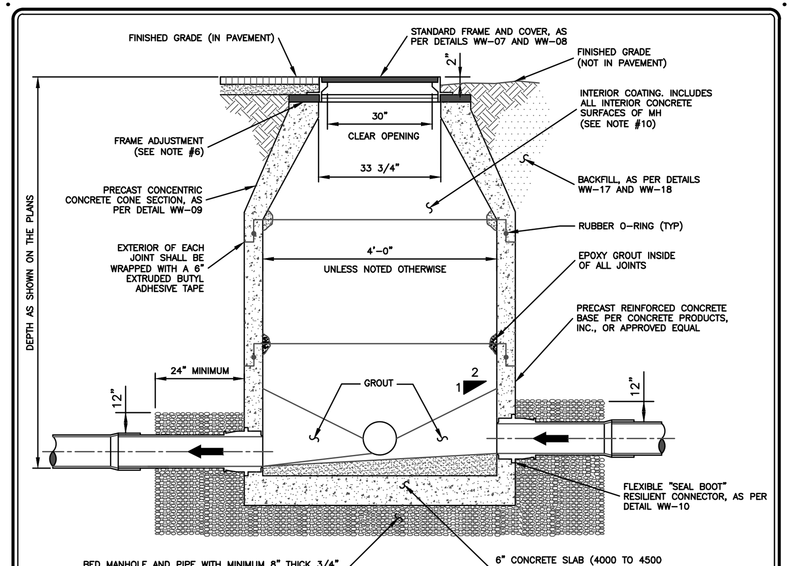


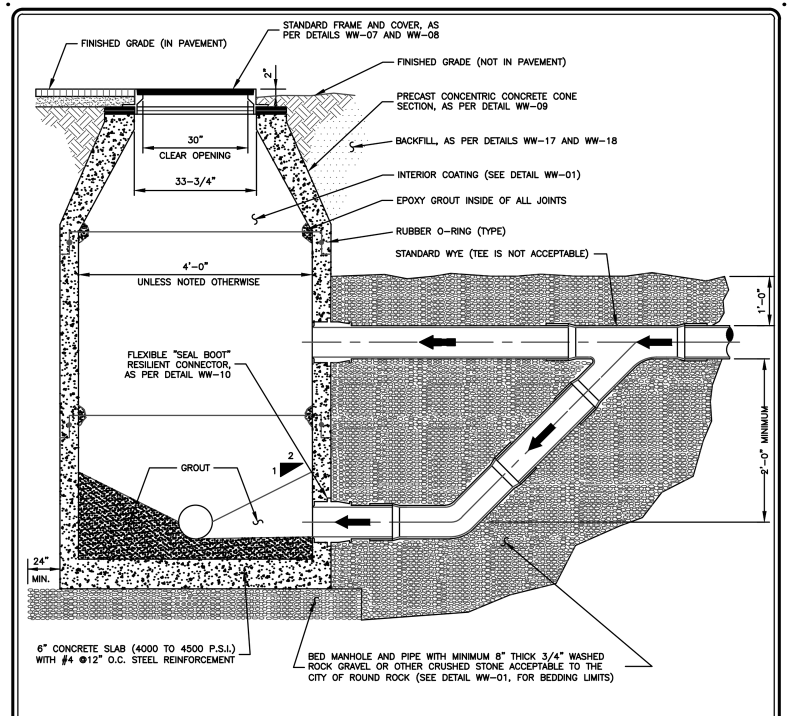
SANTA RITA RANCH
DOUBLE WASTEWATER SERVICE DETAIL
NTS



NOTES:

1. IF DROP IS SIX INCHES (6") TO TWO FEET (2'-0"), CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED INVERT TO EXTEND UNDER THE DROP CONNECTION.
2. SEE CONSTRUCTION PLANS FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZES AND TYPES.
3. MANHOLES SHALL BE PRECAST ASTM C478 BELL AND SPIGOT WITH "O" RING JOINTS.
4. MANHOLES TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR H20 TRAFFIC LOADING.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED, WHEN MANHOLES ARE LOCATED OUTSIDE OF PAVEMENT.
6. FRAME ADJUSTMENT HEIGHT SHALL CONSIST OF FIVE INCHES (5") MINIMUM TO EIGHTEEN INCHES (18") MAXIMUM. GRADE RINGS SHALL BE GROUTED WITH A NON-SHRINK GROUT INSIDE AND OUTSIDE. HDPE GRADE RINGS, AS MANUFACTURED BY LABTECH, INCORPORATED, OR EQUAL, MAY NOT BE USED.
7. FOR MANHOLES TO BE VENTED, SEE DETAILS WW-05 AND WW-06.
8. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO THE FLOW STREAM. ALL P.V.C. PIPE SHALL BE REMOVED FROM INVERT.
9. BASE SECTION SHALL BE DESIGNED FOR H20 LOADING, PLUS EARTH LOAD AT 130 PCF.
10. ENTIRE INTERIOR CONCRETE SURFACES OF WASTEWATER MANHOLES TO BE COATED WITH RAVEN 405 SPRAYWALLS, OR APPROVED EQUAL, (WITH A UNIFORM THICKNESS OF 124 MILS AND A MINIMUM THICKNESS OF 100 MILS, APPLIED AFTER MANHOLE HAS PASSED THE VACUUM TEST.) OR 1/2" MIN. THICKNESS CALCIUM ALUMINATE CEMENTITIOUS COATING. OTHER INTERIOR SURFACES MAY BE COATED IF RECOMMENDED BY COATING MANUFACTURER.

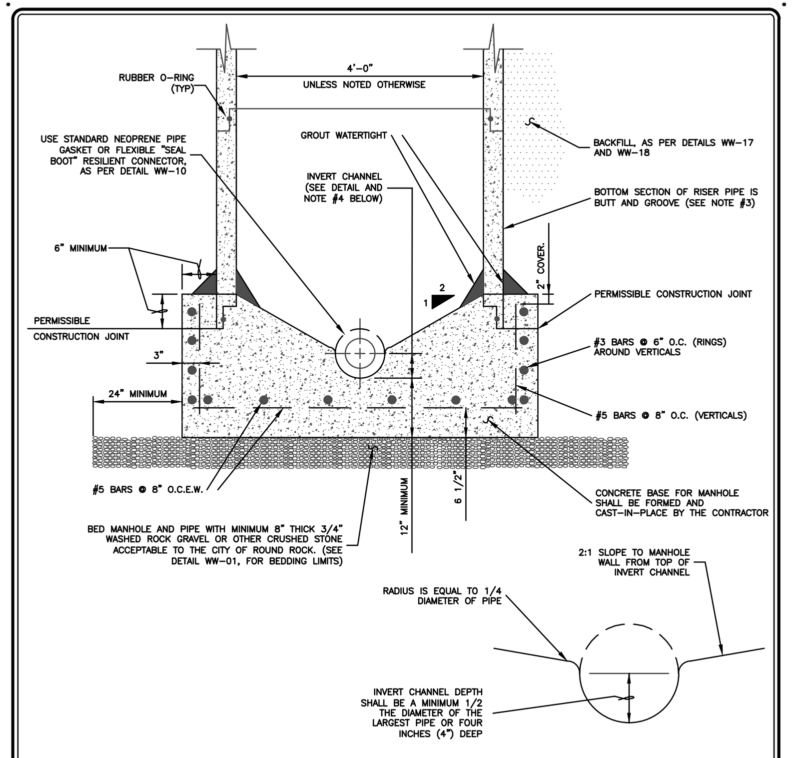
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-01
APPROVED 04-01-10 DATE	PRECAST CONCRETE WASTEWATER MANHOLE DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. SEE NOTES #2 THROUGH #10 ON DETAIL WW-01.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED MORE THAN TWO FEET (2'-0") ABOVE THE MAIN INVERT CHANNEL.
3. WHEN P.V.C. PIPE IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS MAY BE UTILIZED IN THE DROP ASSEMBLY ONLY.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-02
APPROVED 04-01-10 DATE	PRECAST CONCRETE WASTEWATER MANHOLE WITH DROP CONNECTION DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

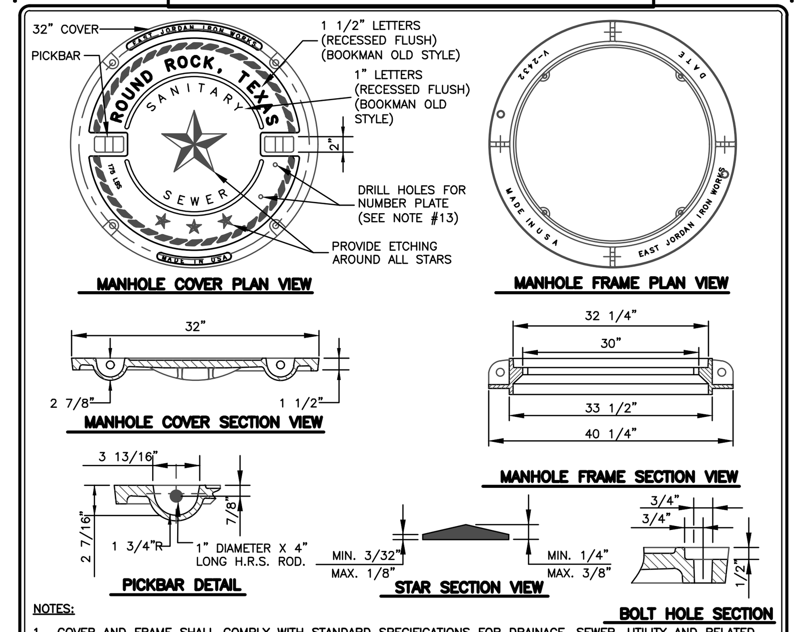


NOTES:

1. CAST-IN-PLACE BASE SHALL BE 4000 TO 4500 P.S.I. CONCRETE, 28 DAY STRENGTH.
2. STEEL SHALL BE GRADE 60.
3. MANHOLE RISER PIPE FURNISHED IN LENGTHS OF ONE (1), TWO (2), THREE (3), FOUR (4) OR SIX (6) FEET AND SHALL BE IN ACCORDANCE WITH ASTM C478.
4. INVERT CHANNEL SHALL BE PROVIDED THAT AS MUCH AS POSSIBLE, FORMS A SMOOTH CONTINUATION OF INLET AND OUTLET PIPES.
5. BASE SHALL BE PROPERLY FORMED IN THE FIELD WITH WOOD OR OTHER APPROVED FORMS.
6. VERTICAL BARS MAY BE EXTENSIONS OF BOTTOM STEEL OR SEPARATE FROM, BUT TIED TO BOTTOM STEEL.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-04
APPROVED 04-01-10 DATE	CAST-IN-PLACE BASE FOR CONCRETE WASTEWATER MANHOLE DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

MANHOLE COVER SHALL NOT REFERENCE THE CITY OF ROUND ROCK.

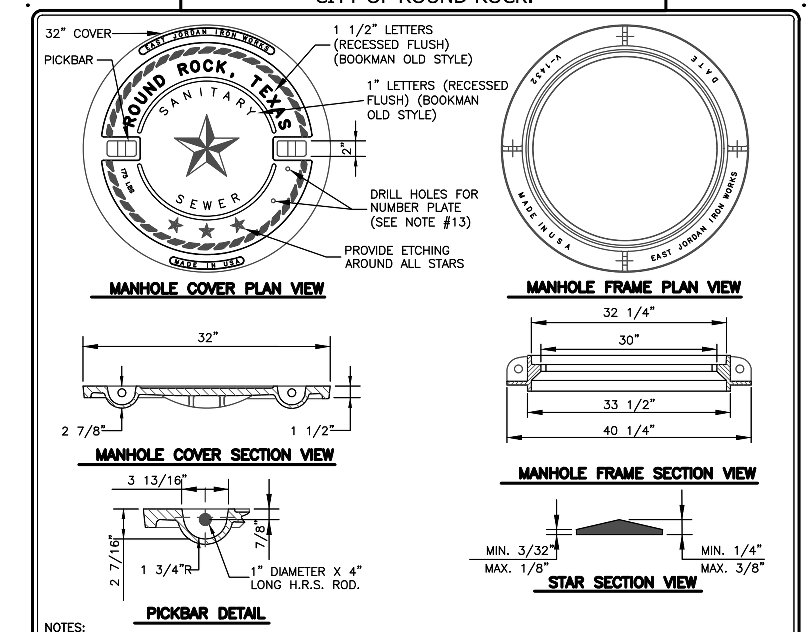


NOTES:

1. COVER AND FRAME SHALL COMPLY WITH STANDARD SPECIFICATIONS FOR DRAINAGE, SEWER, UTILITY AND RELATED CASTINGS: AASHTO DESIGNATION M306-04.
2. MANHOLE COVER SHALL BE MODEL NUMBER: V-2432-3 (PRODUCT NUMBER: 42432033), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
3. MANHOLE FRAME SHALL BE MODEL NUMBER: V-2432 (PRODUCT NUMBER: 42432010), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
4. MANHOLE COVER AND FRAME ASSEMBLY, IF ORDERED AS A SET, SHALL BE MODEL NUMBER: V-2432 (PRODUCT NUMBER: 42432073), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
5. ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM AND 1/8" MAXIMUM RADIUS.
6. MANHOLE COVERS SHALL BE CAST WITH TWO 1" DIAMETER STEEL PICKBARS.
7. MANHOLE COVER WEIGHT SHALL BE 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF COVER.
8. MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE COVER MEETS HS-20 LOADING.
9. FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
10. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
11. COVER SHALL BE DIPPED IN A WATER-BASED ASPHALTIC COATING, PRIOR TO SHIPMENT FROM FOUNDRY.
12. BOLTS SHALL BE 5/8"-11NC X 2" LONG HEX STAINLESS STEEL WITH WASHER.
13. MANUFACTURER SHALL DRILL 2-3/16"X1/2" DEEP HOLES FOR A MANHOLE NUMBER PLATE TO BE PROVIDED BY THE CITY OF ROUND ROCK. THE TOP HOLE SHALL BE DRILLED 1" O.C. FROM THE BOTTOM OF THE PICKBAR AND THE BOTTOM HOLE SHALL BE DRILLED 4" O.C. FROM THE TOP HOLE.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-07
APPROVED 04-01-10 DATE	BOLTED WASTEWATER MANHOLE COVER AND FRAME DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

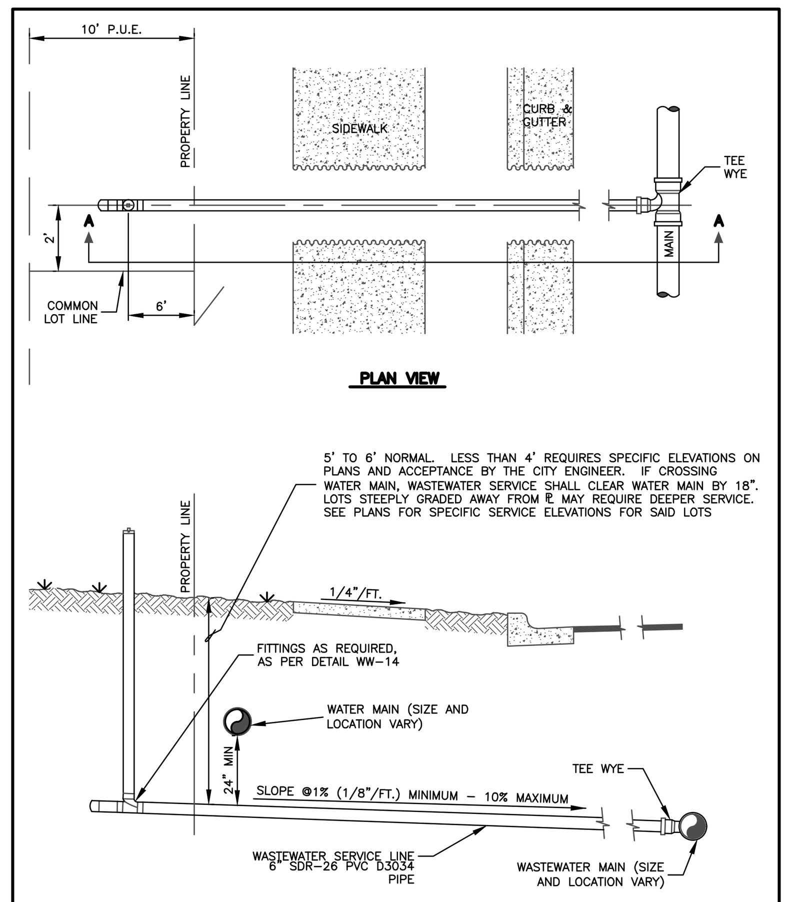
MANHOLE COVER SHALL NOT REFERENCE THE CITY OF ROUND ROCK.



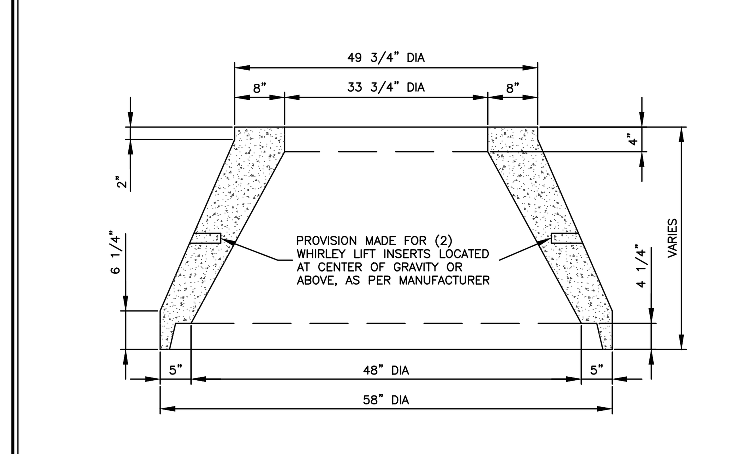
NOTES:

1. COVER AND FRAME SHALL COMPLY WITH STANDARD SPECIFICATIONS FOR DRAINAGE, SEWER, UTILITY AND RELATED CASTINGS: AASHTO DESIGNATION M306-04.
2. MANHOLE COVER SHALL BE MODEL NUMBER: V-1432-3 (PRODUCT NUMBER: 41432059), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
3. MANHOLE FRAME SHALL BE MODEL NUMBER: V-1432 (PRODUCT NUMBER: 41432010), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
4. MANHOLE COVER AND FRAME ASSEMBLY, IF ORDERED AS A SET, SHALL BE MODEL NUMBER: V-1432 (PRODUCT NUMBER: 41432089), AS MANUFACTURED BY EAST JORDAN IRON WORKS, INCORPORATED, OR APPROVED EQUAL.
5. ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM AND 1/8" MAXIMUM RADIUS.
6. MANHOLE COVERS SHALL BE CAST WITH TWO 1" DIAMETER STEEL PICKBARS.
7. MANHOLE COVER WEIGHT SHALL BE 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF COVER.
8. MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE COVER MEETS HS-20 LOADING.
9. FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
10. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
11. COVER SHALL BE DIPPED IN A WATER-BASED ASPHALTIC COATING, PRIOR TO SHIPMENT FROM FOUNDRY.
12. MANUFACTURER SHALL DRILL 2-3/16"X1/2" DEEP HOLES FOR A MANHOLE NUMBER PLATE TO BE PROVIDED BY THE CITY OF ROUND ROCK. THE TOP HOLE SHALL BE DRILLED 1" O.C. FROM THE BOTTOM OF THE PICKBAR AND THE BOTTOM HOLE SHALL BE DRILLED 4" O.C. FROM THE TOP HOLE.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-08
APPROVED 04-01-10 DATE	NON-BOLTED WASTEWATER MANHOLE COVER AND FRAME DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



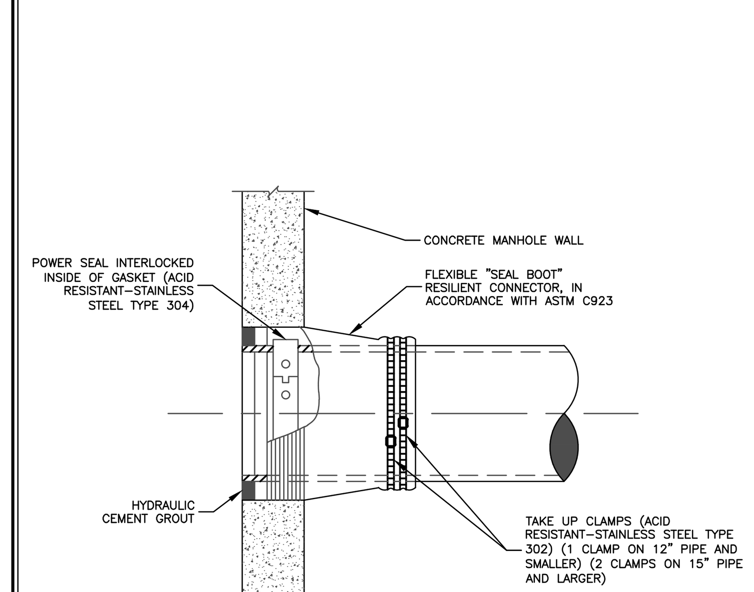
SANTA RITA RANCH
SINGLE WASTEWATER SERVICE DETAIL
NTS



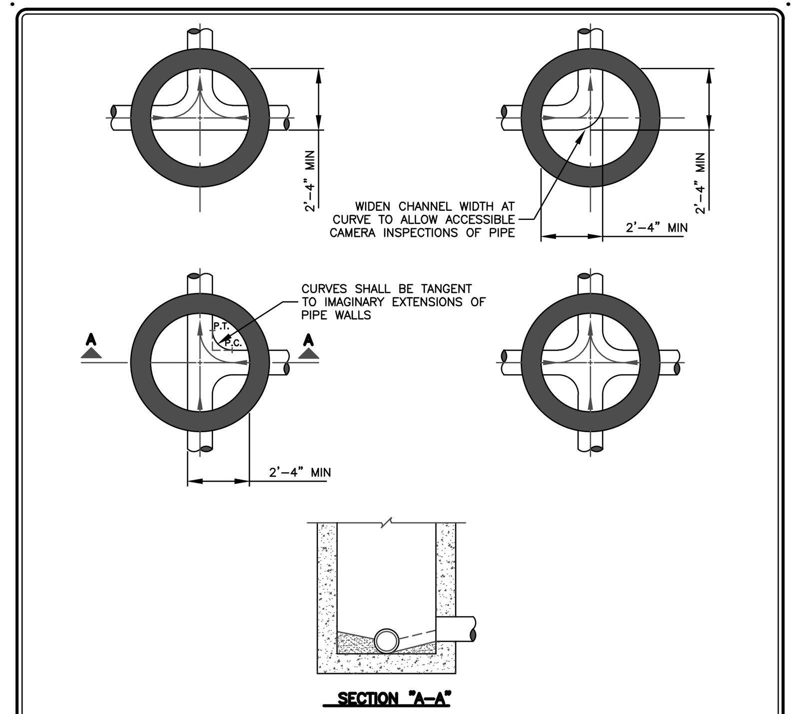
NOTE:

CONCENTRIC CONCRETE CONE SECTION SHALL BE MANUFACTURED USING 4000 TO 4500 P.S.I. CONCRETE, 28 DAY STRENGTH AND IN ACCORDANCE WITH ASTM C478, AS MANUFACTURED BY CONCRETE PRODUCTS, INCORPORATED, OR APPROVED EQUAL.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-09
APPROVED 04-01-10 DATE	PRECAST 48" CONCENTRIC CONCRETE CONE SECTION DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



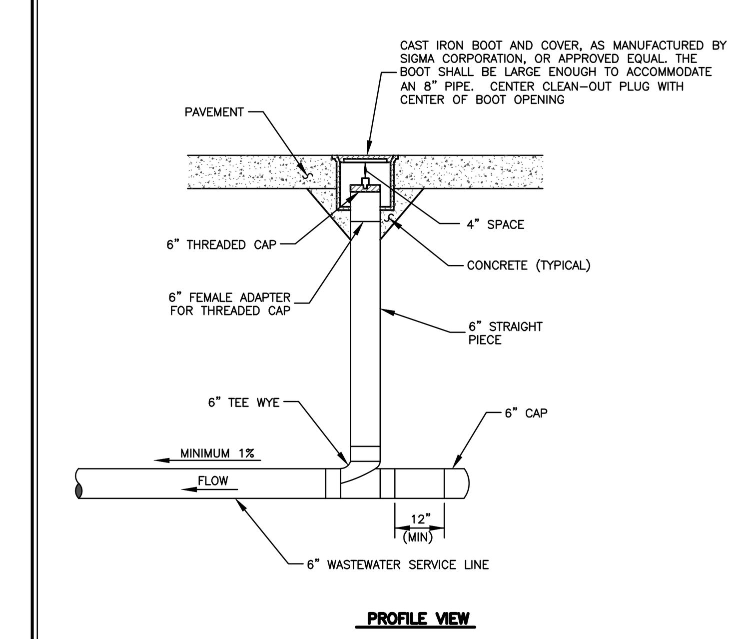
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-10
APPROVED 04-01-10 DATE	FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. MINIMUM DROP FROM INLET TO OUTLET OF MANHOLE IS 0.1 FEET AND MAXIMUM DROP IS 2.5 FEET, UNLESS SPECIAL APPROVAL IS OBTAINED FROM THE CITY OF ROUND ROCK.
2. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
3. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
4. CHANNELS FOR FUTURE CONSTRUCTIONS, SHALL BE CONSTRUCTED WITH PIPE EXTENDING 3' BEYOND EXTERIOR OF MANHOLE WALL, WITH GLUED PLUG.
5. SLOPE MANHOLE BENCH AT 2:1 SLOPE FROM MANHOLE WALL TO CHANNEL.
6. INVERT CHANNEL SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR FOUR INCHES (4") DEEP.

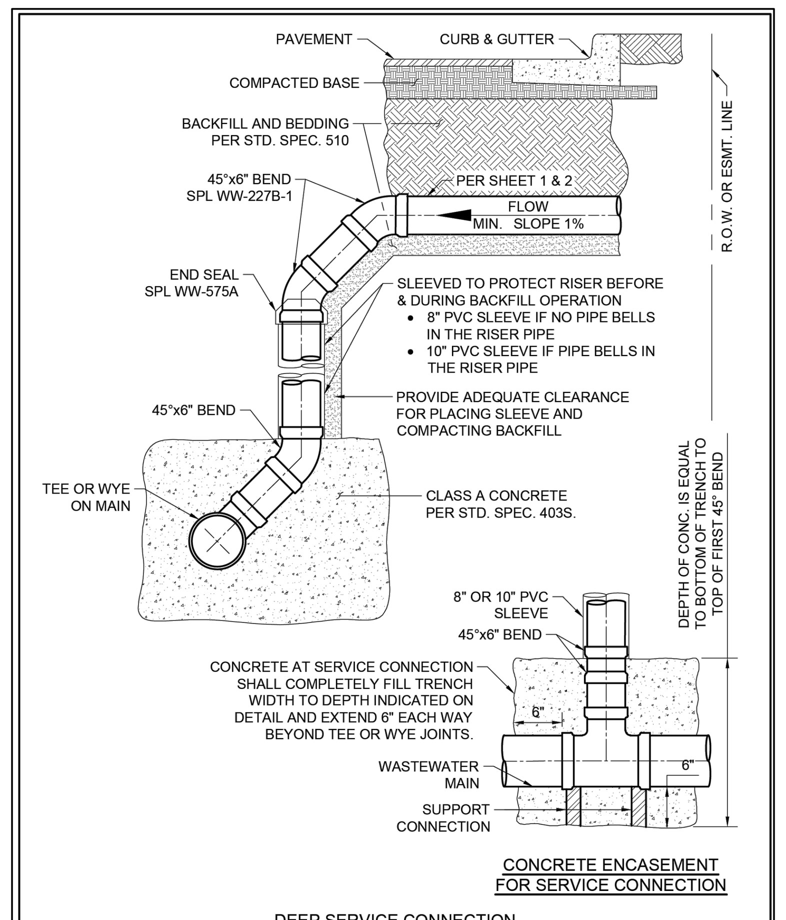
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-11
APPROVED 04-01-10 DATE	WASTEWATER FLOW PATTERNS FOR INVERT CHANNELS DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



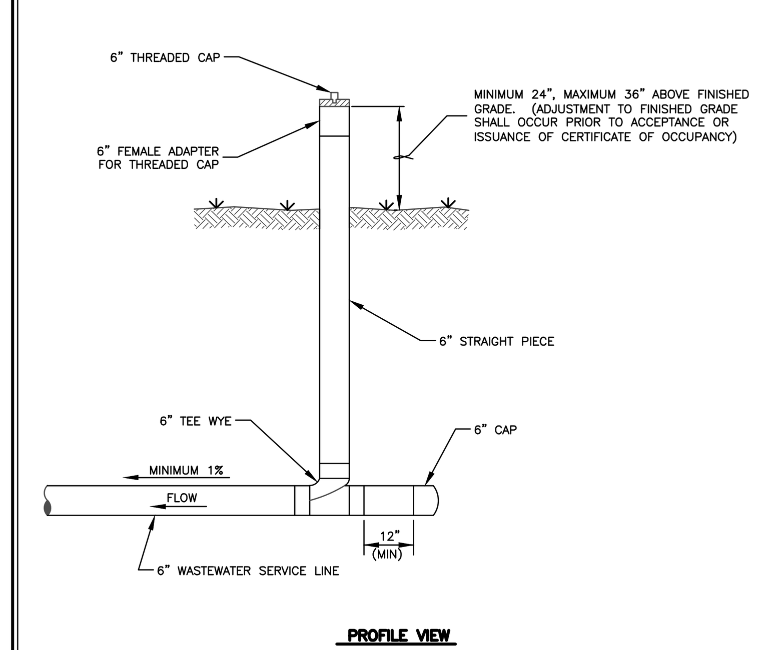
NOTES:

1. ALL PIPE TO BE SDR 26.
2. ALL FITTINGS TO BE SDR 35 SOLVENT WELD FITTINGS.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-13
APPROVED 12-01-10 DATE	WASTEWATER SERVICE CLEAN-OUT DETAIL (PAVED SURFACES)	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



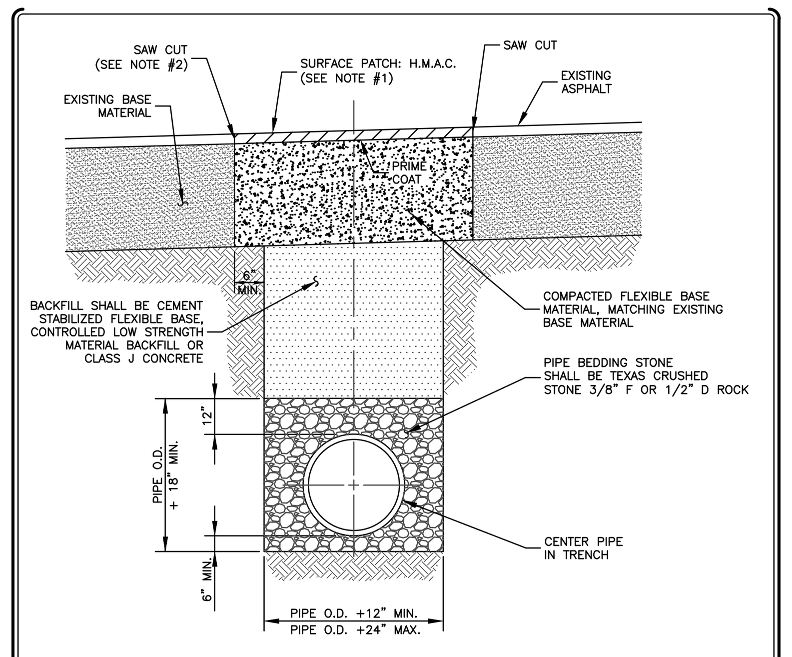
CITY OF AUSTIN AUSTIN WATER	SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION	
RECORD COPY SIGNED JEFF A. KYLE — 11/07/2018 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-01C 3 OF 4



NOTES:

1. ALL PIPE TO BE SDR 26.
2. ALL FITTINGS TO BE SDR 35 SOLVENT WELD FITTINGS.

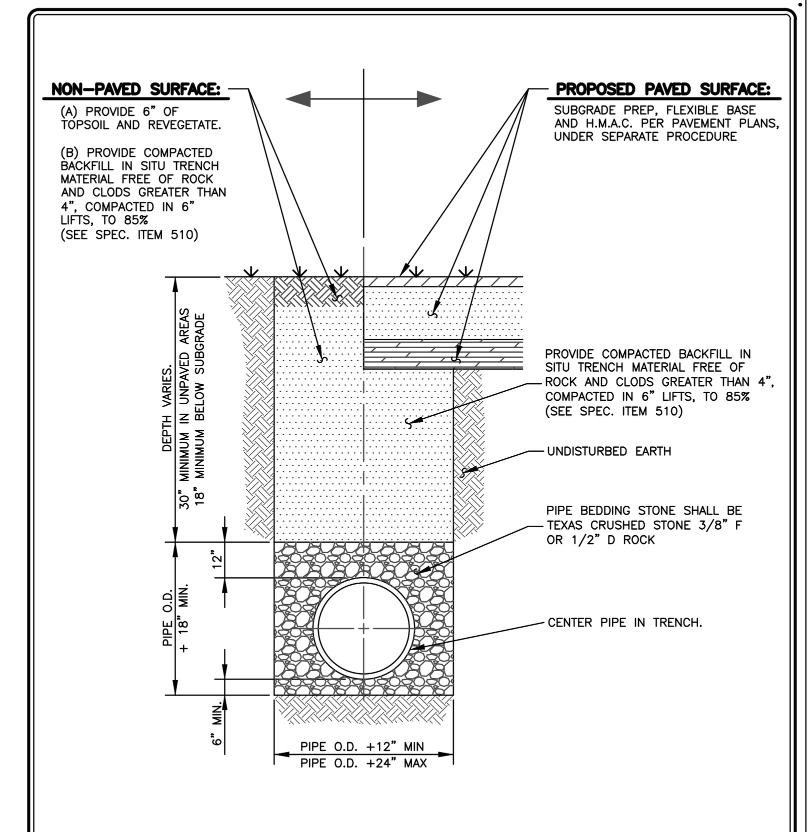
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-14
APPROVED 12-01-10 DATE	WASTEWATER SERVICE CLEAN-OUT DETAIL (NON-PAVED SURFACES)	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. H.M.A.C. THICKNESS SHALL MATCH EXISTING ASPHALT THICKNESS AND NO LESS THAN 2".
2. THE CONTRACTOR SHALL SAW CUT, REMOVE AND REPLACE EXISTING PAVEMENT AND FLEXIBLE BASE A MINIMUM OF 6" BEYOND EITHER THE EDGE OF THE WASTEWATER LINE TRENCH OR THE POINT WHERE EXISTING PAVEMENT IS DAMAGED DUE TO TRENCHING OPERATIONS, WHICHEVER IS GREATER. FINISHED PATCH SHALL BE NEAT AND UNIFORM.
3. INSTALLATION OF BACKFILL, SAW CUTTING AND REMOVAL OF EXISTING PAVEMENT, AND SURFACE PATCH SHALL NOT BE PAID FOR SEPARATELY. COSTS FOR THESE ITEMS SHALL BE INCLUDED IN UNIT PRICE BID FOR WASTEWATER PIPE.
4. THE CONTRACTOR SHALL PROVIDE STEEL PLATES TO SPAN THE TRENCH AS NECESSARY OR TO ALLOW BACKFILL TO CURE. SUCH PLATES SHALL BE SUITABLE FOR VEHICLE PASSAGE OVER THE TRENCH AND SHALL BE SATISFACTORILY ANCHORED IN PLACE. COSTS FOR THIS ITEM SHALL BE INCLUDED IN UNIT PRICE BID FOR WASTEWATER PIPE.
5. ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

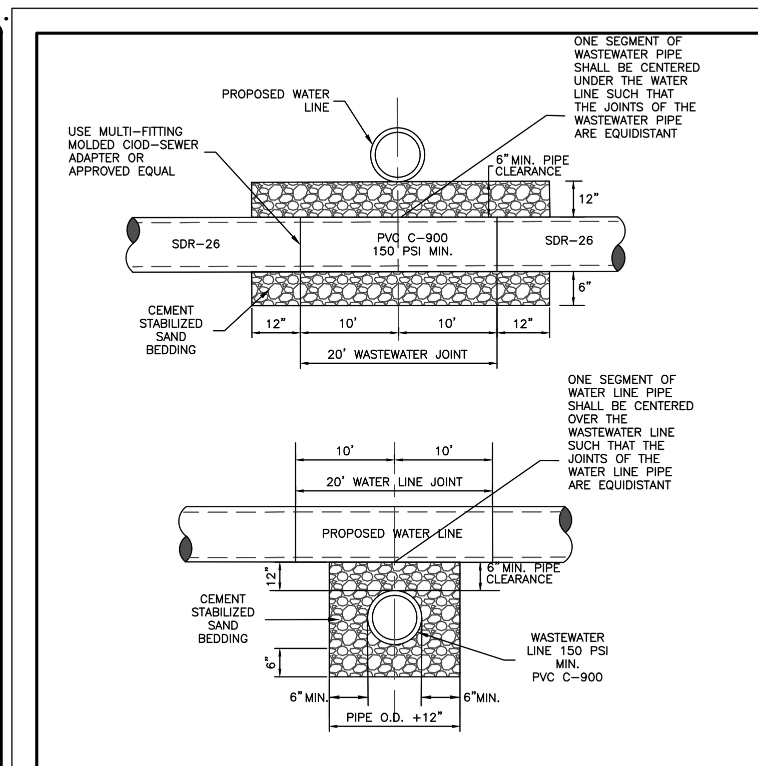
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-17
APPROVED 04-01-09 DATE	WASTEWATER LINE BEDDING AND PAVEMENT REPAIR DETAIL (EXISTING PAVED SURFACE)	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTE:

ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: WW-18
APPROVED 04-01-10 DATE	WASTEWATER LINE BEDDING AND SURFACE REPAIR DETAIL (NON-PAVED & PROPOSED PAVED SURFACE)	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTE:

THE CEMENT STABILIZED SAND SHALL HAVE A MIN. 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE, BASED ON LOOSE DRY VOLUME (AT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE)

WATER LINE/WASTEWATER LINE CROSSING DETAIL
STANDARD PIPE SIZE DIMENSIONS:
PVC-SDR 26 - 8"
O.D. B. 40 in; t=0.24 in; i.d.=7.92 in.

FILE PATH:J:\AC3D\5559\dwg\5559-WASTE DETAILS.dwg - May 14, 2025 - 1:08pm

DESIGNED BY: SPC
DRAFTED BY: CEL

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office
5501 West William Cannon Dr.
Austin, Texas 78749
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
Phone No. (512) 280-5160 Fax No. (512) 280-5165

DATE	REVISION

SHEET NAME: WASTEWATER DETAILS

JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
5-14-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 72 OF 75
SHEET NO. 72

Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Temporary Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Steven P. Cates, P.E.

Date: 9/9/2025

Signature of Customer/Agent:

Regulated Entity Name: Santa Rita Ranch Phase 2B Section 2

Project Information

Potential Sources of Contamination

Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.

1. Fuels for construction equipment and hazardous substances which will be used during construction:

   ☐ The following fuels and/or hazardous substances will be stored on the site: _____

   These fuels and/or hazardous substances will be stored in:

   ☐ Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

☒ Fuels and hazardous substances will not be stored on the site.

2. ☒ **Attachment A - Spill Response Actions**. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

3. ☒ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☒ **Attachment B - Potential Sources of Contamination**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

5. ☒ **Attachment C - Sequence of Major Activities**. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

   ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☒ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: North Fork of the San Gabriel River

Temporary Best Management Practices (TBMPs)

Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the Technical Guidance Manual for guidelines and specifications. All structural BMPs must be shown on the site plan.

7. ☒ **Attachment D – Temporary Best Management Practices and Measures**. TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. ☐ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

   ☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

   ☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. ☒ **Attachment F - Structural Practices**. A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.

10. ☒ **Attachment G - Drainage Area Map**. A drainage area map supporting the following requirements is attached:

    ☒ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

    ☒ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

    ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☒ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations**. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

☐ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

Examples: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.

17. ☒ **Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices**. A schedule of the interim and permanent soil stabilization practices for the site is attached.

18. ☒ Records must be kept at the site of 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.

19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

20. ☒ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

Temporary Stormwater Section
ATTACHMENT A

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Spill Response Actions:

1. Contain the spill.
2. Immediately stake off area.
3. Notify Hazardous Material team (if necessary); notify TCEQ:
   (512) 339-2929 or Emergency # 1-800-832-8224
4. Take necessary steps to clean up, i.e. notify remediation contractor if large spill, or small spills will be cleaned by the construction contractor.

All site personnel will be made aware of the manufactures' recommended methods for spill cleanup, and the location of the information and cleanup supplies.

Spills will be reported according to the Reportable Quantity, attached on the following page.

Materials and equipment necessary for spill cleanup will be kept onsite in an accessible location known to site personnel.

All Spills will be cleaned up immediately upon discovery. Any spill of hydrocarbons or hazardous substances greater than 25 gallons will require notification to the fire Department Hazardous Materials Team and TCEQ. As with all spills, an effort shall be made to prevent material from entering surface streams and storm drains by using rock or earth berms to contain the material.

Kind of spill	Where discharged	Reportable quantity	Rule, statute, or responsible agency
Hazardous substance	onto land	"Final RQ" in Table 302.4 in 40 CFR 302.4 (PDF)	30 TAC 327
	into water	"Final RQ" or 100 lbs, whichever is **less**	
Any oil	coastal waters	as required by the Texas General Land Office	Texas General Land Office
Crude oil, oil that is neither a petroleum product nor used oil	onto land	210 gallons (five barrels)	30 TAC 327
	directly into water	enough to create a sheen	
Petroleum product, used oil	onto land, from an exempt PST facility	210 gallons (five barrels)	30 TAC 327
	onto land, or onto land from a non-exempt PST facility	25 gallons	
	directly into water	enough to create a sheen	
Associated with the exploration, development and production of oil, gas, or geothermal resources	under the jurisdiction of the Railroad Commission of Texas	as required by the Railroad Commission of Texas	Railroad Commission of Texas
Industrial solid waste or other substances	into water	100 lbs	30 TAC 327
From petroleum storage tanks, underground or aboveground	into water	enough to create a sheen on water	30 TAC 334.75-81
From petroleum storage tanks, underground or aboveground	onto land	25 gallons or equal to the RQ under 40 CFR 302	30 TAC 327
Other substances that may be useful or valuable and are not ordinarily considered to be waste, but will cause pollution if discharged into water in the state	into water	100 lbs	30 TAC 327

1.4.16 Spill Prevention and Control

The objective of this section is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.
The following steps will help reduce the stormwater impacts of leaks and spills:

Education

(1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spill must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.
(2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
(3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
(4) Establish a continuing education program to indoctrinate new employees.
(5) Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

(1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
(2) Store hazardous materials and wastes in covered containers and protect from vandalism.
(3) Place a stockpile of spill cleanup materials where it will be readily accessible.
(4) Train employees in spill prevention and cleanup.
(5) Designate responsible individuals to oversee and enforce control measures.
(6) Spills should be covered and protected from stormwater runon during rainfall to the extent that it doesn't compromise clean up activities.
(7) Do not bury or wash spills with water.
(8) Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
(9) Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
(10) Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
(11) Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
(12) Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

(1) Clean up leaks and spills immediately.
(2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
(3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

(1) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
(2) Use absorbent materials on small spills rather than hosing down or burying the spill.
(3) Absorbent materials should be promptly removed and disposed of properly.
(4) Follow the practice below for a minor spill:
(5) Contain the spread of the spill.
(6) Recover spilled materials.
(7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:

(1) Contain spread of the spill.
(2) Notify the project foreman immediately
(3) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
(4) If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
(5) If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

(1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512- 339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
(2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
(3) Notification should first be made by telephone and followed up with a written report.
(4) The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
(5) Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

More information on spill rules and appropriate responses is available on the TCEQ website at: https://www.tceq.texas.gov/response/spills

Vehicle and Equipment Maintenance

(1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the run on of stormwater and the runoff of spills.
(2) Regularly inspect onsite vehicles and equipment for leaks and repair immediately
(3) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
(4) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
(5) Place drip pans or absorbent materials under paving equipment when not in use.
(6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
(7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
(8) Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
(9) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

(1) If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.
(2) Discourage "topping off" of fuel tanks.
(3) Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

Temporary Stormwater Section
ATTACHMENT B

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Potential Sources of Contamination:

Gasoline, Diesel, and Hydraulic Fluid from construction equipment,
Asphalt products,
Construction Materials,
Trash and Debris,
Paint,
Concrete,
Gypsum from sheet rock,
Sediment.

All materials shall be hauled in a manner consistent with the manufacturer's recommendations. Disposal of waste material shall be in conformance with all state and local laws

Temporary Stormwater Section
ATTACHMENT C

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Sequence of Major Activities:

1. Install and maintain Erosion Control and Tree Protection per the Approved Plans and specifications prior to any clearing and grubbing, grading, excavating, etc... Notify Construction Inspection Division when installed.

2. Prior to beginning construction, the owner or his representative shall hold a Pre-Construction Conference between TCEQ, Williamson County, Contractor, and any other affected parties. Notify TCEQ at least 48 hours prior to the time of the conference and 48 hours prior to beginning construction. Prior to Pre-Construction Conference.

3. Hold Pre-Construction Conference with contractor, TCEQ, EV Inspector, Engineer, and owner or his representative.

4. Construct Temporary Sediment Basin and diversion channel at the intersection of Cow Camp Lane and La Colina Bend.

5. Rough grade roadway.
   (Estimate of disturbed area = 7.91 ac)

6. Begin installation of storm sewer. Upon completion, restore as much disturbed areas as possible, particularly channels and large open areas. (Estimate of disturbed area = 0.0 ac)

7. Regrade streets to subgrade ensuring that diversion channel still diverts upstream flow to the temporary sediment basin. (Estimate of disturbed area = 4.81 ac)

8. Ensure that all underground utility crossings are completed. Lay first course base material on all streets. (4.81 ac)

9. Regrade temporary diversion channel prior to Installation of curb and gutter. (Estimate of disturbed area = 0.58 ac)

10. Place concrete for common area 4’ sidewalk. (Estimate of disturbed area = 1.17 ac)

11. Lay final base course on all streets. (4.81 ac)

12. Lot grading. (Estimate of disturbed area = 22.00ac)

13. Install channel liner

14. Lay asphalt. (6.14 ac)

15. Remove temporary sediment basin, regrade area and install liner up to headwall apron.

16. Clean site and revegetate all disturbed area according to the plans and specifications. Stabilization measures should include seeding and/or mulching.

17. Complete permanent erosion control and restoration of site vegetation.

18. Project Engineer to provide a written concurrence letter, and scheduling final inspection with EV Inspector, prior to the removal of erosion controls.

19. Remove and dispose of temporary erosion/sedimentation control measures.

20. Complete any necessary final dress up of areas disturbed by Item 16.

21. Conduct a final inspection and complete all punch list items.

Clearing and grubbing under a development permit, solely for the purpose of surveying and soil exploration, shall be a hand-cutting or blade-up operation.

Temporary Stormwater Section
ATTACHMENT D

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Temporary Best Management Practices and Measures:

Install temporary erosion control measures, stabilized construction entrance, concrete washout area, inlet protection, and tree protection according to the plans and specifications prior to any clearing and grubbing, grading, excavating, etc. Upgradient stormwaters during construction crossing disturbed areas will be filtered utilizing standard Best Management Practices, such as erosion logs and silt fences, prior to leaving the site. The silt fences will be placed along upgradient areas of the site to prevent any sediment from entering storm sewers or surface streams.

Geological features on this site are located within the limits of Construction in the downstream area. Silt fences will be placed along the upgradient areas of sensitive features to prevent stormwater, from the disturbed areas, draining to the geological features.

Temporary Stormwater Section
ATTACHMENT F

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Structural Practices:

For areas that will have more than 10 acres within a common drainage area disturbed at one time, a combination of temporary BMPs and measures will be used to protect down slope and side slope boundaries of the construction area. For areas that will have less than 10 acres within a common drainage area disturbed at one time, a combination of a sediment basin and other erosion control measures, such as silt fences and rock berms, will be provided. For any areas not draining to sediment ponds, silt fences shall be provided.

Structural erosion control and pollution prevention practices shall be implemented to limit runoff discharge of pollutants from exposed soils. The structural practices utilized include:

Silt Fence

- Barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site.
    1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width 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 No. 30.
    2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft2 , and Brindell hardness exceeding 140.
    3) Woven wire backing to support the fabric should be galvanized 2” x 4” welded wire, 12 gauge minimum.

Fiber Rolls

- Placed at the toe and on the face of slopes to intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff.
    1) Core material: Core material should be biodegradable or recyclable. Material may be compost, mulch, aspen wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or similar materials.
    2) Containment Mesh: Containment mesh should be 100% biodegradable, photodegradable or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or similar material. When the fiber role will remain in place as part of a vegetative system use biodegradable or photodegradable mesh. For temporary installation recyclable mesh is recommended.

Stabilized Construction Entrance

- Stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk or parking area.

1) The aggregate should consist of 4 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 rack should be included in the plans. Divert wastewater to a sediment trap or basin.

Inlet Protection

- Filter barrier protection installed around stormwater inlets that provide protection against silt transport or accumulation in storm sewer systems.
    1) Filter fabric should be a nylon reinforced polypropylene fabric which meets the following minimum criteria: Tensile Strength, 90 lbs.; Puncture Rating, 60 lbs.; Mullen Burst Rating, 280 psi; Apparent Opening Size, U.S. Sieve No. 70.
    2) Posts for fabric should be 2” x 4” pressure treated wood stakes or galvanized steel, tubular in cross-section or they may be standard fence “T” posts.
    3) Concrete blocks should be standard 8” x 8” x 16” concrete masonry units.
    4) Wire mesh should be standard hardware cloth or comparable wire mesh with an opening size not to exceed 1/2 inch.

Concrete Washout

- Prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing washout in a designated area, and training employees and subcontractors.
    1) 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.

Temporary Sediment Basin

- Intercepts sediment-laden runoff and trap the sediment in order to protect drainage ways, properties and rights of way downstream.
    1) Riser should be corrugated metal or reinforced concrete pipe or box and should have watertight fittings or end to end connections of sections.
    2) An outlet pipe of corrugated metal or reinforced concrete should be attached to the riser and should have positive flow to a stabilized outlet on the downstream side of the embankment.
    3) An anti-vortex device and rubbish screen should be attached to the top of the riser and should be made of polyvinyl chloride or corrugated metal.

Rock Berm

- 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.
    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- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

Temporary Stormwater Section
ATTACHMENT G

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Drainage Area Map:

An overall drainage area map is included within the plan set submitted with this application.

Temporary Stormwater Section

ATTACHMENT H

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Temporary Sediment Pond(s) Plans and Calculations:

A temporary sediment basin will be built with Phase 2B-2. This is located to the northwest of the project. This basin in combination with temporary BMPs will be installed to control sediment transport during construction of the site.

Per 30 TAC 213.5(b)(4)(D)(i), temporary sediment ponds shall provide: 1) storage for a calculated volume of runoff from a two-year, 24-hour storm from each disturbed acre drained; 2) storage equivalent to 3,600 cubic feet of storage per acre drained; or 3) equivalent control measures until final stabilization of the site.

The table below provides the required storage equivalent to 3,600 cubic feet per disturbed acre from the proposed site draining to each pond. The proposed batch detention ponds have sufficient storage within the provided water quality storage to collect sediment runoff during construction activities until final stabilization of the site.

The temporary storage pond will be removed following installation of curb and gutter and downstream lined channel.

Proposed Ponds	On-site Disturbed Area (ac)	Required Storage (cf)	Provided WQV (cf)
Temporary Sediment Basin	21.764	78,352	98,472

*Sediment control will be provided by a combination of a temporary sediment basin and other structural BMPs such as silt fence, rock berms, and temporary rolled erosion control matting prior to final stabilization.

Temporary Stormwater Section
ATTACHMENT I

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Inspection and Maintenance for Best Management Practices:

The Best Management Practices installed during construction will be maintained in accordance with the requirements of the EPA's NPDES/TPDES storm water pollution prevention program (SWPPP). The following maintenance procedures shall be followed until permanent stabilization is complete.

Silt Fence

a. Inspect weekly or after each rainfall event and repair or replacement shall be made promptly as needed.
b. Silt Fence shall be removed when the site is completely stabilized so as to not block or impede storm flow or drainage.
c. Accumulated silt shall be removed when it reaches a depth of 6 inches. The Silt shall be disposed of on an approved site and in such a manner that will not contribute to additional siltation.

Fiber Rolls

a. Inspect prior to forecast rain, daily during extended rain events, after rain events, and weekly.
b. Repair of replace split, torn, unraveling, or slumping fiber rolls.
c. If the fiber roll is used as a sediment capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates behind the role shall be periodically removed tin order to maintain its effectiveness. Sediment shall be removed when the accumulation reaches one-half the designated sediment storage depth, usually one-half the distance between the top of the fiber roll and the adjacent ground surface. Sediment removed during maintenance may be incorporated into earthwork on the site or disposed of at an appropriate location.

Stabilized Construction Entrance

a. The entrance shall be maintained in a condition that will prevent tracking or flowing of sediment onto a public roadway. This may require periodic top dressing with additional stone as conditions demand, as well as repair and clean out of any devices used to trap sediment.
b. Entrance must be properly graded to incorporate a drain swale or similar measure to prevent runoff from leaving the construction site.

Inlet Protection

a. Inspection shall be made weekly or after each rainfall event and replacement or repair shall be made promptly as needed.
b. Accumulated silt shall be removed when it reaches a depth of 6 inches. The Silt shall be disposed of on an approved site and in such a manner that will not contribute to additional siltation
c. The dyke shall be removed when the site is completely stabilized so as to not block or impede storm flow or drainage.

Temporary Sediment Basins

a. Inspection shall be made weekly or after each rainfall event. Check the embankment spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Repair should be made promptly as needed.
b. Trash and other debris should be removed after each rainfall event to prevent clogging of the outlet structure.
c. Accumulated silt should be removed and the basin should be regraded to its original dimensions at such point that the capacity of the impoundment has been reduced to 75% of its storage capacity.
d. The removed sediment should be stockpiled or redistributed in areas that are protected from erosion.

Concrete Washout

a. Inspection shall be made daily or after each rainfall event to check for leaks, identify any plastic linings and sidewalls which have been damaged by construction activities.
b. When the washout container is filled over 75 % of its capacity, the washwater should be vacuumed off or allowed to evaporate to avoid overflows. When the remaining cementitious solids have hardened, they should be removed and recycled.
c. Damages to the container should be repaired promptly and as needed.
d. Before heavy rains, the washout containers liquid level should be lowered or the container should be covered to avoid an overflow during the rain event.

The owner shall hire an E&S compliance company to inspect E&S measures and keep reports of onsite inspections with deficiencies and solutions.

Temporary Stormwater Section
ATTACHMENT J

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Schedule of Interim and Permanent Soil Stabilization Practices:

Soil Stabilization for all disturbed areas shall be accomplished by hydraulic planting. Following is an outline to accomplish the required stabilization.

1. Preparing Seed Bed. After the designated areas have been rough graded to the lines, grades and typical sections indicated in the Drawings or as provided for in other items of this contract and for any other soil area disturbed by the construction, a suitable seedbed shall be prepared. The seedbed shall consist of a minimum of either 4 inches (100 millimeters) of approved topsoil or 4 inches (100 millimeters) of approved salvaged topsoil, cultivated and rolled sufficiently to enhance the soil to a state of good health, when the soil particles on the surface are small enough and lie closely enough together to prevent the seed from being covered too deeply for optimum germination. The optimum depth for seeding shall be 114 inch (6 millimeters). Water shall be gently applied as required to prepare the seedbed prior to the planting operation either by broadcast seeding or hydraulic planting. Bare soils should be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days. Seeding shall be performed in accordance with the requirements hereinafter described.

2. Watering. All watering shall comply with Santa Rita Ranch Rules and Regulations. Broadcast seeded areas shall immediately be watered with a minimum of 5 gallons of water per square yard (22.5 liters of water per square meter) or as needed and in the marmer and quantity as directed by the Engineer or designated representative. Hydraulic seeded areas and native grass seeded areas shall be watered commencing after the tackifier has dried with a minimum of 5 gallons of water per square yard (22.5 liters of water per square meter) or as needed to keep the seedbed in a wet condition favorable for the growth of grass. Watering applications shall constantly maintain the seedbed in a wet condition favorable for the growth of grass. Watering shall continue until the grass is uniformly 1 1/2 inches (40 mm) in height and accepted by the Engineer or designated representative. Watering can be postponed immediately after a 1/2 inch (12.5 mm) or greater rainfall on the site but shall be resumed before the soil dries out.

3. Hydraulic Planting. The seedbed shall be prepared as specified above and hydraulic planting equipment, which is capable of placing all materials in a single operation, shall be used.

March 1 to September 15

Hydraulic planting mixture and minimum rate of application pounds per 1000 square feet (kilograms per 100 square meters):

Planting Mixture			
Hulled Bermuda Seed (PLS=0.83)	Fiber Mulch		Soil Tackifier
	Cellulose	Wood	
1 lbs/1000 ft2 (0.5 kgs/100 m2)	45.9 Lbs/1000 ft2 (22.5 kgs/100m2)		1.4 lbs/1000 ft2 (0.7 kgs/100 m2)
		57.4 lbs/1000 ft2 (28.01 kgs/100 m2)	1.5 lbs/1000 ft2 (0.75 kgs/100 m2)

September 15 to March 1

Add 1.5 pounds per 1000 square feet (0.75 kgs/ 100 m@) of cool season cover crop (see table 1) to above mixture. The fertilizer shall conform to City of Austin Standard Specification Item No. 606S, “Fertilizer”.

Table 1 : Cool Season Cover Crop			
Common Name	Botanical Name	Application rates	
		Lbs/1000 feet^2	Kg/ 100 meter^2
Wheat	Triticum aestivum	0.5	0.25
Oats	Avena sativa	0.5	0.25
Cereal Rye Grain	Secale cereal	0.5	0.25
Total Cool Season Cover Crop Seeding Rate		1.5	0.75
Total Cool Season Seeding Rate (Grass Wildflowers, & Cover Crop)		4.5	2.25

Organized Sewage Collection System Application

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(c), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Regulated Entity Name: Santa Rita Ranch Phase 2B Section 2

1. ☒ **Attachment A – SCS Engineering Design Report**. This Engineering Design Report is provided to fulfill the requirements of 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable, and is required to be submitted with this SCS Application Form.

Customer Information

2. The entity and contact person responsible for providing the required engineering certification of testing for this sewage collection system upon completion (including private service connections) and every five years thereafter to the appropriate TCEQ region office pursuant to 30 TAC §213.5(c) is:

   Contact Person: James Edward Horne
   Entity: SRFV Development, LLC.
   Mailing Address: 1700 Cross Creek Lane, Suite 100
   City, State: Liberty Hill, Texas Zip: 78642
   Telephone: 512-502-2050 Fax: _____
   Email Address: ed@srraustin.com
   The appropriate regional office must be informed of any changes in this information within 30 days of the change.

3. The engineer responsible for the design of this sewage collection system is:

   Contact Person: Steven P. Cates, P.E.
   Texas Licensed Professional Engineer's Number: 93648
   Entity: Carlson, Brigance, and Doering, Inc.
   Mailing Address: 5501 W. William Cannon Dr.
   City, State:Austin, Texas Zip: 78749
   Telephone:512-280-5160 Fax:512-280-5165
   Email Address:steve@cbdeng.com

Project Information

4. Anticipated type of development to be served (estimated future population to be served, plus adequate allowance for institutional and commercial flows):

   ☒ Residential: Number of single-family lots: 95
   ☐ Multi-family: Number of residential units: _____
   ☐ Commercial
   ☐ Industrial
   ☐ Off-site system (not associated with any development)
   ☐ Other: _____

5. The character and volume of wastewater is shown below:

100% Domestic	19,950 gallons/day
_____% Industrial	_____ gallons/day
_____% Commingled	_____ gallons/day

   Total gallons/day: 19,950

6. Existing and anticipated infiltration/inflow is 43,040 gallons/day. This will be addressed by: SDR 26 PVC with gasketed joints.

7. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

   ☐ The WPAP application for this development was approved by letter dated _____. A copy of the approval letter is attached.
   ☒ The WPAP application for this development was submitted to the TCEQ on this application, but has not been approved.
   ☐ A WPAP application is required for an associated project, but it has not been submitted.
   ☐ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

Pipe Diameter(Inches)	*Linear Feet (1)*	*Pipe Material (2)*	*Specifications (3)*
6"	2,167	SDR 26 PVC	ASTM D3034
6"	0	C900 DR-18 PVC	AWWA C900
8"	5,481	SDR 26 PVC	ASTM D3034
8"	160	C900 (150 psi) PVC	AWWA C900
6"	0	C900 (150 psi) PVC	ASTM D3034

Total Linear Feet: 7,808

(1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.
(2) Pipe Material - If PVC, state SDR value.
(3) Specifications - ASTM / ANSI / AWWA specification and class numbers should be included.

9. The sewage collection system will convey the wastewater to the Liberty Hill Wastewater (name) Treatment Plant. The treatment facility is:

   ☒ Existing
   ☐ Proposed

10. All components of this sewage collection system will comply with:

   ☒ The City of Liberty Hill standard specifications.
   ☐ Other. Specifications are attached.

11. ☒ No force main(s) and/or lift station(s) are associated with this sewage collection system.

   ☐ A force main(s) and/or lift station(s) is associated with this sewage collection system and the **Lift Station/Force Main System Application** form (TCEQ-0624) is included with this application.

Alignment

12. ☒ There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.

13. ☒ There are no deviations from straight alignment in this sewage collection system without manholes.

   ☐ **Attachment B - Justification and Calculations for Deviation in Straight Alignment without Manholes**. A justification for deviations from straight alignment in this sewage collection system without manholes with documentation from pipe manufacturer allowing pipe curvature is attached.

   ☐ For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

Manholes and Cleanouts

14. ☒ Manholes or clean-outs exist at the end of each sewer line(s). These locations are listed below: (Please attach additional sheet if necessary)

Table 2 - Manholes and Cleanouts

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
A	62 Of 78	28+68.85	CO
B	64 Of 78	10+00.75	MH
C	65 Of 78	6+68.87	CO
D	64 Of 78	3+43.27	MH
E	67 Of 78	0+25.63	CO
F	66 Of 78	0+37.86	CO
G	66 Of 78	6+32.44	MH

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
H	67 Of 78	0+34.46	CO
J	67 Of 78	0+29.66	CO
	Of		

15. ☒ Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

16. ☒ The maximum spacing between manholes on this project for each pipe diameter is no greater than:

Pipe Diameter (inches)	Max. Manhole Spacing (feet)
6 - 15	500
16 - 30	800
36 - 48	1000
≥54	2000

☐ **Attachment C – Justification for Variance from Maximum Manhole Spacing**. The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.

17. ☐ All manholes will be monolithic, cast-in-place concrete.

☒ The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.

Site Plan Requirements

Items 18 - 25 must be included on the Site Plan.

18. ☒ The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = 40'.

19. ☒ The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.

20. Lateral stub-outs:

☒ The location of all lateral stub-outs are shown and labeled.
☐ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

☒ The entire water distribution system for this project is shown and labeled.
☐ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
☐ There will be no water lines associated with this project.

22. 100-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 100-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above of sewer lines.)
☐ After construction is complete, all sections located within the 100-year floodplain will have water-tight manholes. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 3 - 100-Year Floodplain

Line	*Sheet*	*Station*
	of	to
	of	to
	of	to
	of	to

23. 5-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or man-made. (Do not include streets or concrete-lined channels constructed above sewer lines.)
☐ After construction is complete, all sections located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 4 - 5-Year Floodplain

Line	*Sheet*	*Station*
	of	to
	of	to
	of	to
	of	to

24. ☒ Legal boundaries of the site are shown.

25. ☒ The ***final plans and technical specifications*** are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

Items 26 - 33 must be included on the Plan and Profile sheets.

26. ☒ All existing or proposed water line crossings and any parallel water lines within 9 feet of sewer lines are listed in the table below. These lines must have the type of pressure rated pipe to be installed shown on the plan and profile sheets. Any request for a variance from the required pressure rated piping at crossings must include a variance approval from 30 TAC Chapter 290.

☐ There will be no water line crossings.

☐ There will be no water lines within 9 feet of proposed sewer lines.

Table 5 - Water Line Crossings

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*
WWLN A	11+81.88	CROSSING		25
WWLN A	14+28.11	CROSSING		56
WWLN A	17+77.30	CROSSING		51
WWLN A	22+66.24	CROSSING		53
WWLN A	26+22.46	CROSSING		67
WWLN B	0+31.50	CROSSING		63
WWLN B	3+05.77	CROSSING		43
WWLN G	0+38.70	CROSSING		47

27. Vented Manholes:

☒ **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.

☐ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.

☐ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.

☐ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

Line	*Manhole*	*Station*	*Sheet*

Line	*Manhole*	*Station*	*Sheet*

28. Drop manholes:

☒ There are no drop manholes associated with this project.
☐ Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(l)(2)(H).

Table 7 - Drop Manholes

Line	*Manhole*	*Station*	*Sheet*

29. Sewer line stub-outs (For proposed extensions):

☒ The placement and markings of all sewer line stub-outs are shown and labeled.
☐ No sewer line stub-outs are to be installed during the construction of this sewage collection system.

30. Lateral stub-outs (For proposed private service connections):

☒ The placement and markings of all lateral stub-outs are shown and labeled.
☐ No lateral stub-outs are to be installed during the construction of this sewage collection system.

31. Minimum flow velocity (From Appendix A)

☒ Assuming pipes are flowing full; all slopes are designed to produce flows equal to or greater than 2.0 feet per second for this system/line.

32. Maximum flow velocity/slopes (From Appendix A)

☒ Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.
☐ **Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second.** Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

Table 8 - Flows Greater Than 10 Feet per Second

Line	*Profile Sheet*	*Station to Station*	*FPS*	*% Slope*	*Erosion/Shock Protection*

33. Assuming pipes are flowing full, where flows are ≥ 10 feet per second, the provisions noted below have been made to protect against pipe displacement by erosion and/or shock under 30 TAC §217.53(l)(2)(B).

☐ Concrete encasement shown on appropriate Plan and Profile sheets for the locations listed in the table above.
☐ Steel-reinforced, anchored concrete baffles/retards placed every 50 feet shown on appropriate Plan and Profile sheets for the locations listed in the table above.
☒ N/A

Administrative Information

34. ☒ The final plans and technical specifications are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

35. ☒ Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Table 9 - Standard Details

Standard Details	*Shown on Sheet*
Lateral stub-out marking **[Required]**	72 of 78
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	72 of 78
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	72 of 78
Typical trench cross-sections **[Required]**	72 of 78
Bolted manholes **[Required]**	72 of 78
Sewer Service lateral standard details **[Required]**	72 of 78
Clean-out at end of line **[Required, if used]**	72 of 78
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	N/A of N/A
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	72 of 78
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	N/A of N/A

Standard Details	*Shown on Sheet*
Drop manholes **[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]**	N/A of N/A

36. ☒ All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.

37. ☒ All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.

    ☒ Survey staking was completed on this date: 9/14/2025

38. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

39. ☒ Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Organized Sewage Collection System Application** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Print Name of Licensed Professional Engineer: Steven P. Cates, P.E.

Date: 9/9/2025

Place engineer's seal here:

Signature of Licensed Professional Engineer:

Appendix A-Flow Velocity Table

Flow Velocity (Flowing Full) All gravity sewer lines on the Edwards Aquifer Recharge Zone shall be designed and constructed with hydraulic slopes sufficient to give a velocity when flowing full of not less than 2.0 feet per second, and not greater than 10 feet per second. The grades shown in the following table are based on Manning's formula and an n factor of 0.013 and shall be the minimum and maximum acceptable slopes unless provisions are made otherwise.

Table 10 - Slope Velocity

Pipe Diameter(Inches)	*% Slope required for minimum flow velocity of 2.0 fps*	*% Slope which produces flow velocity of 10.0 fps*
6	0.50	12.35
8	0.33	8.40
10	0.25	6.23
12	0.20	4.88
15	0.15	3.62
18	0.11	2.83
21	0.09	2.30
24	0.08	1.93
27	0.06	1.65
30	0.055	1.43
33	0.05	1.26
36	0.045	1.12
39	0.04	1.01
>39	*	*

**For lines larger than 39 inches in diameter, the slope may be determined by Manning's formula (as shown below) to maintain a minimum velocity greater than 2.0 feet per second when flowing full and a maximum velocity less than 10 feet per second when flowing full.*

$$v = \frac{1.49}{n} \times R_h^{0.67} \times \sqrt{S}$$

Figure 1 - Manning's Formula

Where:

v = velocity (ft/sec)
n = Manning's roughness coefficient (0.013)
Rh = hydraulic radius (ft)
S = slope (ft/ft)

Santa Rita Ranch
Phase 2B Section 2

SCS Engineering Design Report

Prepared by:

Steven P. Cates, P.E.
Carlson, Brigance & Doering, Inc.
5501 W. William Cannon
Austin, Texas 78749
(512)-280-5160
Firm # F3791

Prepared for:

SRFV Development, LLC.
Atten: James Edward Horne
1700 Cross Creek Lane, Suite 100
Liberty Hill, Texas 78642
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September 2025
CBD No. 5559

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

9-9-2025

Santa Rita Ranch
Phase 2B Section 2

SCS Engineering Design Report

TABLE OF CONTENTS

I. General

II. Description of Proposed System

III. Pipe Deflection Calculations

IV. System Design

Santa Rita Ranch
Phase 2B Section 2

SCS Engineering Design Report

I. GENERAL

Santa Rita Ranch Phase 2B Section 2 is a 58.11-acre residential development that is composed of 95 single-family lots. The project is located on the east side of Flower Valley Parkway and Santa Rita Ranch Phase 2B Section 1, and just south of existing Tower Rd. The project is located within the City of Liberty Hill ETJ, in Williamson County, Texas. This project includes 5,736 linear feet of roadway, 6,052 linear feet of water main line, 5,481 linear feet of 8" SDR 26 PVC ASTM D3034 wastewater main line, 160 linear feet of 8" C900 (150 psi) PVC AWWA C900 wastewater main line at water crossings, and 2,167 linear feet of 6" SDR 26 PVC ASTM D3034 of wastewater service line. The proposed wastewater line will flow into an existing SCS gravity system to the approved Lift Station 2A and then the Liberty Hill Wastewater Treatment Plant.

Flow was calculated using LCRA design criteria (210 gallons per LUE, 1,000 gal/acre/day) assuming 3 people per LUE at 70 gpd/person for residential use.

II. DESCRIPTION OF PROPOSED SYSTEM

The gravity mains and manholes meet the TCEQ requirements of Chapter 217. All the gravity mains with this project are PVC SDR-26 ATSM D3034. The construction plans consist of the following:

Linear Feet	Pipe Material	National Standard Specification for Pipe
5,481	PVC SDR-26	ASTM D3034
160	PVC C900 (150 psi)	AWWA C900

The pipes are designed with a slope that will provide a velocity of at least 2 feet per second, as calculated using Manning's equation with an "n" value of 0.013. Additionally, the collection system is designed to ensure that, with pipes flowing full, the velocities will be less than 10 feet per second.

Pipe Diameter: 8" Min. Slope: 0.34% Max. Slope: 7.13%

The plans and specifications, which describe the project identified in the report, are in compliance with all the requirements of Chapter 217. Refer to the calculations at the end of the report for all the analysis for flows & deflection.

Santa Rita Ranch
Phase 2B Section 2

SCS Engineering Design Report

III. Pipe Deflection Calculations

6", 8", & 12" SDR 26 ATSM D3034 – 6ft-16ft Depth of Bury

Given: 6" & 8" SDR 26 PVC ATSM D3034 Pipe
H= 6 ft (Depth of Bury)
γ = 120 lbs/cf (Backfill Soil Unit Weight)
D_L = 1.0 (Deflection Lag Factor)
K = 0.085 (Bedding Constant)
W' = 16,000 moving wheel load (live load)
PS = 144 psi (Pipe Stiffness for PVC SDR 26)
E^1 = 3,000 psi (Soil Modulus for Limestone)

PIPE DEFLECTION, % (2 Trucks Passing Live Load)			Including a 16000 Lb MOVING Wheel Load Effective Length of Wheel Load: 3.00 Ft	
DLF = 1.00	K = 0.085		PS = 144 psi	E' = 3000 psi
Prism Load, Wp, Condition			Backfill Weight = 120 Lb / Ft ^ 3	
	Outside Diameters, ins.			
Depth, Ft	6.275	8.400	12.500	15.300
6.00	0.32 %	0.32 %	0.32 %	0.32 %
8.00	0.35 %	0.35 %	0.35 %	0.35 %
10.00	0.40 %	0.40 %	0.40 %	0.40 %
12.00	0.46 %	0.46 %	0.46 %	0.46 %
14.00	0.52 %	0.52 %	0.52 %	0.52 %
16.00	0.58 %	0.58 %	0.58 %	0.58 %
18.00	0.65 %	0.65 %	0.65 %	0.65 %

Deflection = 0.58% < 2.0% ok

Santa Rita Ranch
Phase 2B Section 2

SCS Engineering Design Report

6" & 8" SDR 18 PVC AWWA C900 Pipe

Given 6" & 8" SDR 18 PVC AWWA C900 Pipe
H= 3 ft (Mi. Depth of Bury)
γ = 120 lbs/cf (Backfill Soil Unit Weight)
D_L = 1.0 (Deflection Lag Factor)
K = 0.085 (Bedding Constant)
W' = 16,000 moving wheel load (live load)
PS = 455 psi (Pipe Stiffness for PVC SDR 18)
E^1 = 3,000 psi (Soil Modulus for Limestone)

PIPE DEFLECTION, % (2 Trucks Passing Live Load)			Including a 16000 Lb MOVING Wheel Load Effective Length of Wheel Load: 3.00 Ft
DLF = 1.00	K = 0.085		PS = 455 psi E' = 3000 psi
Prism Load, Wp, Condition			Backfill Weight = 120 Lb / Ft ^ 3
	Outside Diameters, ins.		
Depth, Ft	6.900	9.050	
3.00	0.35 %	0.35 %	
5.00	0.26 %	0.26 %	
7.00	0.27 %	0.27 %	
9.00	0.31 %	0.31 %	
11.00	0.35 %	0.35 %	
13.00	0.40 %	0.40 %	
15.00	0.45 %	0.45 %	

Deflection = 0.55% < 2.0% ok

Santa Rita Ranch
Phase 2B Section 2

SCS Engineering Design Report

IV. System Design

Flow Calculations:

DEV. TYPE	LUE's	Population (PPL)	gpd/LUE	Flow (gpm)	I&I Area (ac)
Single Family Lots	95	285	210	13.85	43.04

Peaking Factor (PF) = 4.09
PF = (18+(PPL/1000)^0.5)/((4+(PPL/1000)^0.5))

Minimum Flow Factor (MF) = 0.16
MF= 0.2(PPL/1000)^0.198

Inflow & Infiltration (I&I) =29.89 gpm
I&I = 1000gpd/ac*(I&I Area) ac./1440

Minimum Dry Weather Flow (Min.DWF) = 2.16 gpm
Min.DWF = (PPL)*70*(MF)/1440gpd/gpm

Average Dry Weather Flow (ADWF) = 13.85 gpm
ADWF = (PPL)*70/1440gpd/gpm

Maximum Dry Weather Flow (Max.DWF) = 56.63 gpm
Max.DWF = (PPL)*70*(PF)/1440gpd/gpm

Maximum Wet Weather Flow (MWWF) **= 86.52 gpm**
MWWF = Max.DWF + I&I

Pipe Capacity:

86.52 gpm / (448.8 gpm/cfs) = 0.19 cfs

Full Flow of 8" pipe at 0.34% (assuming n = 0.013) = 0.65 cfs

0.19 cfs / 0.65 cfs = 30% pipe capacity

Lift Station Capacity:

Per the Santa Rita Ranch Phase 2A Lift Station Engineering Report, the receiving systems have sufficient capacity to treat flows from proposed Phase 2B Section 2.

Appendix A

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

BMP TSS Removal Worksheet

Phase 2B Section 2

SITES

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SANTA RITA PHASE 2B SECTION 2
Date Prepared: 12/17/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project
County = **Williamson**

* The values entered in these fields should be for the total project area.

SANTA RITA RANCH PHASE 2B SECTION 2

Total project area included in plan * =	58.11	acres
Predevelopment impervious area within the limits of the plan * =	1.42	acres
Total post-development impervious area within the limits of the plan* =	15.07	acres
Total post-development impervious cover fraction * =	0.26	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	11882	lbs.

EXISTING BATCH DETENTION POND 14

EXISITNG SANTA RITA RANCH PHASE 2B, SECTION 1

Total project area included in plan * =	16.49	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	3.26	acres
Total post-development impervious cover fraction * =	0.19	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	2838	lbs.

PROPOSED SANTA RITA RANCH PHASE 2B, SECTION 2

Total project area included in plan * =	54.03	acres
Predevelopment impervious area within the limits of the plan * =	1.42	acres
Total post-development impervious area within the limits of the plan* =	13.50	acres
Total post-development impervious cover fraction * =	0.25	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	10515	lbs.

FUTURE SANTA RITA RANCH PHASE 2B

Total project area included in plan * =	9.43	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.93	acres
Total post-development impervious cover fraction * =	0.20	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1680	lbs.

FUTURE SANTA RITA RANCH PHASE 2C

Total project area included in plan * =	30.36	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	10.72	acres
Total post-development impervious cover fraction * =	0.35	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	9331	lbs.

$L_{M\ TOTAL}$ = 24363 lbs.

CARLSON, BRIGANCE & DOERING, INC.
ID# F-3791

5-14-2025

PROPOSED VEGETATED FILTER STRIP

PROPOSED SANTA RITA RANCH PHASE 2B, SECTION 2

Total project area included in plan * =	4.08	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.57	acres
Total post-development impervious cover fraction * =	0.38	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1367	lbs.

$L_{M\ TOTAL}$ = 1367 lbs.

Appendix A

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

BMP TSS Removal Worksheet

Phase 2B Section 2

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Santa Rita Ranch Phase 2B Section 2
Date Prepared: 12-17-2024

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	58.11	acres
Predevelopment impervious area within the limits of the plan * =	1.42	acres
Total post-development impervious area within the limits of the plan* =	15.07	acres
Total post-development impervious cover fraction * =	0.26	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	11882	lbs.

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	58.11	acres
Predevelopment impervious area within drainage basin/outfall area =	1.42	acres
Post-development impervious area within drainage basin/outfall area =	15.07	acres
Post-development impervious fraction within drainage basin/outfall area =	0.26	
$L_{M\ THIS\ BASIN}$ =	11882	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

4	A_C =	58.11	acres
	A_I =	15.07	acres
	A_P =	43.04	acres
	L_R =	15861	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 11882 lbs.

F = 0.75

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	0.92	inches
Post Development Runoff Coefficient =	0.24	
On-site Water Quality Volume =	45695	cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	9139	
Total Capture Volume (required water quality volume(s) x 1.20) =	54834	cubic feet

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED
PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

5-14-2025

Appendix A

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

BMP TSS Removal Worksheet

Drainage Basin Pond 14

(Overall)

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Batch detention Pond 14
Date Prepared: 12-17-2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	110.31	acres
Predevelopment impervious area within the limits of the plan * =	1.42	acres
Total post-development impervious area within the limits of the plan* =	29.41	acres
Total post-development impervious cover fraction * =	0.27	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	24363	lbs.

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	90.55	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	27.99	acres
Post-development impervious fraction within drainage basin/outfall area =	0.31	
$L_{M\ THIS\ BASIN}$ =	24362	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

4

A_C =	89.20	acres
A_I =	27.67	acres
A_P =	61.53	acres
L_R =	28847	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 24363 lbs.

F = 0.84

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	1.26	inches
Post Development Runoff Coefficient =	0.26	
On-site Water Quality Volume =	107432	cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	7.22	acres
Off-site Impervious cover draining to BMP =	2.33	acres
Impervious fraction of off-site area =	0.32	
Off-site Runoff Coefficient =	0.27	
Off-site Water Quality Volume =	8902	cubic feet
Storage for Sediment =	23267	
Total Capture Volume (required water quality volume(s) x 1.20) =	139601	cubic feet

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ID# F3791

5-14-2025

Appendix A

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

BMP TSS Removal Worksheet

Vegetated Filter Strip

(Overall)

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: VEGETATED FILTER STRIPS
Date Prepared: 12-17-2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	110.31	acres
Predevelopment impervious area within the limits of the plan * =	1.42	acres
Total post-development impervious area within the limits of the plan* =	29.41	acres
Total post-development impervious cover fraction * =	0.27	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	24363	lbs.

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	4.08	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	1.57	acres
Post-development impervious fraction within drainage basin/outfall area =	0.38	
$L_{M\ THIS\ BASIN}$ =	1367	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

4

A_C =	4.08	acres
A_I =	1.57	acres
A_P =	2.51	acres
L_R =	1514	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 1367 lbs.

F = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	1.70	inches
Post Development Runoff Coefficient =	0.30	
On-site Water Quality Volume =	7543	cubic feet

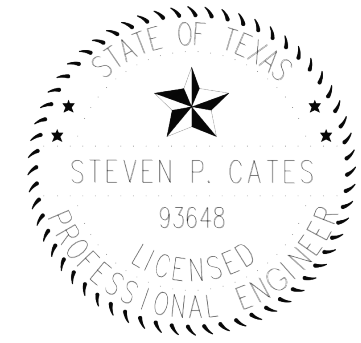
Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1509	
Total Capture Volume (required water quality volume(s) x 1.20) =	9052	cubic feet

16. Vegetated Filter Strips Designed as Required in RG-348 Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and
the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or
across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.



CARLSON, BRIGANCE & DOERING, INC.
ID# F-3791

5-14-2025

Appendix B

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

WPAP and SCS Approval Letters

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 2, 2021

Mr. James Edward Horne
Santa Rita KC, LLC
1700 Cross Creek Lane, Suite 100
Liberty Hill, Texas 78642

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Santa Rita Ranch Phase 1 Section 14; Located North of Rosetta Loop and Tierra Rosa Blvd.; Liberty Hill (ETJ), Texas

TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP) and an Organized Sewage Collection System (SCS); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program (EAPP) ID Nos. 11002420 (WPAP) and 11002421 (SCS); Regulated Entity No. RN107097248

Dear Mr. Horne:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP and SCS applications for the above-referenced project submitted to the Austin Regional Office by Carlson, Brigance & Doering, Inc. on behalf of Santa Rita KC, LLC on March 10, 2021. Final review was completed after additional material was received on May 10, 2021 and May 26, 2021. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213 and Chapter 217. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The Santa Rita Ranch Phase 1 Sections 20A, 20B, and 20C WPAP approved by letter dated July 16, 2018 (EAPP ID No. 11001069) included the construction of 112 single-family residential lots,

roads and drives, utilities, a water quality basin (Pond 20), and associated appurtenances. Pond 20 was designed to treat 75.32 acres of impervious cover from a drainage area of 160.98 acres, and constructed to have a permanent pool volume of 532,431 cf, and a water quality volume of 804,065 cf, as certified by Mr. Steve Cates, P.E. with Carlson, Brigance & Doering, Inc. on March 24, 2020.

PROJECT DESCRIPTION

The proposed single-family residential project will have an area of approximately 34.23 acres. It will include the development of 42 single-family residential lots, roads and drives, utilities, a proposed batch detention (Pond 1-14), and vegetative filter strips. The impervious cover will be 7.10 acres (20.74 percent). Batch detention 1-14 is constructed to treat stormwater runoff from future developments and is designed to have a water quality volume of 252,080 cf. It will not treat any stormwater runoff from Phase 1 Section 14, but it will be used only for detention purposes in this phase of the development.

Additionally, the proposed SCS will consist of approximately 485 linear feet of 6-inch diameter SDR 26 PVC ASTM D3034, 2,399 linear feet of 8-inch diameter SDR 26 PVC ASTM D3034, and 40 linear feet of 8-inch diameter PVC AWWA C900, with associated manholes and stub-outs.

Project wastewater will be disposed of by conveyance to the existing Liberty Hill Wastewater Treatment Plant and will comply with the City of Liberty Hill specifications.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, an existing water quality basin (modified wet basin Pond 20) and engineered vegetative filtered strips, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 6,180 pounds of TSS generated from the 7.10 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, two sensitive geologic features, sinkholes SF-20 and SR-13, are located within the boundary of the site. The site is underlain by the Edwards Group Limestone (Ked) in the Edwards Aquifer Recharge Zone. The natural buffer zone proposed for sinkholes SF-20 and SR-13 are illustrated on the Drainage Area Plan (Sheet 11 of 43) of the construction plans. No regulated activities (such as construction or soil disturbing activities) will take place within the natural buffers.

The buffer areas described above will encompass and protect sinkholes SF-20 and SR-13. Physical barriers and sediment controls such as fencing, rock berms and/or silt fences are required at the edges of these buffers prior to the commencement of construction.

The TCEQ site assessment conducted on May 7, 2021 revealed the site to be generally as described by the GA.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director 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.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
18. No part of the system shall be used as a holding tank for a pump-and-haul operation.

After Completion of Construction:

19. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the Austin Regional Office within 30 days of site completion.

20. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
21. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
22. Certification by a Texas Licensed Professional Engineer of the testing of sewage collection systems required by 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office within 30 days of test completion and prior to the new sewage collection system being put into service. The certification should include the project name as it appeared on the approved application, the program ID number, and two copies of a site plan sheet(s) indicating the wastewater lines and manholes that were tested and are being certified as complying with the appropriate regulations. 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. Should any test result fail to meet passing test criteria and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.

    Every five years after the initial certification, the sewage collection system shall be retested. Any lines that fail the test must be repaired and retested. Certification that the system continues to meet the requirements of 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office. The certification should include the project name as it appeared on the approved application, the program ID number and two copies of a site plan sheet(s) indicating the wastewater lines and manholes that were tested and are being certified as complying with the appropriate regulations. Should any test result fail to meet passing test criteria, and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
23. If ownership of this organized sewage collection system is legally transferred (e.g., developer to city or Municipal Utility District), the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
24. An Edwards Aquifer protection plan approval or extension will expire, and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

25. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Ms. Mihaela (Miki) Chilarescu, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at (512) 339-2929.

Sincerely,

Lori Wilson for

David Van Soest
Regional Director
Austin and Waco Regions
Texas Commission on Environmental Quality

DVS/mec

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

Carlson, Brigance & Doering, Inc.

Civil Engineering ❖ Surveying

CBD Project Number: 5045

Date: 2/7/2024

Mr. Robert Sadlier
Water Section Team Leader
Austin Region Office
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, TX. 78753

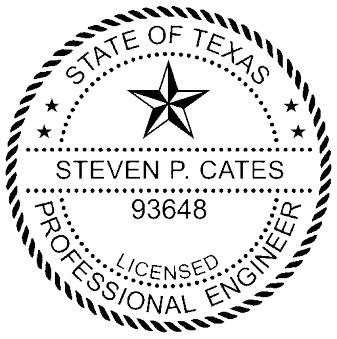
RE: Santa Rita Ranch Phase 1 Section 14
Edwards Aquifer Protection Program ID No. 11002420
Regulated Entity No. RN107097248
Engineer's Certification for permanent BMP's

To whom it may concern:

Based on a site inspection of the batch detention pond constructed as part of Santa Rita Ranch Phase 1 Section 14, I certify that the permanent BMP was constructed as designed per the updated sheet 21 of 43 of the approved plans dated May 25, 2021. The approved water quality volume per plan is 252,080 cubic feet.

Sincerely,
Carlson, Brigance & Doering, Inc.

Steven P. Cates, P.E.
Project Engineer



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

Brooke Paup, *Chairwoman*
Bobby Janecka, *Commissioner*
Catarina R. Gonzales, *Commissioner*
Kelly Keel, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 23, 2025

Mr. James Edward Horne
SRFV Development, LLC
1700 Cross Creek Lane, Suite 100
Liberty Hill, Texas 78642

Re: Approval of a Water Pollution Abatement Plan (WPAP) and Approval of an Organized Sewage Collection System (SCS) Plan
Santa Rita Ranch Phase 2B Section 2; Located Southeast of Benica Dr. and Tower Rd.; Liberty Hill (ETJ), Williamson County, Texas
Edwards Aquifer Protection Program IDs: 11004308 (WPAP) and 11004309 (SCS); RN112124086

Dear Mr. Horne:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Carlson, Brigance & Doering, Inc, on behalf of the applicant, SRFV Development, LLC, on January 21, 2025. Final review of the applications was completed after additional material was received on April 3, 2025, and May 21, 2025.

As presented to the TCEQ, the application was prepared in general compliance with the requirements of 30 Texas Administrative Codes (TAC) Chapter §213 and Chapter §217. The permanent best management practices (BMPs), engineering design report, technical specifications and final design plans were prepared by a Texas licensed professional engineer (PE). All construction plans and design information were sealed, signed, and dated by a Texas licensed PE. Therefore, the application for the construction of the proposed project and methods to protect the Edwards Aquifer are hereby **approved,** subject to applicable state rules and the conditions in this letter.

This approval expires two years from the date of this letter, unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been officially requested. This approval or extension will expire, and no extension will be granted if more than 50 percent of the project has not been completed within ten years from the date of this letter.

The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer protection plan. A motion for reconsideration must be filed in accordance with 30 TAC §50.139.

BACKGROUND

The Santa Rita Ranch Phase 1 Section 14 WPAP approved by letter dated June 2, 2021 (EAPP ID No. 11002420), included the construction of a batch detention basin (Pond 1-14) sized for future development, with a provided water quality volume of 252,080 cubic feet, as certified by Mr. Steve Cates, P.E, with Carlson, Brigance & Doering, Inc, on February 7, 2024.

PROJECT DESCRIPTION

WPAP DESCRIPTION

The proposed residential project will have a total area of approximately 58.11 acres. The project will include the development of 95 single-family residential lots, roads and drives, utilities, and an off-site conveyance channel. The impervious cover will be 15.07 acres (25.9 percent), including 1.42 existing predevelopment impervious cover.

SCS DESCRIPTION

The proposed 6,686 linear feet of SCS will provide disposal service for the residential development. The proposed SCS will consist of 1,307 linear feet of 6-inch diameter and 5,219 linear feet of 8-inch diameter of SDR 26 PVC ASTM D3034 pipe, and of 160 linear feet of 8-inch diameter of AWWA C900 PVC pipe.

TREATMENT FACILITY

The system will be connected to an existing City of Liberty Hill wastewater line for conveyance to the existing Liberty Hill Wastewater Treatment Plant for treatment and disposal. **The proposed system shall be connected for conveyance prior to use of the development.** The project will conform to all applicable codes, ordinances, and requirements of the City of Liberty Hill.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, an existing batch detention basin, Pond 1-14 (EAPP ID No. 11002420), and a new engineered vegetative filter strip (VFS), designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 11,882 pounds of TSS generated from the 15.07 acres of impervious cover. The approved permanent BMPs and measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The permanent BMPs shall be operational prior to occupancy or use of the proposed project. Inspection, maintenance, repair, and retrofit of the permanent BMPs shall be in accordance with the approved application.

GEOLOGY

According to the revised Geologic Assessment (GA) included with the application, the surficial unit of the site is the Edwards Limestone (Ked) in the Edwards Aquifer Recharge Zone. One sensitive geologic feature, solution cavity SR-18, was identified in the GA. Natural buffer setbacks are proposed for the sensitive feature and are illustrated on the site plan. No portions of the proposed SCS or regulated activities, such as construction or soil disturbing activities, will take place within the natural buffer. The TCEQ site assessment conducted on April 9, 2025, revealed the site to be generally as described by the GA.

STANDARD CONDITIONS

1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and all technical specifications in the approved plan. The plan holder should also acquire and comply with additional and separate approvals, permits, registrations or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, Dam Safety, Underground Injection Control) as required based on the specifics of the plan.

2. In addition to the rules of the Commission, the plan holder must also comply with state and local ordinances and regulations providing for the protection of water quality as applicable.

Prior to Commencement of Construction:

3. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the plan holder must submit to the EAPP proof of recordation of notice in the county deed records, with the volume and page number(s) of the county record. A description of the property boundaries shall be included in the deed recordation in the county deed records. TCEQ form, Deed Recordation Affidavit (TCEQ-0625), may be used.

4. The plan holder of any approved Edwards Aquifer protection plan must notify the EAPP and obtain approval from the executive director prior to initiating any modification to the activities described in the referenced application following the date of the approval.

5. The plan holder must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the EAPP no later than 48 hours prior to commencement of the regulated activity. Notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

6. Temporary erosion and sedimentation (E&S) controls as described in the referenced application, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

7. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring or gravel. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation.

During Construction:

8. This approval does not authorize the installation of temporary or permanent aboveground storage tanks on this project that will have a total storage capacity of five hundred gallons or more of static hydrocarbons or hazardous substances without prior approval of an Aboveground Storage Tank facility application.

9. If any sensitive feature is encountered during construction, replacement, or rehabilitation on this project, all regulated activities must be **immediately** suspended near it and notification must be made to TCEQ EAPP staff. Temporary BMPs must be installed and maintained to protect the feature from pollution and contamination. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality.

10. All water wells, including injection, dewatering, and monitoring wells shall be identified in the geologic assessment and must be in compliance with the requirements of the Texas Department of Licensing and Regulation 16 TAC Chapter §76 and all other locally applicable rules, as appropriate.

11. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity

has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

12. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge must be filtered through appropriately selected BMPs.

13. The following records shall be maintained and made available to the executive director 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.

14. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

<u>After Completion of Construction:</u>

15. Owners of permanent BMPs and temporary measures must ensure that the BMPs and measures are constructed and function as designed. A Texas licensed PE must certify in writing that the **permanent** BMPs or measures were constructed as designed. The certification letter must be submitted to the EAPP within 30 days of site completion.

16. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or the ownership of the property is transferred to the entity. A copy of the transfer of responsibility must be filed with the executive director through the EAPP within 30 days of the transfer. TCEQ form, Change in Responsibility for Maintenance on Permanent BMPs and Measures (TCEQ-10263), may be used.

17. No part of the organized sewage collection system may be used as a sewage holding tank, as defined in 30 TAC §213.3 (excluding lift stations), over the Edwards Aquifer recharge zone.

18. A Texas licensed PE **must certify** in writing that the new sewage collection system (including force mains) has passed all required testing. The certification shall be submitted to the EAPP within 30 days of test completion and prior to the new sewage collection system being put into service.

19. A Texas licensed PE **must certify** subsequent testing required every five years of the existing sewage collection system after being put into use to determine types and locations of structural damage and defects such as offsets, open joints, or cracked or crushed lines that would allow exfiltration to occur. The test results must be retained by the plan holder for five years and made available to the executive director upon request.

The holder of the approved Edwards Aquifer protection plan is responsible for compliance with Chapter §213 and any condition of the approved plan through all phases of plan implementation. Failure to comply with any condition within this approval letter is a violation of Chapter §213 and is subject to administrative rule or orders and penalties as provided under §213.10 of this title (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. Upon legal transfer of this property, the new owner is required to comply with all terms of the approved Edwards Aquifer protection plan.

This action is taken as delegated by the executive director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Ms. Miki Chilarescu, P.E. of the Edwards Aquifer Protection Program at 512-239-6175 or the regional office at 512-339-2929.

Sincerely,

Monica Reyes

Monica Reyes, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

MR/mec

cc: Mr. Steven P Cates, P.E. - Carlson, Brigance & Doering, Inc.

Appendix C

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Phase 2B Section 2

Williamson County, Texas

Water Quality Calculation

Spreadsheet

SANTA RITA RANCH PHASE 2B SECTION 2

Table 1 - Impervious Cover per Section

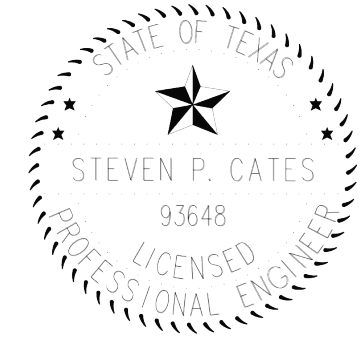
Contributing Sections	TCEQ Project Area Per Section						Onsite Drainage Basin to BMP Per Section						TSS Removal Required (lbs)
	Project Area (ac)	# Lots	Impervious Areas (ac)				Drainage Basin (ac)	# Lots	Impervious Areas (ac)				
			Lots	ROW	Misc.	Total			Lots	ROW	Misc.	Total	
EXISTING BATCH DETENTION POND 14													
2B-1	16.49	24	2.07	1.19	0.00	3.26	13.77	24	2.07	1.19	0.00	3.26	2,838
2B-2	54.03	77	6.61	6.89	0.00	13.50	37.04	77	6.61	5.47	0.00	12.08	10,514
FUTURE 2B	9.43	19	1.62	0.31	0.00	1.93	9.43	19	1.62	0.31	0.00	1.93	1,680
FUTURE 2C	30.36	81	6.92	3.80	0.00	10.72	30.36	81	6.92	3.80	0.00	10.72	9,331
PROPOSED VEGETATED FILTER STRIPS													
2B-2	4.08	18	1.57	0.00	0.00	1.57	4.08	18	1.57	0.00	0.00	1.57	1,367
SANTA RITA RANCH PHASE 2B SECTION 2													
2B-2	58.11	95	8.18	6.89	0.00	15.07							11,882

Table 2 - BMP Treatment Requirements

Project Area			Drainage Basin						Batch Pond	
			Onsite		Offsite		Total		Capacity at WQV (cf)	
Total (ac)	Impv Area (ac)	Required TSS Removal (lbs)	Total (ac)	Impv Area (ac)	Total (ac)	Impv Area (ac)	Total (ac)	Impv Area (ac)	Required	Provided
EXISTING BATCH DETENTION POND 14										
110.31	29.41	24,362	90.60	27.99	7.22	2.33	97.82	30.32	139,601	252,080

Existing Pond 14 Stage-Storage

Stage	Area (sf)	Area (ac)	Incremental Storage (cf)	Cumulative Storage (cf)	Cumulative Storage (ac-ft)	
908.00	15	0.00	0	0	0.00	Pond Bottom
909.00	19,760	0.45	9,888	9,888	0.23	
910.00	56,080	1.29	37,920	47,808	1.10	
911.00	106,887	2.45	81,484	129,291	2.97	
912.00	138,690	3.18	122,789	252,080	5.79	WQV Provided
913.00	152,718	3.51	145,704	397,784	9.13	
914.00	159,076	3.65	155,897	553,681	12.71	
915.00	164,387	3.77	161,732	715,412	16.42	
916.00	169,681	3.90	167,034	882,446	20.26	
917.00	175,069	4.02	172,375	1,054,821	24.22	
918.00	182,603	4.19	178,836	1,233,657	28.32	Top of Berm



CARLSON, BRIGANCE & DOERING, INC.
ID# F-3791

5-14-2025

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I James Edward Horne,
Print Name

Vice President,
Title - Owner/President/Other

of SRFV Development, LLC,
Corporation/Partnership/Entity Name

have authorized Steven P. Cates, P.E.
Print Name of Agent/Engineer

of Carlson, Brigance & Doering, Inc.
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

J A

Applicant's Signature

11-26-2024

Date

THE STATE OF TEXAS §

County of TRAVIS §

BEFORE ME, the undersigned authority, on this day personally appeared JAMES EDUARDO HORNE known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 26th day of Nov., 2024.

Susan O. Martin

NOTARY PUBLIC

SUSAN O MARTIN
Notary Public, State of Texas
My Commission Expires
November 07, 2027
NOTARY ID 10425934

SUSAN O. MARTIN

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11/07/2027

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Santa Rita Ranch Phase 2B Section 2
Regulated Entity Location: South of Ex. Tower Rd, East of Flower Valley Pkwy
Name of Customer: SRFV Development, LLC.
Contact Person: James Edward Horne Phone: 512-280-5160
Customer Reference Number (if issued):CN 605894914
Regulated Entity Reference Number (if issued):RN 112124086

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment**. This payment is being submitted to:

☒ Austin Regional Office
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	7,808 L.F.	$ 3,904.00
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature:

Date: 9/9/2025

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

Project	*Project Area in Acres*	*Fee*
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	***Fee***
Extension of Time Request	$150

TCEQ Core Data Form

TCEQ Use Only

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided.)*

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 605894914		RN 112124086

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* *If new Customer, enter previous Customer below:*

SRFV Development, LLC

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
800901906	32034201288	203420128	N/A

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☐ Yes ☒ No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following:*

☐ Owner ☐ Operator ☒ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

1700 Cross Creek Lane

Suite 100

City	State	ZIP	ZIP + 4
Liberty Hill	TX	78642	

16. Country Mailing Information *(if outside USA)*

17. E-Mail Address *(if applicable)*

ed@srraustin.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 502-2050		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC.)

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Santa Rita Ranch Phase 2B Section 2

23. Street Address of the Regulated Entity: *(No PO Boxes)*								
	City		**State**		**ZIP**		**ZIP + 4**	
24. County								

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	South of Ex. Tower Rd, East of Flower Valley Parkway

26. Nearest City	**State**	**Nearest ZIP Code**

27. Latitude (N) In Decimal:	30.679247	**28. Longitude (W) In Decimal:**	-97.827000

Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	40	45.29	97	49	37.20

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
1521		236115	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Single Family Residential Development

34. Mailing Address:	**Santa Rita KC, LLC**							
	1700 Cross Creek Lane, Suite 100							
	City	**Liberty Hill**	**State**	**TX**	**ZIP**	**78642**	**ZIP + 4**	

35. E-Mail Address:	**ed@srraustin.com**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 502-2050		**( ) -**

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Steven P. Cates, P.E.	**41. Title:**	Senior Project Engineer

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 280-5160		(512) 280-5165	steve@cbdeng.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Carlson, Brigance & Doering, Inc.	**Job Title:**	Senior Project Engineer
Name*(In Print)* **:**	Steven P. Cates	**Phone:**	(512) 280-5160
Signature:		**Date:**	9/9/2025

SANTA RITA RANCH
PHASE 2B SECTION 2

WILLIAMSON COUNTY, TEXAS
CONSTRUCTION PLANS

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN ACCEPTING THESE PLANS, WILLIAMSON COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CERTIFICATION OF COMPLIANCE, THE CONSTRUCTION PLANS FOR THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.

SUBMITTED BY:

6-3-2025

STEVEN P. CATES, P.E. *DATE*
REGISTERED PROFESSIONAL ENGINEER No. 93648

ACCEPTED FOR CONSTRUCTION: (PROJECT #2025-18-WD)

CITY OF GEORGETOWN *DATE*
(WATER SYSTEM ONLY)

ACCEPTED FOR CONSTRUCTION (PROJECT #2025-3-CON)

7-11-25

Jennifer Glaess, P.E., City Engineer *DATE*
(WASTEWATER SYSTEM PLAN)

7/10/2025

MCKENZI HICKS, INTERIM DIRECTOR OF PLANNING *DATE*
(WASTEWATER SYSTEM PLAN)

Based on the design engineer's certification of compliance with all applicable City, State and Federal regulations the plans and specifications contained herein have been reviewed and are found to be in compliance with the requirements of the City of Liberty Hill.

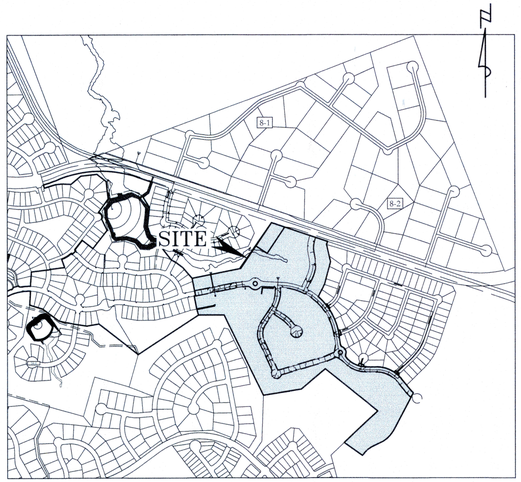
REVIEWED FOR COMPLIANCE WITH COUNTY REQUIREMENTS (WCSR 2021B):

Doug Woodall, P.E. 06/23/2025

FOR WILLIAMSON COUNTY *DATE*

06/30/2025

WILLIAMSON COUNTY M.U.D. #19G *DATE*



LOCATION MAP
SCALE: 1" = 500'

GEORGETOWN TEXAS *more than welcome*
City of Georgetown Water Approval Only

Approved for construction by the City of Georgetown staff on:
06/30/2025

This plan set will expire 24 months from the date of approval if the applicable conditions of UDC Section 3.17.050 are not met.

WATER POLLUTION ABATEMENT PLAN AND ORGANIZED SEWAGE COLLECTION SYSTEM PLAN
APPROVED BY TCEQ ON MAY 23, 2025
30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 213 AND CHAPTER 217 EDWARDS AQUIFER
EDWARDS AQUIFER PROTECTION PROGRAM ID NO. 11004308 (WPAP) AND 11004309 (SCS)

OWNER:

SRFV DEVELOPMENT, LLC.,
1700 CROSS CREEK DRIVE, STE. 100
LIBERTY HILL, TX 78642

ENGINEER & SURVEYOR:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE
AUSTIN, TEXAS 78749
(512) 280-5160 phone
(512) 280-5165 fax

TOTAL ACREAGE: 58.109 ACRES

SURVEY: GEORGE W. GLASSCOCK SURVEY, ABSTRACT NO. 266 AND
WILLIAM W. SMITH SURVEY, ABSTRACT NO. 591

F.E.M.A. MAP NO. 48491C 0275E
WILLIAMSON COUNTY, TEXAS AND
INCORPORATED AREAS.
DATED: SEPTEMBER 26, 2008

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

REV. NO.	SHT. NO.	DESCRIPTION OF REVISION	ACCEPTED	DATE	ACCEPTED	DATE	ACCEPTED	DATE	ACCEPTED	DATE
			WILLIAMSON COUNTY		CITY OF GEORGETOWN		CITY OF LIBERTY HILL		W.C. M.U.D. #19G	

SHEET INDEX

1 – COVER SHEET
2 – GENERAL NOTES (1 OF 2)
3 – GENERAL NOTES (2 OF 2)
4 – FINAL PLAT (1 OF 4)
5 – FINAL PLAT (2 OF 4)
6 – FINAL PLAT (3 OF 4)
7 – FINAL PLAT (4 OF 4)
8 – EROSION CONTROL PLAN (1 OF 2)
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10 – EROSION CONTROL NOTES & DETAILS
11 – HYDROLOGY – EXISTING CONDITIONS
12 – HYDROLOGY – DEVELOPED CONDITIONS
13 – TCEQ PROJECT AREA AND DRAINAGE MAP
14 – DRAINAGE PLAN (1 OF 2)
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17 – GRADING PLAN (1 OF 2)
18 – GRADING PLAN (2 OF 2)
19 – TRAFFIC CONTROL PLAN (1 OF 2)
20 – TRAFFIC CONTROL PLAN (2 OF 2)
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22 – COW CAMP LANE (3+00 TO 5+50)
23 – COW CAMP LANE (5+50 TO 7+50)
24 – COW CAMP LANE (7+50 TO 11+00)
25 – COW CAMP LANE (11+00 TO 13+50)
26 – COW CAMP LANE (13+50 TO 17+00)
27 – COW CAMP LANE (17+00 TO 21+00)
28 – COW CAMP LANE (21+00 TO 25+00)
29 – COW CAMP LANE (25+00 TO END)
30 – LA COLINA BEND (0+00 TO 4+00)
31 – LA COLINA BEND (4+00 TO 8+00)
32 – LA COLINA BEND (8+00 TO 12+00)
33 – LA COLINA BEND (12+00 TO 15+00)
34 – LA COLINA BEND (15+00 TO 17+00)
35 – LA COLINA BEND (17+00 TO END)
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38 – AMADOR COURT (0+00 TO 2+50)
39 – AMADOR COURT (2+50 TO END)
40 – PIONEER HILLS BEND–HUNTLEY DRIVE (0+00 TO END)
41 – QUEEN COURT–PIONEER HILLS BEND (0+00 TO END)
42 – OVERALL STORMSEWER (1 OF 2)
43 – OVERALL STORMSEWER (2 OF 2)
44 – STORMSEWER LINE A (0+00 TO END)
45 – STORMSEWER LINE B (0+00 TO END)
46 – STORMSEWER LINE C (0+00 TO 7+00)
47 – STORMSEWER LINE C (7+00 TO 15+00)
48 – STORMSEWER LINE C (15+00 TO END)
49 – STORMSEWER LINE D E (0+00 TO END)
50 – STORMSEWER LINE F G H (0+00 TO END)
51 – STORMSEWER LINE J (0+00 TO END)
52 – STORMSEWER LINE LATERALS (1 OF 3)
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55 – OVERALL WATER PLAN (1 OF 2)
56 – OVERALL WATER PLAN (2 OF 2)
57 – OVERALL WASTEWATER PLAN (1 OF 2)
58 – OVERALL WASTEWATER PLAN (2 OF 2)
59 – WASTEWATER LINE A (0+00 TO 8+00)
60 – WASTEWATER LINE A (8+00 TO 16+00)
61 – WASTEWATER LINE A (16+00 TO 23+00)
62 – WASTEWATER LINE A (23+00 TO END)
63 – WASTEWWATER LINE B (0+00 TO 7+00)
64 – WASTEWATER LINE B (7+00 TO END)
65 – WASTEWATER LINES C AND D (0+00 TO END)
66 – WASTEWATER LINE G (0+00 TO END)
67 – WASTEWATER LINES E, F, H AND J (0+00 TO END)
68 – CONSTRUCTION DETAILS (1 OF 3)
69 – CONSTRUCTION DETAILS (2 OF 3)
70 – CONSTRUCTION DETAILS (3 OF 3)
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74 – TEMPORARY SEDIMENT BASIN
75 – VEGATATIVE FILTER STRIP PLAN
76 – WALL PLAN
77 – WALL DETAILS (1 OF 2)
78 – WALL DETAILS (2 OF 2)

DESIGNED BY: SPC | DRAFTED BY: CEL

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FB&M ID #F3791
Main Office
5501 West William Cannon Dr.
Austin, Texas 78749
Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
Fax No. (512) 280-5165

SHEET NAME: COVER SHEET
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
6-3-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 1 OF 78
SHEET NO.: 1

FILE PATH: J:\ACD\5559\dwg\5559-COVER.dwg, May 24, 2025, 3:52pm

CONSTRUCTION SEQUENCING

1. GENERAL CONTRACTOR TO INSTALL AND MAINTAIN EROSION CONTROLS AND TREE PROTECTION PER APPROVED PLANS.
2. HOLD PRE-CONSTRUCTION CONFERENCE. PROVIDE 72 HOUR NOTIFICATION TO THE OWNER, THE DESIGN ENGINEER, THE CONTRACTOR AND SUBCONTRACTORS, THE M.U.D. ENGINEER (512) 836-4817, THE CITY OF LIBERTY HILL (512) 778-5449, (WAYNE BONNET, DIRECTOR OF PUBLIC WORKS), WILLIAMSON COUNTY INSPECTIONS SUPERVISOR, GEORGE MAYFIELD (512) 943-3324, AND THE CITY OF GEORGETOWN UTILITY SYSTEM (512)930-3640. SEE WILLIAMSON COUNTY SUBDIVISION REGULATIONS CONSTRUCTION-GENERAL NOTE #1 ON THIS SHEET.
3. ROUGH CUT ALL REQUIRED OR NECESSARY PONDS. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF ANY EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A LOW-LEVEL OUTLET AND AN EMERGENCY OVERFLOW. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL FINAL RESTORATION IS ACHIEVED.
4. ROUGH GRADE STREETS. NO DEVELOPMENT OF EMBANKMENT WILL BE PERMITTED AT THIS TIME. ONCE STREETS ARE ROUGH CUT, THE GEOTECHNICAL ENGINEER IS TO FIELD VERIFY PAVEMENT DESIGN IS APPROPRIATE, AND MODIFY RECOMMENDATIONS ACCORDINGLY.
5. INSTALL ALL UTILITIES TO BE LOCATED UNDER THE PROPOSED PAVEMENT.
6. BEGIN INSTALLATION OF STORM SEWER LINES. UPON COMPLETION, RESTORE AS MUCH DISTURBED AREA AS MUCH AS POSSIBLE, PARTICULARLY CHANNELS AND LARGE OPEN AREAS.
7. REGRADE STREETS TO SUBGRADE.
8. INSURE THAT ALL UNDERGROUND UTILITY CROSSINGS ARE COMPLETED. LAY FIRST COURSE BASE MATERIAL ON ALL STREETS.
9. INSTALL CURB AND GUTTER.
10. LAY FINAL BASE COURSE ON ALL STREETS.
11. LAY ASPHALT.
12. COMPLETE ALL UNDERGROUND INSTALLATIONS WITHIN THE R.O.W.
13. COMPLETE PERMANENT EROSION CONTROL AND RESTORATION OF SITE VEGETATION.
14. THE PROJECT ENGINEER INSPECTS JOB AND WRITES CONCURRENCE LETTER TO THE CITY. FINAL INSPECTION IS SCHEDULED UPON RECEIPT OF LETTER. FINAL INSPECTION WITH THE M.U.D. ENGINEER, EV INSPECTOR, THE CITY OF LIBERTY HILL, WILLIAMSON COUNTY, AND THE CITY OF GEORGETOWN PRIOR TO THE REMOVAL OF EROSION CONTROLS.
15. REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROLS. TREE PROTECTION SHALL BE REQUIRED TO BE MAINTAINED AND REMAIN IN PLACE FOR EACH RESIDENTIAL LOT THROUGH RECEIPT OF THE CONCURRENCE LETTER TO THE RESIDENTIAL CERTIFICATE OF OCCUPANCY.
16. COMPLETE ANY NECESSARY FINAL DRESS UP OF AREAS DISTURBED BY ITEM 15.

GEORGETOWN UTILITY SYSTEMS GENERAL NOTES:

1. THESE CONSTRUCTION PLANS WERE PREPARED, SEALED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT OF THE CITY.
3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
4. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.
5. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.
6. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 4 HOURS.
7. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRINED AND THRUST BLOCKED.
8. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
9. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
10. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.
11. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO TEH CITY PRIOR TO APPROVAL OF THE PUBLIC IMPROVMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEARS IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
12. RECORD DRAWINGS OF THE PUBLIC IMPROVMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTACNE OF THE PROJECT. THESE DRAWINGS SHALL BE SUBMITTED AS A PDF (300P DPI) ON A FLASH DRIVE, OR BY A CLOUD SOURCE.

STREET AND DRAINAGE NOTES:

1. ROADWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT "WILLIAMSON COUNTY SUBDIVISION REGULATIONS," AS APPLICABLE.
2. ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. ANY RETESTING SHALL BE PAID FOR BY THE CONTRACTOR. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.
3. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 3" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 3" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
4. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, WATER SERVICES, ETC., SHALL BE A MINIMUM OF 30" BELOW SUBGRADE.
5. STREET RIGHTS-OF-WAY SHALL BE GRADED AT A SLOPE OF 1/4" PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED. HOWEVER, IN NO CASE SHALL THE WIDTH OF RIGHT-OF-WAY AT 1/4" PER FOOT SLOPE BE LESS THAN 10 FEET UNLESS A SPECIFIC REQUEST FOR AN ALTERNATE GRADING SCHEME IS MADE TO AND ACCEPTED BY THE COUNTY ENGINEER. BARRICADES BUILT TO WILLIAMSON COUNTY STANDARDS SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.
6. ALL R.C.P. SHALL BE MINIMUM CLASS III, UNLESS OTHERWISE NOTED.
7. THE PREPARATION OF SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER AND IN CONJUNCTION WITH THE OUTLINED IN THE GEOTECHNICAL REPORT BY MLA LABS, INC., DATED APRIL 12, 2023. THE PAVING SECTIONS ARE TO BE CONSTRUCTED AS FOLLOWS:

RECOMMENDATIONS PAVEMENT THICKNESS SECTIONS

Street Classification	Subgrade Material	Hot Mix Asphaltic Concrete, in	Crushed Limestone Base, in	Lime Stabilized Subgrade, in
Local Streets	Subgrade PI < 20	2.0	12	–
	Subgrade 20 < PI < 35	2.0	12	8
	Subgrade 35 < PI < 55	2.0	14	8
Collectors	Subgrade PI < 20	2.0	14	–
	Subgrade 20 < PI < 35	2.0	17	8
	Subgrade 35 < PI < 55	2.0	17	8
Major Collectors	Subgrade PI < 20	3.0	14	–
	Subgrade 20 < PI < 35	3.0	17	8
	Subgrade 35 < PI < 55	3.0	17	8

Notes:
1. Where the subgrade is comprised of limestone or low PI clay (PI < 20), lime stabilization may be omitted.
2. The surface clay must first be tested for sulfate reaction and a mix design should be completed to determine the proper lime content, lime bype, mixing procedure and curing conditions required.
3. The subgrade improvement should be extended a min. 18" beyound the back of curb line, unless lime treatments being used, base should extended 3 feet beyond the back of the curb line.
4. These pavement thickness designs are intended to transfer the load from the anticipated traffic conditions.
5. The responsibility of assigning street classification to the streets in this project is left to the civil engineer.
6. If pavement designs other than those listed above are desired, please contact MLA labs, inc.

THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATION OF THE SOILS REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISION OF THE CONSTRUCTION PLANS.

8. WHERE PI'S ARE OVER 20, SUBGRADES MUST BE STABILIZED UTILIZING A METHOD ACCEPTABLE TO THE COUNTY ENGINEER. THE GEOTECHNICAL ENGINEER SHALL RECOMMEND AN APPROPRIATE SUBGRADE STABILIZATION IF SULFATES ARE DETERMINED TO BE PRESENT. SEE THE GEOTECHNICAL REPORT FOR DESIGN GUIDES FOR DIFFERENT PI VALUES.
9. CONTRACTOR IS TO AVOID INSTALLATION OF IRRIGATION, PLANTINGS, SILT FENCE, ETC. IN THE SUBGRADE IMPROVEMENT EXTENDED BEHIND THE CURB.

PER THE WILLIAMSON COUNTY ENGINEER, THERE MUST BE A TxDOT HMAC WEARTING SURFACE 340 TYPE D, WITHOUT "RAS". WILLIAMSON COUNTY REQUIRES THE 2 INCH WEARING SURFACE TO BE "VIRGIN MIX"

CITY OF LIBERTY HILL GENERAL NOTES (REVISED JUNE 10, 2024):

1. ALL CONSTRUCTION OF THE WASTEWATER SYSTEM SHALL BE IN ACCORDANCE WITH THE CITY OF ROUND ROCK STANDARD SPECIFICATIONS MANUAL.
2. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., (NOT PLANNED FOR DESTRUCTION OR REMOVAL) THAT ARE DAMAGED OR REMOVED, SHALL BE REPAIRED, OR REPLACED, AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES WITH THE CONSTRUCTION PLANS FOUND IN THE FIELD SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER WHO SHALL BE RESPONSIBLE FOR REVISING THE PLANS AS APPROPRIATE. FAILURE TO COMPLETE THIS STEP PRIOR TO COMMENCEMENT OF CONSTRUCTION MAY RESULT IN SIGNIFICANT DELAYS AND/OR EXPENDITURES FOR WHICH THE CITY SHALL NOT BE HELD LIABLE.
4. MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, ETC. SHALL BE RAISED TO FINISHED GRADE PRIOR TO FINAL PAVING CONSTRUCTION.
5. THE CONTRACTOR SHALL GIVE THE CITY OF LIBERTY HILL PLANNING AND DEVELOPMENT DEPARTMENT 48 HOURS' NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION BY BOTH CALLING (512) 548-5519 AND EMAILING planning@libertyhilltx.gov
6. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THIS INCLUDES ANY AREAS LOCATED OUTSIDE OF THE DEFINED LIMITS OF CONSTRUCTION (LOC), IN RIGHTS-OF-WAY (ROW), OR LOCATED ON ADJACENT PROPERTIES. REVEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF SODDING OR SEEDING, AT THE CONTRACTOR'S OPTION. HOWEVER, THE TYPE OF REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION.
7. PRIOR TO ANY CONSTRUCTION, THE ENGINEER SHALL CONVENE A PRECONSTRUCTION CONFERENCE BETWEEN THE CITY OF LIBERTY HILL, HIMSELF, THE CONTRACTOR, OTHER UTILITY COMPANIES, ANY AFFECTED PARTIES, AND ANY OTHER ENTITY THE CITY OR ENGINEER MAY REQUIRE.
8. THE ENGINEER SHALL FURNISH THE CITY OF LIBERTY HILL WITH ACCURATE "AS-BUILT" DRAWINGS FOLLOWING THE COMPLETION OF ALL CONSTRUCTION. THE CONTRACTOR AND THE ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THESE "AS-BUILT" DRAWINGS SHALL MEET ALL APPLICABLE REQUIREMENTS TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO FINAL SITE INSPECTION APPROVAL. CHANGES TO APPROVED, CONSTRUCTION-STAMPED PLANS SHALL REQUIRE AN APPROVED SITE PLAN OR STORMWATER PERMIT AMENDMENT THAT IS APPROVED BY THE CITY PRIOR TO FIELD USE.
9. THE CITY OF LIBERTY HILL SHALL NOT BE PETITIONED FOR ACCEPTANCE UNTIL ALL NECESSARY EASEMENT DOCUMENTS HAVE BEEN SIGNED AND RECORDED.
10. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE CONTRACTOR'S WORK TO WITHIN THE PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEANUP SHALL BE TO THE SATISFACTION OF THE CITY ENGINEER AND/OR DIRECTOR OF PUBLIC WORKS.
11. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.

13. AVAILABLE PERMANENT BENCHMARKS WITH VERTICAL DATUM INFORMATION THAT MAY BE UTILIZED FOR THE CONSTRUCTION OF THIS PROJECT ARE DESCRIBED AS FOLLOWS:

BENCHMARKS:

DESCRIPTION	ELEVATION	NORTHING	EASTING
SQUARE CUT ON TOP OF CURB AT THE NORTH EAST INTERSECTION OF TOWER RD AND FLOWER VALLEY PKWY	870.27	10,220,702.2000	3,080,816.0660
SQUARE CUT ON CURB INLET ON THE EASTERN SIDE OF FLOWER VALLEY PKWY APROXIMATELY 500' SOUTH OF THE INTERSECTION OF TOWER RD	875.57	10,220,192.6330	3,081,116.0190
CONTTON SPINDLE SET IN SEAM OF SIDEWALK CROSSING THE MEDIAN ON SWEETGRASS COURT	901.66	10,219,394.8590	3,081,319.8000

15. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF LIBERTY HILL MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
16. CONTRACTORS ON SITE SHALL HAVE AN APPROVED SET OF PLANS AT ALL TIMES. FAILURE TO HAVE AN APPROVED SET MAY RESULT IN A STOP WORK ORDER.

TRENCH SAFETY NOTES:

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH, IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT SHALL BE PROVIDED AS PART OF A PACKAGE REQUIRED PRIOR TO THE PRE-CONSTRUCTION MEETING AND ANY CONSTRUCTION ACTIVIITES.
2. IN ACCORDANCE WITH THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.
3. IF TRENCH SAFETY SYSTEM DETAILS WERE NOT PROVIDED IN THE PLANS BECAUSE TRENCHES WERE ANTICIPATED TO BE LESS THAN 5 FEET IN DEPTH AND DURING CONSTRUCTION IT IS FOUND THAT TRENCHES ARE IN FACT 5 FEET OR MORE IN DEPTH OR TRENCHES LESS THAN 5 FEET IN DEPTH ARE IN AN AREA WHERE HAZARDOUS GROUND MOVEMENT IS EXPECTED, ALL CONSTRUCTION SHALL CEASE, THE TRENCHED AREA SHALL BE BARRICADED AND THE ENGINEER NOTIFIED IMMEDIATELY. CONSTRUCTION SHALL NOT RESUME UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, ARE SUBMITTED TO THE CITY OF LIBERTY HILL FOR REVIEW AND APPROVAL.

TRAFFIC MARKING NOTES:

1. ANY METHODS, STREET MARKINGS AND SIGNAGE NECESSARY FOR WARNING MOTORISTS, WARNING PEDESTRIANS OR DIVERTING TRAFFIC DURING CONSTRUCTION SHALL CONFORM TO THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITIONS.
2. ALL PAVEMENT MARKINGS, MARKERS, PAINT, TRAFFIC BUTTONS, TRAFFIC CONTROLS AND SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES AND, THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITIONS.

EROSION AND SEDIMENTATION CONTROL NOTES:

1. EROSION CONTROL MEASURES, SITE WORK AND RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF LIBERTY HILL UNIFIED DEVELOPMENT CODE.
2. ALL SLOPES SHALL BE SODDED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES OR GROUND COVER SUITABLE TO THE AREA AND SEASON IN WHICH THEY ARE APPLIED.
3. SILT FENCES, ROCK BERMS, SEDIMENTATION BASINS AND SIMILARLY RECOGNIZED TECHNIQUES AND MATERIALS SHALL BE EMPLOYED DURING CONSTRUCTION TO PREVENT POINT SOURCE SEDIMENTATION LOADING OF DOWNSTREAM FACILITIES. INSTALLATION AND CONDITION SHALL BE REGULARLY INSPECTED BY THE CITY OF LIBERTY HILL FOR EFFECTIVENESS. ADDITIONAL MEASURES MAY BE REQUIRED IF, IN THE OPINION OF THE CITY ENGINEER, THEY ARE WARRANTED.
4. ALL TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL REVEGETATION HAS BEEN ESTABLISHED AND APPROVAL RECEIVED FROM THE CITY OF LIBERTY HILL. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE EACH STRUCTURE AS APPROVED BY THE ENGINEER.
5. ALL MUD, DIRT, ROCKS, DEBRIS, ETC., SPILLED, TRACKED OR OTHERWISE DEPOSITED ON EXISTING PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY.

WILLIAMSON COUNTY SUBDIVISION REGULATIONS

APPENDIX B

ADOPTED AND EFFECTIVE AS OF JUNE 22, 2021

B4 – CONSTRUCTION – GENERAL

B4.1 A PRECONSTRUCTION MEETING SHALL BE SCHEDULED PRIOR TO THE START OF CONSTRUCTION. THE DESIGN ENGINEER, OWNER, CONTRACTOR, SUBCONTRACTORS, AND COUNTY ENGINEER SHALL ATTEND THIS MEETING. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS FOUND IN THE CURRENT VERSION OF THE "TEXAS DEPARTMENT OF TRANSPORTATION MANUAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES" UNLESS OTHERWISE STATED ON THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER.

B4.2 ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.

B4.3 EXCEPT FOR ELECTRICAL LINES, ALL UNDERGROUND NONFERROUS UTILITIES WITHIN A RIGHT-OF-WAY OR EASEMENT MUST BE ACCOMPANIED BY FERROUS METAL LINES TO AID IN TRACING THE LOCATION OF SAID UTILITIES THROUGH THE USE OF A METAL DETECTOR.

B4.4 ALL PAVEMENTS ARE TO BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER. THE DESIGN SHALL BE BASED ON A 20-YEAR DESIGN LIFE AND IN CONJUNCTION WITH RECOMMENDATIONS BASED UPON A SOILS REPORT OF SAMPLES TAKEN ALONG THE PROPOSED ROADWAYS. TEST BORINGS SHALL BE PLACED AT A MAXIMUM SPACING OF 500 FEET OR OTHER SAMPLING FREQUENCY APPROVED BY THE COUNTY ENGINEER BASED ON RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER. BORINGS SHALL BE TO A DEPTH OF TEN FT OR, IF SOLID ROCK IS ENCOUNTERED, ONE FT BELOW NON-FRACTURED ROCK. THE SOILS REPORT AND PAVEMENT DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR REVIEW. THE PAVEMENT DESIGN MUST BE APPROVED BY THE COUNTY ENGINEER PRIOR TO OR CONCURRENTLY WITH THE REVIEW AND APPROVAL OF THE CONSTRUCTION PLANS. IN ADDITION TO THE BASIS OF THE PAVEMENT DESIGN, THE SOILS REPORT SHALL CONTAIN THE RESULTS OF SAMPLED AND TESTED SUBGRADE FOR PLASTICITY INDEX.

B5 – SUBGRADE

B5.1 THE PREPARATION OF THE SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER IN CONJUNCTION WITH RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT. WHEN THE PLASTICITY INDEX (PI) IS GREATER THAN 20, A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNTIL THE PI IS LESS THAN 20. IF THE ADDITION OF LIME AS DESCRIBED IN ITEM 260 IS NOT FEASIBLE, AN ALTERNATE STABILIZING DESIGN SHALL BE PROPOSED AND SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL. THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.

B5.2 IF LIME IS NECESSARY, THEN A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED, AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION TO PROPERLY STABILIZE SUBGRADE. THE USE OF HYDRATED LIME OR LIME SLURRY IS APPROVED; HOWEVER, THE USE OF PELLETIZED LIME IS NOT APPROVED.

B5.3 PRIOR TO LIME STABILIZATION, A SULFATE TEST OF IN SITU SOILS SHALL BE PERFORMED BY DEVELOPER TO CONFIRM THE APPROPRIATE MEANS AND METHODS OF STABILIZATION. PROVIDE SULFATE TEST TO COUNTY ENGINEER PRIOR TO STABILIZATION.

B5.4 ANY VARIATION TO THE COUNTY'S STABILIZATION REQUIREMENTS MUST BE APPROVED BY THE COUNTY ENGINEER.

B5.5 THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.

B5.6 THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF ALL INSPECTION REPORTS FURNISHED TO THE COUNTY ENGINEER. THE COUNTY ENGINEER MUST APPROVE THE REPORT PRIOR TO APPLICATION OF THE BASE MATERIAL. ALL DENSITY TEST REPORTS SHALL INCLUDE A COPY OF THE WORK SHEET SHOWING THE PERCENTAGE OF THE MAXIMUM DRY (PROCTOR) DENSITY. THE NUMBER AND LOCATION OF ALL SUBGRADE TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B6 – BASE MATERIAL

B6.1 BASE MATERIAL SHALL CONFORM TO ITEM 247 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, "FLEXIBLE BASE". THE BASE MATERIAL SHALL BE TYPE A GRADE 4, OR AS APPROVED BY THE COUNTY ENGINEER. GRADE 4 MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TABLE B6.1

MASTER GRADATION SIEVE SIZE	CUMULATIVE % RETAINED
2 1/2"	–
1 3/4"	0
7/8"	10% – 35%
3/8"	30% – 65%
#4	45% – 75%
#40	70% – 90%
#200	87% – 95%

B6.2 EACH LAYER OF BASE COURSE SHALL BE TESTED FOR IN-PLACE DRY DENSITY AND MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL BASE TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B6.3 THE BASE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A MINIMUM OF 100% OF THE MAXIMUM (PROCTOR) DRY DENSITY OR AS APPROVED BY THE COUNTY ENGINEER UPON RECOMMENDATION BY THE TESTING LABORATORY. THE MAXIMUM LIFT SHALL NOT EXCEED SIX INCHES. THE BASE MUST BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF THE TEST RESULTS FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL. PRIOR TO THE PLACEMENT OF THE FIRST LIFT OF BASE, THE STOCKPILE SHALL BE TESTED FOR THE SPECIFICATIONS FOUND IN ITEM 247 TABLE 1 AND THE RESULT FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL.

B7 – BITUMINOUS PAVEMENT

B7.1 URBAN ROADS REQUIRE A MINIMUM 2 INCH WEARING SURFACE OF HMAC TYPE D. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT AND THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.

B7.2 IF PROVIDING MIXTURE TYPE C OR D, USE PERFORMANCE GRADE (PG) BINDER 70-22. PROVIDE PG BINDER THAT DOES NOT CONTAIN RECYCLED ENGINE OIL BOTTOMS (REOBS) OR POLY PHOSPHORIC ACID (PPA). RECYCLED ASPHALT PAVEMENT (RAP) IS NOT PERMITTED FOR USE AS A COMPONENT OF THE HMACP. THE CONTRACTOR IS ALSO NOT PERMITTED THE USE RECYCLED ASPHALT SHINGLES (RAS) AS A COMPONENT OF THE HMACP.

B7.3 IF PROVIDING MIXTURE TYPE B, USE PG BINDER 64-22. PROVIDE PG BINDERS THAT DO NOT CONTAIN REOBS OR PPA. FOR SUBSURFACE COURSE TYPE B, THE USE OF TWENTY PERCENT (20%) RAP IS PERMITTED IN THE MIX DESIGN. THE CONTRACTOR IS NOT PERMITTED TO USE RAS AS A COMPONENT OF THE HMACP.

B7.4 TARGET LABORATORY MOLDED DENSITY IS 96.5% FOR ALL MIXTURES WITHOUT RAP AND WHEN USING A TEXAS GYRATORY COMPACTOR (TGC) FOR DESIGNING THE MIXTURE. WHEN USING SUPERPAVE GYRATORY COMPACTOR (SGC) TO DESIGN MIXTURES, SUBMIT THE SGC MIX DESIGN TO THE ENGINEER FOR APPROVAL.

B7.5 ALL MIXTURES MUST MEET THE HAMBURG REQUIREMENT AS STATED IN THE TABLE BELOW.

HIGH-TEMPERATURE BINDER GRADE	TEST METHOD	MINIMUM # OF PASSES @ 0.5" RUT DEPTH (TESTED @ 122°F)
PG 64 OR LOWER	TEX-242-F	7,000
PG 70	TEX-242-F	15,000
PG-76 OR HIGHER	TEX-242-F	20,000

* THE COUNTY ENGINEER MAY ACCEPT HAMBURG WHEEL TEST RESULTS FOR PRODUCTION AND PLACEMENT IF NO MORE THAN 1OF THE 5 MOST RECENT TESTS IS BELOW THE SPECIFIED NUMBER OF PASSES AND THE FAILING TEST IS NO MORE THAN 2,000 PASSES BELOW THE SPECIFIED NUMBER OF PASSES.

B7.6 SUBMIT ANY PROPOSED ADJUSTMENTS OR CHANGES TO A JOB MIX FORMULA TO THE COUNTY ENGINEER BEFORE PRODUCTION OF THE NEW JOB MIX FORMULA.

B7.7 UNLESS OTHERWISE APPROVED, PROVIDE TYPE B MIXTURES THAT HAVE NO LESS THAN 4.5% ASPHALT BINDER, AND TY C AND D MIXTURES WITH NO LESS THAN 4.7% BINDER.

B7.8 FOR MIXTURE DESIGN VERIFICATION, PROVIDE THE ENGINEER WITH TWO 5-GALLON BUCKETS OF EACH AGGREGATE STOCKPILE TO BE USED ON THE PROJECT AND THREE GALLONS OF EACH PG BINDER TO BE USED ON THE PROJECT. ALSO PROVIDE SUFFICIENT QUANTITIES OF ANY OTHER ADDITIVES THAT WILL BE USED IN THE HMA MIXTURE. THIS MUST BE DONE PRIOR TO APPROVAL OF THE MIX DESIGN, UNLESS ALREADY PERFORMED WITHIN A ONE-YEAR TIME PERIOD.

B7.9 PRIOR TO ALLOWING PRODUCTION OF THE TRIAL BATCH, THE ENGINEER WILL USE THE MATERIALS PROVIDED BY THE CONTRACTOR TO PERFORM THE FOLLOWING TESTS TO VERIFY THE HMA MIXTURE DESIGN.
1. INDIRECT TENSILE TEST IN ACCORDANCE WITH TEX-226-F
2. HAMBURG WHEEL TEST IN ACCORDANCE WITH TEX-242-F
3. OVERLAY TEST IN ACCORDANCE WITH TEX-248-F
4. CANTABRO TEST IN ACCORDANCE WITH TEX-245-F

FOR MIXTURES DESIGNED WITH A TEXAS GYRATORY COMPACTOR (TGC), THE ENGINEER MAY REQUIRE THAT THE TARGET LABORATORY MOLDED DENSITY BE RAISED TO NO MORE THAN 97.5% OR MAY LOWER THE DESIGN NUMBER OF GYRATIONS TO NO LESS THAN 35 FOR MIXTURES DESIGNED WITH AN SGC IF ANY OF THE FOLLOWING CONDITIONS EXIST.
1. THE INDIRECT TENSILE TEST RESULTS IN A VALUE GREATER THAN 200 PSI
2. THE HAMBURG WHEEL TEST RESULTS IN A VALUE LESS THAN 3.0 MM
3. THE OVERLAY TEST RESULTS IN A VALUE LESS THAN 100 CYCLES
4. THE CANTABRO TEST RESULTS IN A VALUE OF MORE THAN 20% LOSS

IN LIEU OF, OR IN ADDITION TO EVALUATING THE MIXTURE DESIGN PRIOR TO ALLOWING A TRIAL BATCH TO BE PRODUCED, THE ENGINEER MAY ALSO EVALUATE THE MIXTURE PRODUCED DURING THE TRIAL BATCH FOR COMPLIANCE WITH THE 4 TESTS LISTED ABOVE.

B7.10 CONTRACTOR'S QUALITY CONTROL (CQC) TEST REPORTS SHALL BE SUBMITTED TO THE COUNTY ENGINEER ON A DAILY BASIS. AS A MINIMUM, DAILY CQC TESTING ON THE PRODUCED MIX SHALL INCLUDE: SIEVE ANALYSIS TEX-200-F, ASPHALT CONTENT TEX-236-F, HVEEM STABILITY TEX-208-F, LABORATORY COMPACTED DENSITY TEX-207-F, AND MAXIMUM SPECIFIC GRAVITY TEX-227-F. THE NUMBER AND LOCATION OF ALL HMAC TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER WITH A MINIMUM OF THREE, 6-INCH DIAMETER FIELD CORES SECURED AND TESTED BY THE CONTRACTOR FROM EACH DAY'S PAVING. EACH HMAC COURSE SHALL BE TESTED FOR IN-PLACE DENSITY, BITUMINOUS CONTENT AND AGGREGATE GRADATION, AND SHALL BE MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL HMAC TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B7.11 RURAL ROADS MAY USE EITHER THE SPECIFICATIONS FOUND IN SECTION B7.1 OR A TWO-COURSE SURFACE IN ACCORDANCE WITH ITEM 316, TREATMENT WEARING SURFACE, OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. THE TYPE AND RATE OF ASPHALT AND AGGREGATE SHALL BE INDICATED ON THE PLANS AS A BASIS OF ESTIMATE AND SHALL BE DETERMINED AT THE PRECONSTRUCTION CONFERENCE. AGGREGATE USED IN THE MIX SHALL BE ON THE TXDOT QUALITY MONITORING SCHEDULE. AGGREGATE SHALL BE TYPE B GRADE 4. GRADATION TESTS SHALL BE REQUIRED FOR EACH 300 CUBIC YARDS OF MATERIAL PLACED WITH A MINIMUM OF TWO TESTS PER EACH GRADE PER EACH PROJECT. TEST RESULTS SHALL BE REVIEWED BY THE COUNTY ENGINEER PRIOR TO APPLICATION OF THE MATERIAL.

B8 – CONCRETE PAVEMENT

B8.1 IN LIEU OF BITUMINOUS PAVEMENT, PORTLAND CEMENT CONCRETE PAVEMENT MAY BE USED. IN SUCH CASES, THE PAVEMENT THICKNESS SHALL BE A MINIMUM OF 9 INCHES OF CONCRETE, AND SHALL BE JOINTED AND REINFORCED IN ACCORDANCE WITH THE DETAIL INCLUDED IN APPENDIX J. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT. THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.

B9 – CONCRETE – GENERAL

B9.1 UNLESS OTHERWISE SPECIFIED, CONCRETE SHALL BE IN ACCORDANCE WITH ITEM 421 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND BE PLACED IN ACCORDANCE WITH THE APPLICABLE ITEM.

B9.2 ALL CONCRETE SHALL BE TESTED FOR COMPRESSIVE STRENGTH. ONE SET OF THREE CONCRETE TEST CYLINDERS SHALL BE MOLDED FOR EVERY 50 CUBIC YARDS OF CONCRETE PLACED FOR EACH CLASS OF CONCRETE PER DAY, OR AT ANY OTHER INTERVAL AS DETERMINED BY THE COUNTY ENGINEER. A SLUMP TEST SHALL BE REQUIRED WITH EACH SET OF TEST CYLINDERS. ONE CYLINDER SHALL BE TESTED FOR COMPRESSIVE STRENGTH AT AN AGE OF SEVEN DAYS AND THE REMAINING TWO CYLINDERS SHALL BE TESTED AT 28 DAYS OF AGE.

B10 – ROAD NAMES, SIGNS AND MARKERS

B10.1 ALL ROADS SHALL BE NAMED, WITH PRIOR APPROVAL FOR SAID NAME FROM THE WILLIAMSON COUNTY 911 ADDRESSING COORDINATOR. ROADS MUST BE NAMED IN A MANNER TO AVOID CONFUSION IN IDENTIFICATION. ROADS THAT ARE EXTENSIONS OF EXISTING ROADS MUST CARRY THE NAMES OF THOSE IN EXISTENCE. ROADS THAT ARE NOT CONTINUOUS, OR WHICH HAVE 90 DEGREE TURNS, SHALL HAVE DIFFERENT NAMES. THE OWNER SHALL PROVIDE THE COORDINATOR WITH TWO DIGITAL FILES OF THE PLAT. ONE FILE SHALL BE IN AN ADOBE .PDF FORMAT, AND THE OTHER FILE SHALL BE IN AN AUTOCAD .DWG FORMAT GEOREFERENCED TO NAD 1983 STATE PLANE GRID COORDINATE SYSTEM, TEXAS CENTRAL ZONE (4203), WITH DRAWING UNITS OF US FEET. THE ROAD NAMES SHALL BE DISPLAYED ON STANDARD INTERSECTION ROAD MARKER SIGNS ERECTED BY THE OWNER IN COMPLIANCE WITH THE TXMUTCD "STREET NAME SIGNS" AND AT THE LOCATIONS AS INDICATED ON THE CONSTRUCTION PLANS.

B10.2 TRAFFIC CONTROL SIGNS (SUCH AS STOP, YIELD, AND SPEED LIMIT SIGNS) SHALL BE INSTALLED BY THE OWNER OF SAID SUBDIVISION IN COMPLIANCE WITH THE LATEST VERSION OF THE TXMUTCD AND AT THE LOCATIONS AS INDICATED ON THE APPROVED CONSTRUCTION PLANS. OTHER TRAFFIC CONTROL SIGNS, AS SHOWN ON THE CONSTRUCTION PLANS, SHALL BE INSTALLED TO INDICATE ANY UNUSUAL TRAFFIC OR ROAD HAZARD OR CONDITIONS THAT MAY EXIST. ALL TRAFFIC CONTROL DEVICES SHALL BE PLACED IN COMPLIANCE WITH LATEST VERSION OF THE TXMUTCD AND THE CONSTRUCTION COST SHALL BE BORNE BY THE OWNER.

B11 – DRAINAGE AND FLOOD CONTROL

B11.1 STORMWATER MANAGEMENT CONTROLS SHALL BE DESIGNED, CONSTRUCTED, AND MAINTAINED TO RESTRICT THE RATE OF DRAINAGE FROM THE PLATTED AREA TO THE RATE OF DRAINAGE OF THE LAND IN ITS EXISTING CONDITION. WHEN A DEVELOPMENT SHALL HAVE SEVERAL SECTIONS, STORMWATER MANAGEMENT CONTROLS FOR THE ULTIMATE DEVELOPED AREA SHALL BE CONSTRUCTED IF NOT LOCATED IN THE FIRST PLATTED SECTION. STORMWATER MANAGEMENT CONTROLS ARE TO BE DESIGNED BY A PROFESSIONAL ENGINEER USING A BASIS OF A 2, 10, 25, AND 100-YEAR STORM. IF PROPOSED DEVELOPMENT IS DETENTION EXEMPT, A DETENTION EXEMPTION LETTER, REQUESTING THE DETENTION EXEMPTION TO BE UTILIZED, SHALL BE PROVIDED IN PLACE OF A DRAINAGE REPORT AND THE PLAT SHALL CONTAIN A CORRESPONDING PLAT NOTE FROM APPENDIX C12.

B11.2 THE PROPOSED TIME OF CONCENTRATIONS AND LAND COVER ROUGHNESS N-VALUES, USED TO CALCULATE TIME OF CONCENTRATION, SHOULD BE CONSISTENT FROM EXISTING TO PROPOSED CONDITIONS.

B11.3 WHEN CALCULATING PEAK FLOWS, THE RUNOFF CURVE NUMBER SHALL REMAIN THE SAME BETWEEN EXISTING AND PROPOSED CONDITIONS, USING THE ASSUMPTION OF RAW (UNDEVELOPED) LAND WITH NO IMPERVIOUS COVER. THE EXISTING AND PROPOSED PERCENTAGE OF IMPERVIOUS COVER SHALL BE INPUT INDIVIDUALLY FOR EACH CONDITION. FOR THE PROPOSED CONDITIONS, THE MAXIMUM POTENTIAL PERCENTAGE OF IMPERVIOUS COVER SHALL BE USED.

B11.4 DETENTION VOLUME SHALL BE SIZED BY COMPARING THE EXISTING PEAK RUNOFF PRODUCED BY THE SITE VERSUS THE PROPOSED PEAK RUNOFF PRODUCED BY THE SITE, FOR THE 2, 10, 25 AND 100-YEAR FREQUENCY RAINFALL EVENT. METHODS USED TO ANALYZE THE PRE AND POST DEVELOPMENT CONDITIONS SHOULD FOCUS ON THE PROPOSED CHANGES IN IMPERVIOUS COVER AND TIME OF CONCENTRATION ASSOCIATED WITH DEVELOPMENT OF THE SITE. THE POINTS OF ANALYSIS MUST BE CONSISTENT BETWEEN EXISTING AND PROPOSED SCENARIOS FOR A DIRECT AND ACCURATE ASSESSMENT OF IMPACTS. THE TIMING OF HYDROGRAPHS MAY NOT BE USED TO DEMONSTRATE A DECREASE OF PROPOSED PEAK FLOWS FROM THE DEVELOPED SITE.

B11.5 FOR DETENTION DESIGN, NOAA ATLAS 14 PRECIPITATION VALUES SHALL BE TAKEN FROM THE WILLIAMSON COUNTY RAINFALL ZONES FOR A 24-HOUR DURATION STORM. THESE ZONES AND RAINFALL DATA CAN BE FOUND IN EXHIBIT 2 AND THE ASSOCIATED TABLES.

B11.6 FOR DETENTION DESIGN, MAJOR CHANNEL DESIGN AND ANALYSIS, DETERMINATION OF PEAK FLOW RATES FOR FLOODPLAIN MODELING, AND HYDROLOGIC CHANNEL ROUTING, THE U.S. ARMY CORPS OF ENGINEERS HEC-HMS SOFTWARE IS RECOMMENDED. NOAA ATLAS 14 RAINFALL, PER EXHIBIT 2 – RAINFALL DATA, SHALL BE UTILIZED FOR ALL HYDROLOGIC ANALYSES. IF HEC-HMS IS NOT UTILIZED, THE FULL MODEL INPUT AND OUTPUT SHALL BE PROVIDED INCLUDING STRUCTURE AND OUTLET DETAILS AS MODELED.

B11.7 IMPERVIOUS COVER ASSUMPTIONS MUST BE CLEARLY STATED WITHIN THE DRAINAGE REPORT.

B11.8 FOR FLOODPLAIN STUDIES, MAJOR CHANNEL DESIGN AND ANALYSIS, AND DETERMINATION OF FINISHED FLOOR ELEVATIONS, THE U.S. ARMY CORPS OF ENGINEERS HEC-RAS SOFTWARE MUST BE UTILIZED.

B11.9 DRAINAGE CALCULATIONS AND DESIGN SHALL BE MADE USING THE LATEST EDITION OF THE CITY OF AUSTIN'S DRAINAGE CRITERIA MANUAL EXCEPT WHERE OTHERWISE SPECIFIED IN THE REGULATIONS HEREIN, OR OTHER METHODS SATISFACTORY TO THE COUNTY ENGINEER. ALL DATA AND CALCULATIONS MUST BE PRESENTED TO THE COUNTY ENGINEER AS PART OF THE CONSTRUCTION PLANS OR DRAINAGE REPORT. THE FOLLOWING REQUIREMENTS SHALL BE INCORPORATED INTO THE DESIGN:

B11.9.1 BRIDGES AND CROSS DRAINAGE STRUCTURES FOR ARTERIAL, COLLECTOR, AND LOCAL ROADS SHALL BE DESIGNED TO CONVEY THE 25-YEAR STORM WITHOUT OVERTOPPING THE FACILITY.

B11.9.2 ALL LONGITUDINAL DRAINAGE STRUCTURES SHALL BE DESIGNED TO CONVEY THE 10-YEAR STORM.

B11.10 ALL DRAINAGE STRUCTURES AND APPURTENANCES SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER. A PROFILE SHALL BE SHOWN IN THE CONSTRUCTION PLANS FOR ALL DRAINAGE STRUCTURES. EACH PROFILE SHALL SHOW THE DESIGN FLOW, VELOCITY, INVERT ELEVATIONS, AND THE HYDRAULIC GRADE LINE.

B11.11 THE USE OF THERMOPLASTIC PIPES (INCLUDING BUT NOT LIMITED TO POLY VINYL CHLORIDE (PVC) PIPE, HIGH DENSITY POLYETHYLENE PIPE (HDPE), POLYPROPYLENE PIPE, ETC.) IS SPECIFICALLY PROHIBITED FROM USE FOR CROSS DRAINAGE, PARALLEL DRAINAGE, STORM DRAINS AND ALL OTHER STORMWATER CONVEYANCE WITHIN THE RIGHT OF WAY AND/OR EASEMENTS IN CONNECTION WITH DRAINING OR PROTECTING THE ROAD SYSTEM.

B11.12 ALL PIPE USED FOR CROSS DRAINAGE, PARALLEL DRAINAGE, STORM DRAINS, AND ALL OTHER STORM WATER CONVEYANCES WITHIN THE RIGHT OF WAY AND/OR EASEMENTS IN CONNECTION WITH DRAINING OR PROTECTING THE ROAD SYSTEM SHALL BE DESIGNED AND CONSTRUCTED WITH THE CRITERIA IN TABLE B11.12 (PIPE CRITERIA). CAST-IN-PLACE IS PROHIBITED WITHOUT PRIOR APPROVAL FROM COUNTY ENGINEER. PIPES MUST HAVE A MINIMUM INTERIOR DIAMETER OF 18" OR EQUIVALENT.

B11.15 DRIVEWAY CULVERTS SHALL HAVE A MINIMUM INTERIOR DIAMETER OF 18" OR EQUAL AND A MINIMUM LENGTH OF 22 FEET AND SHALL INCLUDE A CONCRETE APRON SAFETY END TREATMENT IN ACCORDANCE WITH CURRENT TXDOT SAFETY END TREATMENT STANDARDS. LARGER OR LONGER CULVERTS SHALL BE INSTALLED IF NECESSARY, TO ACCOMMODATE DRAINAGE BASED UPON A 10-YEAR FLOW FREQUENCY.

B11.16 AT SOME POINT WITHIN THE FIRST TEN FEET FROM THE EDGE OF THE ROADWAY GUTTER, THE ENTIRE WIDTH OF A DRIVEWAY SHALL HAVE THE SAME OR GREATER ELEVATION AS THE TOP OF THE CURB AT THE EDGE OF THE ROADWAY.

B11.17 MAINTENANCE RESPONSIBILITY FOR DRAINAGE WILL NOT TO BE ACCEPTED BY THE COUNTY OTHER THAN THAT ACCEPTED IN CONNECTION WITH DRAINING OR PROTECTING THE ROAD SYSTEM. MAINTENANCE RESPONSIBILITY FOR STORM WATER MANAGEMENT CONTROLS WILL REMAIN WITH THE OWNER.

B11.18 EASEMENTS SHALL BE PROVIDED, WHERE NECESSARY, FOR ALL DRAINAGE COURSES AND IDENTIFIED FLOODPLAINS IN AND ACROSS PROPERTY TO BE PLATTED. THE LOCATION AND WIDTH SHALL BE SHOWN ON THE PLAT AND MARKED "DRAINAGE EASEMENT" OR "DRAINAGE AND UNDERGROUND UTILITIES EASEMENT". IN GENERAL, A "DRAINAGE EASEMENT" SHALL BE A MINIMUM OF 20 FEET IN WIDTH AND A "DRAINAGE AND UNDERGROUND UTILITIES EASEMENT" SHALL BE A MINIMUM OF 30 FEET IN WIDTH.

B11.19 ALL ROADSIDE DITCHES SHALL HAVE A MINIMUM DEPTH, AS MEASURED FROM THE EDGE OF THE ROAD PAVEMENT, EQUAL TO THE DIAMETER OF THE DRIVEWAY CULVERT PIPE(S) PLUS NINE INCHES, AND A BOTTOM WIDTH EQUAL TO THE DIAMETER OF THE DRIVEWAY CULVERT PIPE(S). THE SIDE SLOPES OF THE DITCHES ARE TO BE 3:1 OR FLATTER, EXCEPT AT PARALLEL CULVERTS WHICH SHALL BE 4:1 OR FLATTER TO ACCOMMODATE A STANDARD SAFETY END TREATMENT.

B11.20 WHERE ALL LOTS ARE 2 ACRES OR MORE AND EXEMPT FROM DETENTION, ROADSIDE DITCHES MAY BE ELIMINATED WITHIN A RURAL SUBDIVISION PROVIDED THAT THE ROAD HAS 18-INCH RIBBON CURBS, THE ROADWAY SURFACE HAS AN ADEQUATE CROSS SLOPE, AND THE OVERALL DRAINAGE PATTERNS THROUGHOUT THE SUBDIVISION REMAIN AS IN AN UNDEVELOPED STATE. IF INTERNAL SUBDIVISION ROADWAYS ARE PROPOSED WITHIN A NATURAL DRAINAGE PATTERN OR SHEET FLOW SUBDIVISION, A TYPICAL SECTION IS REQUIRED WITHIN CONSTRUCTION PLANS REQUIRING THE CONTRACTOR TO INSURE A MINIMUM 1.5" DROP ON FINISHED GRADE, WITH GRASS OR OTHER LAND COVER, FROM THE BACK OF CURB TO THE SHOULDER ON THE DOWNSLOPE SIDE OF ALL SHEET FLOW STREET SECTIONS, TO INSURE POSITIVE DRAINAGE FROM THE ROADWAY. IT IS THE PROPERTY OWNER'S RESPONSIBILITY TO ENSURE TOP OF GRASS AND OTHER LANDSCAPING ALONG RIBBON CURB, ON THE DOWNSLOPE SIDE OF THE ROADWAY, DOES NOT OBSTRUCT OR REDIRECT FLOW WITHIN THE RIGHT-OF-WAY.

B11.21 STORMWATER MANAGEMENT CONTROLS AND INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO DETENTION AND WATER QUALITY PONDS, SHALL NOT BE LOCATED WITHIN THE RIGHT-OF-WAY NOR ANY ROADWAY EASEMENTS. STORMWATER MANAGEMENT CONTROLS SHALL BE CONTAINED WITHIN A SEPARATE LOT OR EASEMENT FOR DRAINAGE, DETENTION OR WATER QUALITY PURPOSES AND DEDICATED TO THE ENTITY THAT WILL BE RESPONSIBLE FOR THEIR MAINTENANCE. NO PORTION OF ANY STORMWATER MANAGEMENT CONTROLS INCLUDING BUT NOT LIMITED TO WALLS, IMPOUNDMENT STRUCTURES, INLET/OUTLET STRUCTURES, UNDERGROUND VAULTS OR LEVEL SPREADERS SHALL BE PHYSICALLY CONNECTED TO THE ROADWAY, ROADWAY EMBANKMENT OR THE CROSS-DRAINAGE SYSTEM THAT DRAINS THE ROADWAY. THE ROADWAY EMBANKMENT SHALL NOT BE USED FOR THE DUAL PURPOSE OF TEMPORARILY OR PERMANENTLY IMPOUNDING WATER FOR STORMWATER MANAGEMENT OR DETENTION PURPOSES.

PROJECT #2025-3-CON

DESIGNED BY: SPC
DRAFTED BY: CEL
DATE
REVISION
Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
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SHEET NAME: GENERAL NOTES (1 OF 2)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
6-3-2025

DATE MAR 2025
JOB NUMBER 5559
SHEET 2 OF 78
SHEET NO. 2

FILE PATH:J:\AC3D\5559\dwg\5559-GENERAL NOTES.dwg - May 24, 2025 - 4:17pm

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;

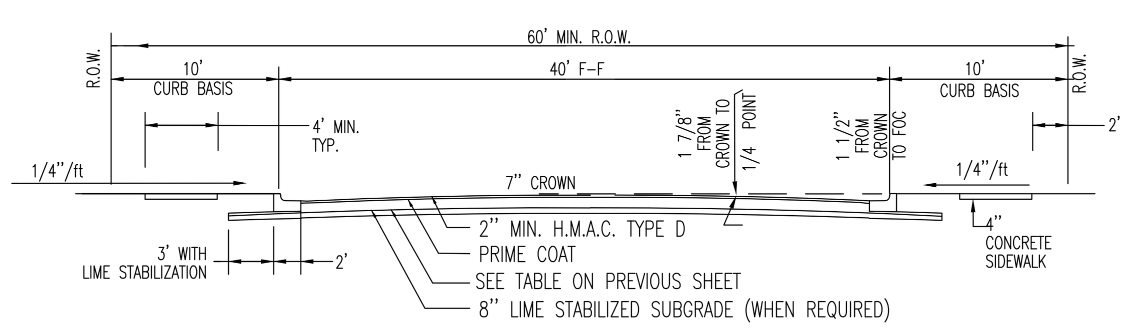
   B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;

   C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

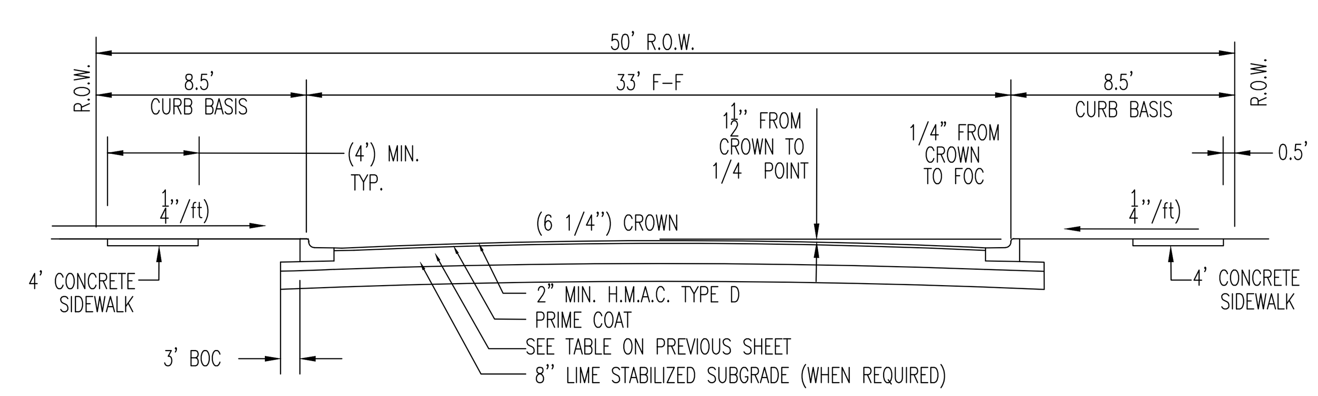
AUSTIN REGIONAL OFFICE
12100 PARK 35 CIRCLE, BUILDING A
AUSTIN, TEXAS 78753-1808
PHONE (512) 339-2929
FAX (512) 339-3795

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.
TCEQ-0592 (REV. JULY 15, 2015)



LA CRESTA PASS
(0+00 TO END)
N.T.S.



ALL OTHER LOCAL STREETS
(0+00 TO END)
N.T.S.

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 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, 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 57 - 67 OF 72.

   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: THERE SHALL BE NO CURVATURE OF SANITARY SEWER LINE PIPES.

   IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: THERE SHALL BE NO FLEXURE OF SANITARY SEER LINE PIPES.

   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.

   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).~~ (NOT APPLICABLE)

   THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET 72 OF 72 AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET 72 OF 72.
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	0.8550
8	454	298	1.5200
10	567	239	2.3740
12	680	199	3.4190
15	850	159	5.3420
18	1020	133	7.6930
21	1190	114	10.4710
24	1360	100	13.6760
27	1530	88	17.3090
30	1700	80	21.3690
33	1870	72	25.8560

(D) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME. 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.

(E) 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.

(F) 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.

1. 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.

2. 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.

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THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.
TCEQ-0596 (REV. JULY 15, 2015)

TCEQ WATER DISTRIBUTION SYSTEM
GENERAL CONSTRUCTION NOTES

1. This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "Rules and Regulations for Public Water Systems."
2. All newly installed pipes and related products must conform to American National Standards Institute (ANSI)/NSF International Standard 61 and must be certified by an organization accredited by ANSI [§290.44(a)(1)].
3. Plastic pipe for use in public water systems must bear the NSF International Seal of Approval (NSF-pw) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less [§290.44(a)(2)].
4. No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply [§290.44(a)(3)].
5. All water line crossings of wastewater mains shall be perpendicular [§290.44(e)(4)(B)].
6. Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface [§290.44(a)(4)].
7. The maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent [§290.44(b)].
8. The contractor shall install appropriate air release devices with vent openings to the atmosphere covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent [§290.44(d)(1)].
9. The contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation [§290.44(f)(1)].
10. When waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the waterline shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested [§290.44(f)(2)].
11. Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.
   - The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

     $$Q = \frac{LD\sqrt{P}}{148{,}000}$$

     Where:
     - Q = the quantity of makeup water in gallons per hour,
     - L = the length of the pipe section being tested, in feet,
     - D = the nominal diameter of the pipe in inches, and
     - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
   - The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

     $$L = \frac{SD\sqrt{P}}{148{,}000}$$

     Where:
     - L = the quantity of makeup water in gallons per hour,
     - S = the length of the pipe section being tested, in feet,
     - D = the nominal diameter of the pipe in inches, and
     - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
12. The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet §290.44(e)(1)-(4).
13. The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(e)(5)].
14. Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(e)(6)].
15. Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(e)(7)].
16. Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(e)(8)].
17. The contractor shall disinfect the new waterlines in accordance with AWWA Standard C-651-14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(f)(3)].
18. Dechlorination of disinfecting water shall be in strict accordance with current AWWA Standard C655-09 or most recent.

Revised October 2017

PROJECT #2025-3-CON

DESIGNED BY: SPC
DRAFTED BY: CEL
DATE
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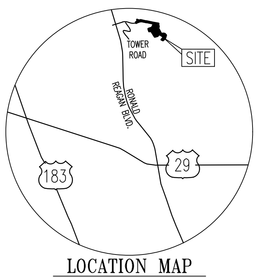
SHEET NAME: GENERAL NOTES (2 OF 2)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED
PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
6-3-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 3 OF 78
SHEET NO.: 3

FILE PATH:J:\AC3D\5559\dwg\5559-GENERAL NOTES.dwg - May 24, 2025 - 4:17pm

SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT



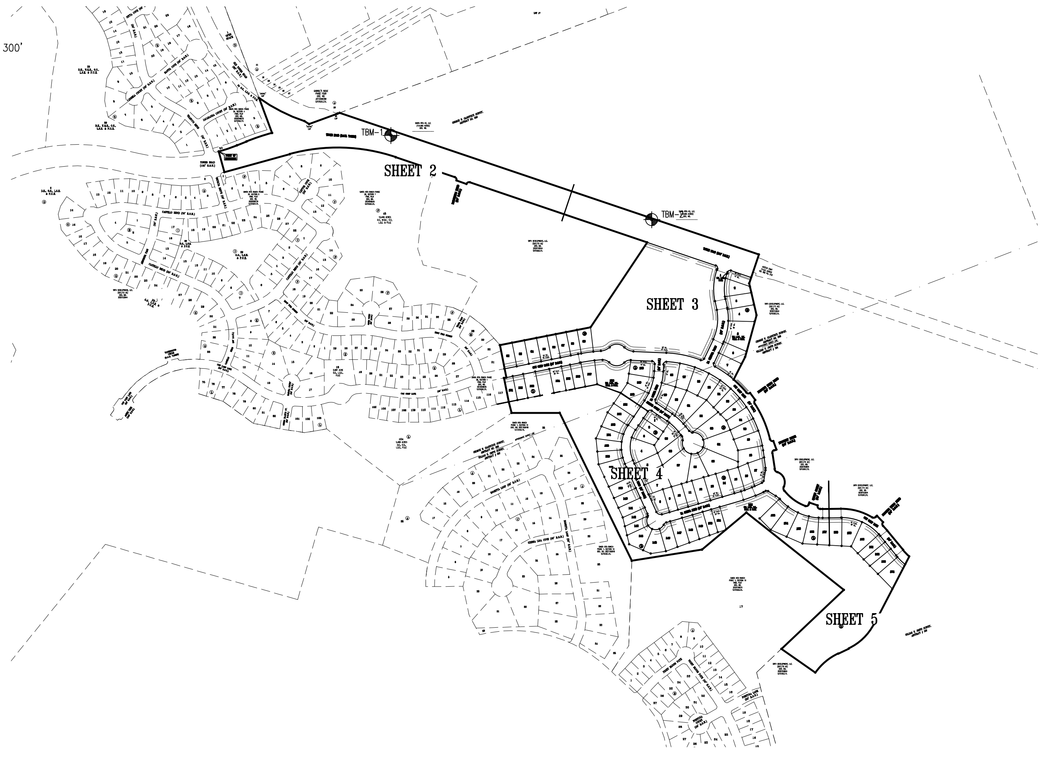
LOCATION MAP

GRAPHIC SCALE

300 0 150 300 600

(IN FEET)
1 inch = 300 ft.

SCALE: 1" = 300'



LEGEND

- ● CAPPED 1/2" IRON ROD FOUND STAMPED "CBD SETSTONE" (UNLESS NOTES)
- ○ CAPPED 1/2" CAPPED IRON ROD SET STAMPED "CBD SETSTONE"
- B.L. BUILDING SETBACK LINE
- D.E. DRAINAGE EASEMENT
- L.S.E. LANDSCAPE EASEMENT
- P.U.E. PUBLIC UTILITY EASEMENT
- O.S. OPEN SPACE
- D.R.W.C.TX. DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
- O.P.R.W.C.TX. OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS

ORIGINAL SUBMITTAL DATE: _____

REVISED DATE: DECEMBER 16, 2024

OWNER:
SRFV DEVELOPMENT, LLC.
1700 CROSS CREEK DRIVE, STE. 100
LIBERTY HILL, TX 78642

SANTA RITA KC, LLC.
1700 CROSS CREEK DRIVE, STE. 100
LIBERTY HILL, TX 78642

DEVELOPER:
SRFV DEVELOPMENT, LLC.
1700 CROSS CREEK LANE, STE. 100
LIBERTY HILL, TX 78642

SURVEYOR:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE
AUSTIN, TEXAS 78749
(512) 280-5160 PHONE

ENGINEER:
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE
AUSTIN, TEXAS 78749
(512) 280-5160 PHONE

TOTAL ACREAGE: 58.109 ACRES

SURVEY: GEORGE W. GLASSCOCK SURVEY, ABSTRACT NO. 266 AND WILLIAM W. SMITH SURVEY, ABSTRACT NO. 591

F.E.M.A. MAP NO. 48491C0275E
WILLIAMSON COUNTY, TEXAS AND INCORPORATED AREAS.
DATED: SEPTEMBER 26, 2008

TBM 1:
CAPPED 1/2 INCH IRON ROD SET STAMPED "CONTROL"
N = 10220913.74
E = 3083105.25
ELEVATION = 908.45' (NAVD '88)

TBM 2:
CAPPED 1/2 INCH IRON ROD SET STAMPED "CONTROL"
N = 10220440.10
E = 2084571.90
ELEVATION = 1013.31' (NAVD '88)

BASIS OF BEARINGS – TEXAS COORDINATE SYSTEM, CENTRAL ZONE (4203), NAD83

ELEVATION DATUM – NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88)

TOTAL OF LOTS	99
SINGLE FAMILY LOTS:	96
W.Q.E., D.E., O.S., L.S.E. & P.U.E. LOTS:	3

ROAD TABLE

STREET NAMES	LINEAR FOOTAGE	R.O.W. WIDTH	PAVEMENT WIDTH	DESIGN SPEED	DESIGNATION	CLASSIFICATION
AMADOR COURT	342'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
BARCELLUS BEND	83'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
COW CAMP LANE	2,859'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
HUNTLEY DRIVE	46'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
LA COLINA BEND	1,704'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
LA CRESTA PASS	649'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
PIONEER HILLS BEND	83'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
QUEEN COURT	49'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
TOWER ROAD	3,138'	136' R.O.W./R.O.W. VARIES	48' FOC-FOC	45 M.P.H.	PUBLIC	ARTERIAL
TOTAL	8,953'					

SHEET NO. 1 OF 8

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5559\Survey\PLAT – SRR 2B-2

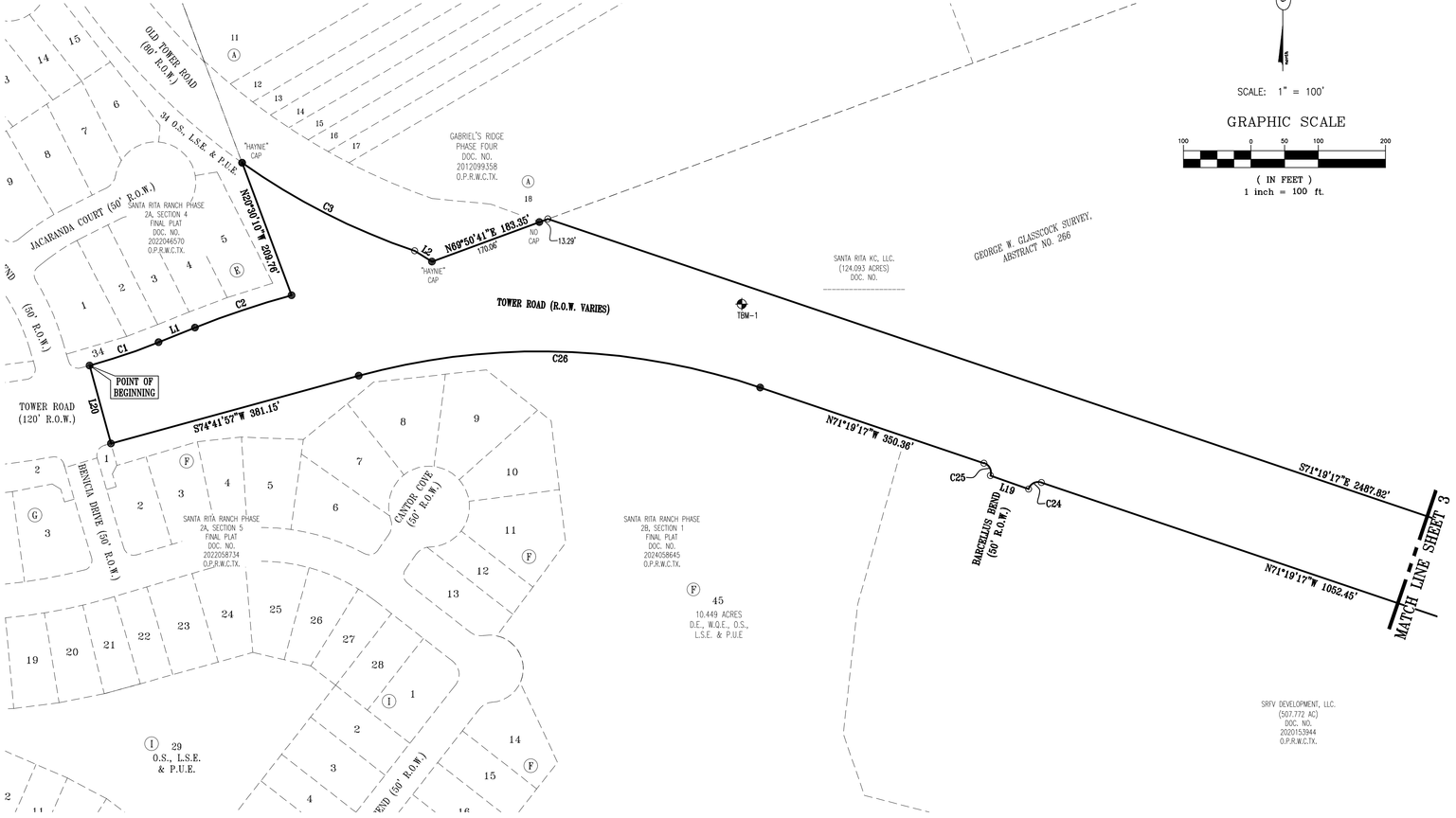
SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT

SCALE: 1" = 100'

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.



SHEET NO. 2 OF 8

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

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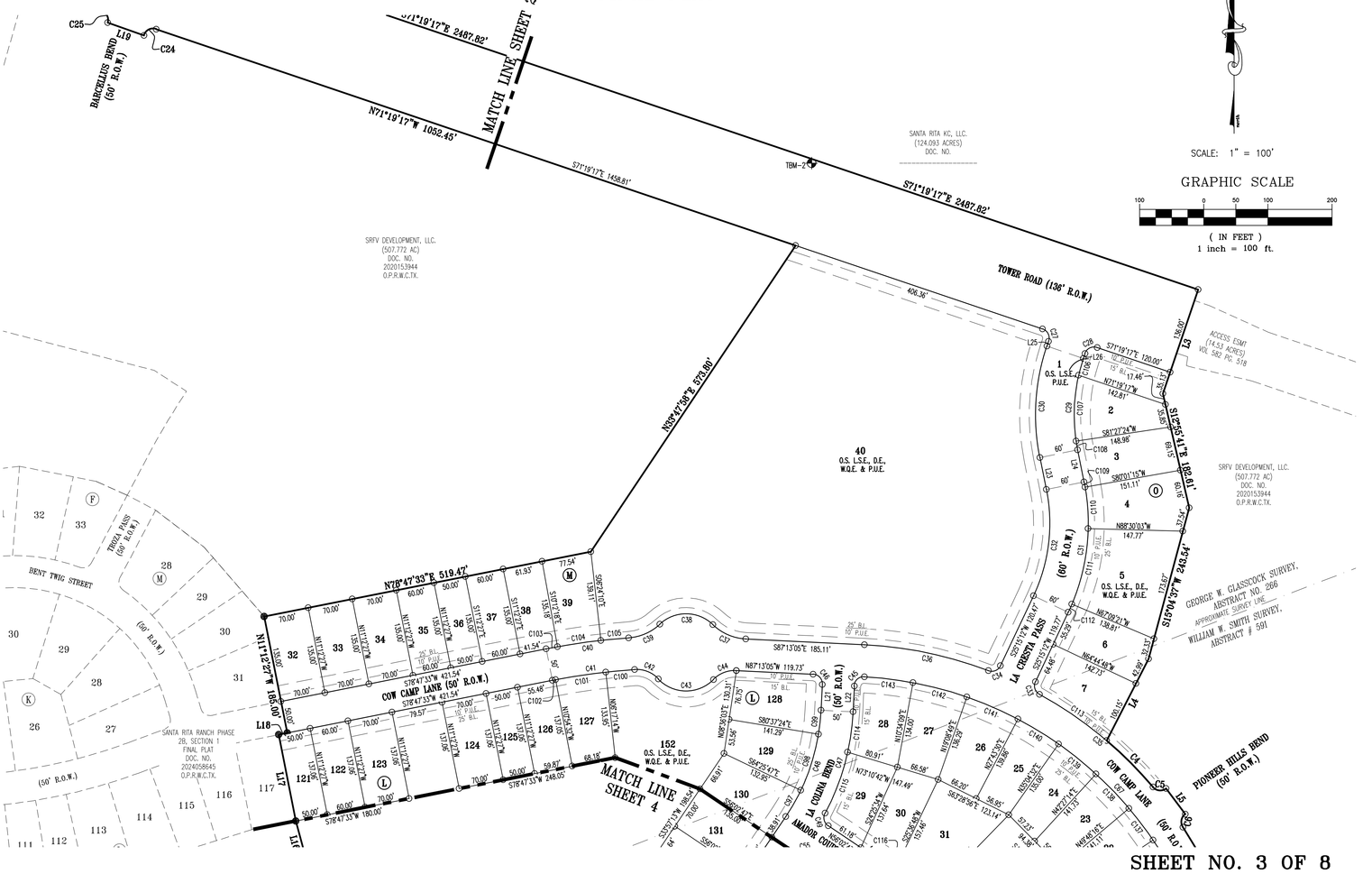
SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT



SHEET NO. 3 OF 8

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

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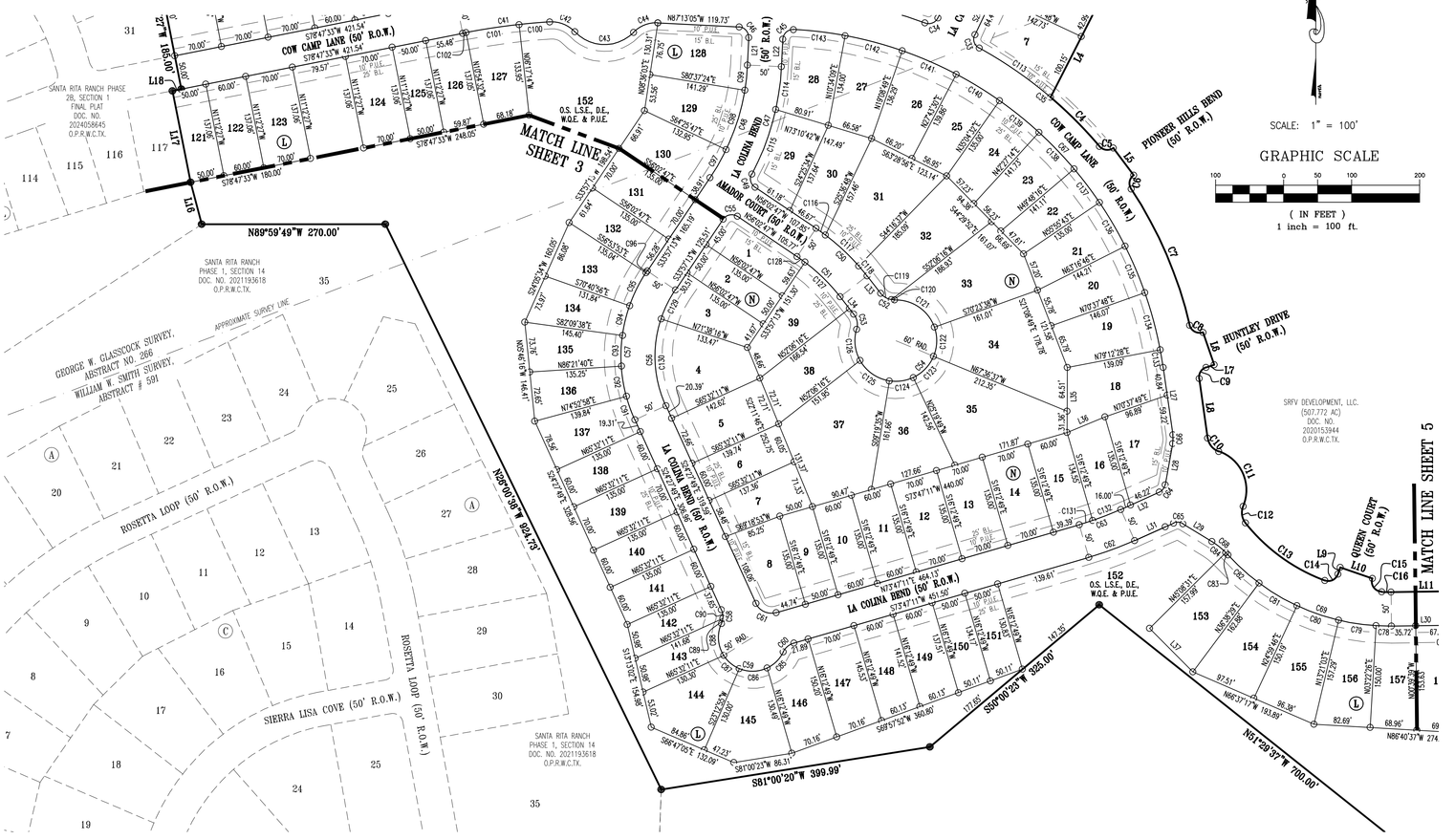
SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT



SHEET NO. 4 OF 8

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

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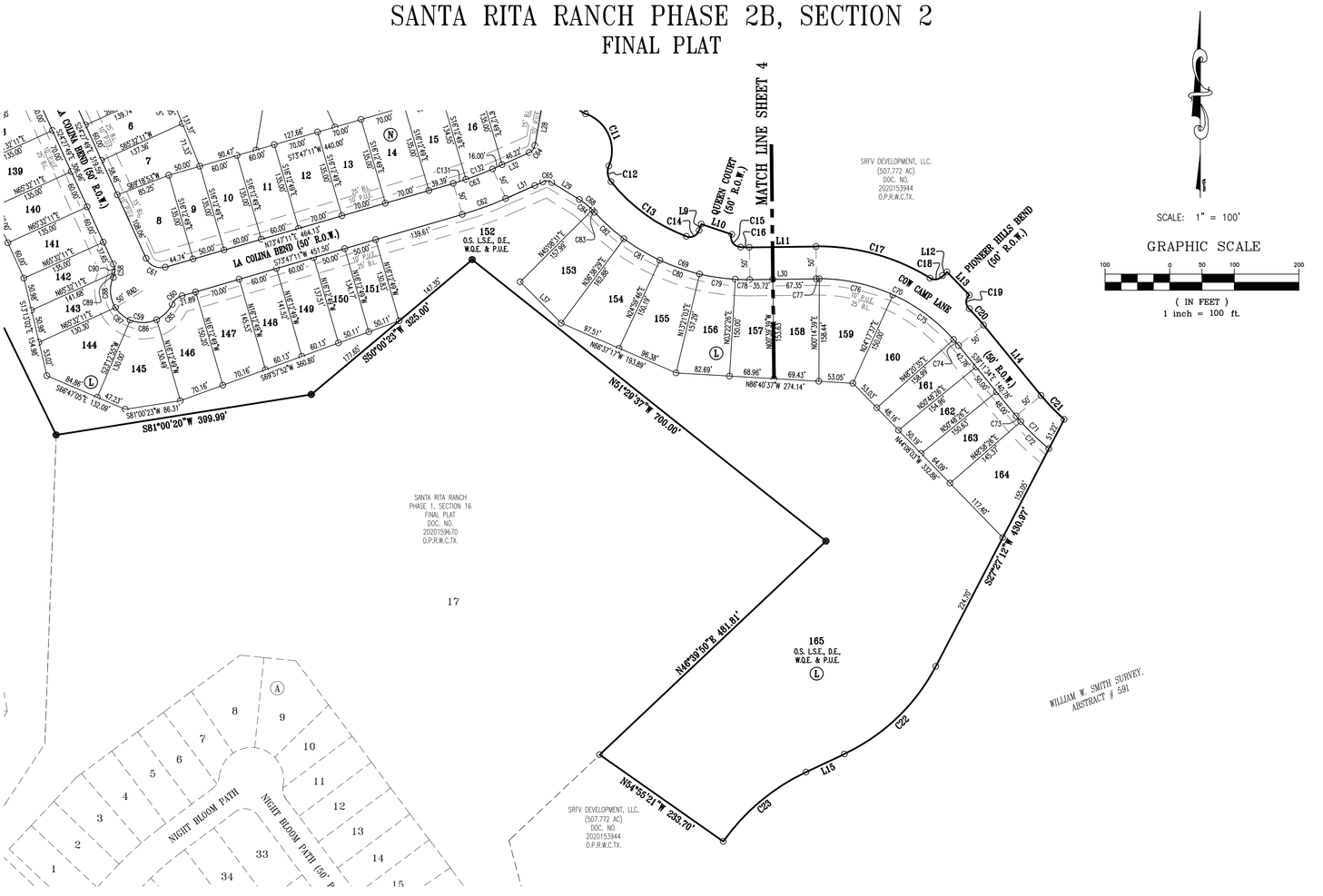
SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT



SHEET NO. 5 OF 8

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

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SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C1	108.02	940.00	N71°24'25"E	107.96	54.07	6°35'03"
C2	151.28	1300.00	N71°26'55"E	151.19	75.72	6°40'02"
C3	288.53	994.93	S62°59'03"E	287.52	145.28	16°36'56"
C4	102.31	630.00	S44°57'20"E	102.19	51.27	9°18'15"
C5	22.63	15.00	S83°31'33"E	20.54	14.10	86°26'40"
C6	22.63	15.00	S17°01'47"W	20.54	14.10	86°26'40"
C7	219.08	630.00	S23°13'50"E	217.97	110.65	19°55'26"
C8	25.08	15.00	S61°09'47"E	22.26	16.60	95°47'20"
C9	20.71	15.00	S31°23'22"W	19.10	12.39	79°06'23"
C10	26.52	24.00	S39°49'03"E	25.19	14.80	63°18'27"
C11	99.27	60.00	S24°04'32"E	88.33	65.24	94°47'29"
C12	25.94	24.00	S07°38'24"E	24.69	14.40	61°55'13"
C13	145.92	270.00	S54°04'58"E	144.15	74.79	30°57'54"
C14	24.00	15.00	N64°35'23"E	21.52	15.45	91°41'25"
C15	27.88	15.00	S34°30'43"E	24.04	20.09	106°30'46"
C16	13.63	270.00	S89°12'52"E	13.63	6.82	2°53'33"
C17	185.49	330.00	S74°33'29"E	183.06	95.27	32°12'20"
C18	19.74	15.00	N83°50'31"E	18.35	11.59	75°24'21"
C19	23.86	15.00	S00°33'49"W	21.43	15.30	91°09'04"
C20	33.52	330.00	S42°06'08"E	33.50	16.77	5°49'09"
C21	51.29	300.00	S44°05'26"E	51.23	25.71	9°47'45"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C22	199.33	305.00	S46°10'33"W	195.80	103.37	37°26'41"
C23	169.15	325.00	S49°59'16"W	167.25	86.54	29°49'15"
C24	23.94	15.00	S82°57'11"W	21.48	15.38	91°27'04"
C25	23.18	15.00	N27°02'49"W	20.94	14.62	88°32'56"
C26	604.92	1020.00	N88°18'40"W	596.09	311.65	33°58'46"
C27	23.56	15.00	N26°19'17"W	21.21	15.00	90°00'00"
C28	23.56	15.00	S63°40'43"W	21.21	15.00	90°00'00"
C29	144.44	275.00	S03°37'55"W	142.78	73.93	30°05'37"
C30	175.95	335.00	S03°37'55"W	173.94	90.06	30°05'37"
C31	207.99	325.00	N06°55'09"E	204.46	107.70	36°40'06"
C32	169.60	265.00	N06°55'09"E	166.72	87.82	36°40'06"
C33	22.63	15.00	S17°58'08"E	20.54	14.10	86°26'40"
C34	22.40	15.00	N68°01'49"E	20.37	13.88	85°33'14"
C35	229.67	630.00	N50°44'50"W	228.40	116.13	20°53'16"
C36	198.20	630.00	N78°12'19"W	197.38	99.92	18°01'31"
C37	57.16	79.50	S66°37'08"E	55.94	29.88	41°11'53"
C38	91.10	60.00	N89°31'08"W	82.60	56.94	86°59'46"
C39	54.17	79.50	N66°30'10"E	53.13	28.18	39°02'27"
C40	129.99	1030.00	S82°24'29"W	129.90	65.08	7°13'51"
C41	129.34	980.00	S82°34'25"W	129.25	64.76	7°33'43"
C42	41.09	47.00	N68°35'53"W	39.80	21.96	50°05'41"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C43	96.04	60.00	S89°24'24"E	86.11	61.82	91°42'43"
C44	39.41	47.00	S68°45'35"W	38.27	20.95	48°02'41"
C45	23.62	15.00	S47°53'57"W	21.26	15.06	90°14'02"
C46	23.56	15.00	N42°13'05"W	21.21	15.00	90°00'00"
C47	165.18	375.00	N15°24'04"E	163.85	83.95	25°14'17"
C48	176.82	325.00	N18°22'04"E	174.64	90.65	31°10'18"
C49	22.01	15.00	S14°00'47"E	20.09	13.52	84°04'00"
C50	102.96	325.00	N46°58'16"W	102.53	51.91	18°09'03"
C51	87.12	275.00	N46°58'16"W	86.75	43.93	18°09'03"
C52	23.55	25.00	S64°52'47"E	22.69	12.73	53°58'05"
C53	23.55	25.00	N10°54'42"W	22.69	12.73	53°58'05"
C54	301.53	60.00	N52°06'16"E	70.59	43.64	287°56'10"
C55	23.56	15.00	S78°57'13"W	21.21	15.00	90°00'00"
C56	178.43	175.00	S04°44'42"W	170.80	97.84	58°25'02"
C57	229.40	225.00	S04°44'42"W	219.60	125.79	58°25'02"
C58	21.03	25.00	N00°22'08"W	20.41	11.18	48°11'23"
C59	155.45	50.00	S65°20'19"E	99.99	3062.64	178°07'46"
C60	21.03	25.00	S49°41'30"W	20.41	11.18	48°11'23"
C61	35.67	25.00	S65°20'19"E	32.72	21.64	81°45'00"
C62	71.80	525.00	N69°52'06"E	71.75	35.96	7°50'11"
C63	64.97	475.00	N69°52'06"E	64.91	32.53	7°50'11"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C64	14.46	15.00	N38°19'50"E	13.91	7.85	55°14'22"
C65	14.58	15.00	N86°12'19"W	14.01	7.92	55°41'21"
C66	12.91	40.00	N01°05'10"E	12.86	6.51	18°29'58"
C67	797.89	580.00	N47°34'26"W	736.45	476.59	78°49'13"
C68	30.76	110.00	N50°20'55"W	30.66	15.48	16°01'26"
C69	269.90	320.00	S66°29'54"E	261.97	143.56	48°19'30"
C70	251.52	280.00	N64°55'36"W	243.15	134.96	51°28'05"
C71	71.85	350.00	S45°04'25"E	71.72	36.05	11°45'43"
C72	60.65	350.00	N45°59'25"W	60.57	30.40	9°55'42"
C73	11.20	350.00	N40°06'34"W	11.20	5.60	1°50'01"
C74	12.04	280.00	N40°25'29"W	12.04	6.02	2°27'51"
C75	117.53	280.00	N53°40'54"W	116.67	59.64	24°02'58"
C76	117.53	280.00	N77°43'52"W	116.67	59.64	24°02'58"
C77	4.42	280.00	S89°47'30"W	4.42	2.21	0°54'18"
C78	22.53	320.00	N88°38'37"W	22.53	11.27	4°02'05"
C79	55.72	320.00	N81°38'15"W	55.65	27.93	9°58'38"
C80	65.04	320.00	N70°49'35"W	64.93	32.63	11°38'43"
C81	65.04	320.00	N59°10'52"W	64.93	32.63	11°38'43"
C82	61.56	320.00	N47°50'50"W	61.47	30.88	11°01'22"
C83	4.84	110.00	N43°35'51"W	4.84	2.42	2°31'17"
C84	25.92	110.00	N51°36'34"W	25.86	13.02	13°30'09"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C85	34.23	50.00	S45°12'33"W	33.57	17.82	39°13'30"
C86	42.23	50.00	S89°01'06"W	40.99	22.47	48°23'36"
C87	30.47	50.00	N49°19'38"W	30.00	15.72	34°54'55"
C88	48.52	50.00	N04°04'18"W	46.64	26.36	55°35'45"
C89	8.11	25.00	N14°25'44"E	8.08	4.09	18°35'40"
C90	12.91	25.00	N09°39'58"W	12.77	6.60	29°35'43"
C91	36.70	225.00	N19°47'26"W	36.66	18.39	9°20'47"
C92	45.08	225.00	N09°22'41"W	45.00	22.61	11°28'42"
C93	45.08	225.00	N02°06'01"E	45.00	22.61	11°28'42"
C94	45.08	225.00	N13°34'43"E	45.00	22.61	11°28'42"
C95	54.13	225.00	N26°12'35"E	54.00	27.20	13°47'03"
C96	3.34	225.00	N33°31'40"E	3.34	1.67	0°51'06"
C97	47.55	325.00	N29°45'43"E	47.51	23.82	8°23'00"
C98	91.85	325.00	N17°28'24"E	91.55	46.24	16°11'37"
C99	37.41	325.00	N06°04'46"E	37.39	18.72	6°35'41"
C100	45.18	980.00	S85°02'01"W	45.18	22.60	2°38'30"
C101	79.05	980.00	S81°24'07"W	79.03	39.55	4°37'19"
C102	5.10	980.00	S78°56'30"W	5.10	2.55	0°17'54"
C103	18.02	1030.00	N79°17'38"E	18.02	9.01	1°00'09"
C104	68.35	1030.00	N81°41'46"E	68.34	34.19	3°48'08"
C105	43.61	1030.00	N84°48'37"E	43.61	21.81	2°25'34"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C106	27.16	275.00	S15°50'56"W	27.15	13.59	5°39'34"
C107	103.49	275.00	S02°14'17"W	102.88	52.37	21°33'46"
C108	13.78	275.00	S09°58'45"E	13.78	6.89	2°52'18"
C109	8.14	325.00	S10°41'50"E	8.14	4.07	1°26'08"
C110	65.11	325.00	S04°14'24"E	65.00	32.66	11°28'42"
C111	121.08	325.00	S12°10'18"W	120.38	61.25	21°20'43"
C112	13.66	325.00	S24°02'56"W	13.66	6.83	2°24'33"
C113	127.37	630.00	N50°23'58"W	127.15	63.90	11°35'01"
C114	63.54	375.00	S07°38'09"W	63.46	31.84	9°42'27"
C115	101.65	375.00	S20°15'18"W	101.34	51.14	15°31'50"
C116	17.02	325.00	S54°32'47"E	17.02	8.51	3°00'00"
C117	67.02	325.00	S47°08'18"E	66.91	33.63	11°48'58"
C118	18.92	325.00	S39°33'47"E	18.91	9.46	3°20'05"
C119	18.79	25.00	S59°25'44"E	18.35	9.86	43°04'00"
C120	4.76	25.00	S86°24'47"E	4.75	2.39	10°54'05"
C121	75.67	60.00	S55°44'06"E	70.75	43.80	72°15'27"
C122	43.98	60.00	S01°23'30"W	43.00	23.03	41°59'46"
C123	44.28	60.00	S43°31'47"W	43.28	23.20	42°16'48"
C124	36.29	60.00	S81°59'53"W	35.74	18.72	34°39'24"
C125	54.19	60.00	N54°47'58"W	52.37	29.10	51°44'54"
C126	47.12	60.00	N00°25'36"W	45.92	24.85	44°59'52"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C127	72.88	275.00	N45°29'15"W	72.66	36.65	15°11'01"
C128	14.24	275.00	N54°33'46"W	14.24	7.12	2°58'01"
C129	47.62	175.00	S26°09'29"W	47.47	23.96	15°35'29"
C130	130.80	175.00	S03°03'02"E	127.78	68.63	42°49'33"
C131	20.62	475.00	N72°32'34"E	20.62	10.31	2°29'14"
C132	44.35	475.00	N68°37'29"E	44.33	22.19	5°20'57"
C133	26.61	580.00	N09°28'40"W	26.61	13.31	2°37'42"
C134	86.83	580.00	N15°04'52"W	86.75	43.50	8°34'40"
C135	74.41	580.00	N23°02'43"W	74.36	37.26	7°21'02"
C136	74.41	580.00	N30°23'46"W	74.36	37.26	7°21'02"
C137	62.00	580.00	N37°08'00"W	61.97	31.03	6°07'27"
C138	74.41	580.00	N43°52'15"W	74.36	37.26	7°21'02"
C139	74.69	580.00	N51°14'07"W	74.64	37.40	7°22'42"
C140	74.41	580.00	N58°35'59"W	74.36	37.26	7°21'02"
C141	86.83	580.00	N66°33'51"W	86.75	43.50	8°34'40"
C142	86.83	580.00	N75°08'31"W	86.75	43.50	8°34'40"
C143	76.46	580.00	N83°12'27"W	76.40	38.28	7°33'11"

Line Table		
Line #	Length	Direction
L1	58.28	N68°06'53"E
L2	30.05	S57°57'37"E
L3	171.13	S18°40'43"W
L4	143.14	S27°05'09"W
L5	50.00	S36°44'53"E
L6	50.00	S19°03'23"E
L7	12.79	S70°56'33"W
L8	88.71	S08°09'49"E
L9	10.41	N18°44'40"E
L10	50.00	S71°15'20"E
L11	103.07	N89°20'21"E
L12	11.06	N44°08'21"E
L13	50.00	S43°51'39"E
L14	140.78	S39°11'34"E
L15	65.98	S84°53'54"W
L16	63.85	N14°56'50"W
L17	137.06	N11°12'27"W
L18	13.51	N78°47'33"E
L19	60.04	N70°35'47"W

Line Table		
Line #	Length	Direction
L20	120.00	N15°18'03"W
L21	40.25	N02°46'55"E
L22	40.25	S02°46'55"W
L23	50.88	S11°24'54"E
L24	50.88	S11°24'54"E
L25	7.88	S18°40'43"W
L26	7.88	N18°40'43"E
L27	100.06	N08°09'49"W
L28	61.55	N10°20'08"E
L29	50.08	N58°21'38"W
L30	103.07	N89°20'21"E
L31	62.71	S65°57'00"W
L32	62.22	N65°57'00"E
L33	32.57	N37°53'44"W
L34	32.57	N37°53'44"W
L35	95.87	S00°12'56"W
L36	60.36	N67°29'35"E
L37	90.30	N44°51'29"W

GENERAL:

1. BEARINGS ARE BASED ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE (4203), NAD83.
2. THIS SUBDIVISION LIES WITHIN THE CITY OF LIBERTY HILL EXTRA-TERRITORIAL JURISDICTION.
3. IT IS THE RESPONSIBILITY OF THE OWNER, NOT THE COUNTY, TO ASSURE COMPLIANCE WITH PROVISIONS OF ALL APPLICABLE STATE, FEDERAL AND LOCAL LAWS, AND REGULATIONS RELATING TO PLATTING AND DEVELOPMENT OF THIS PROPERTY. THE COUNTY ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF REPRESENTATIONS BY OTHER PARTIES IN THIS PLAT. FLOODPLAIN DATA, IN PARTICULAR, MAY CHANGE. IT IS FURTHER UNDERSTOOD THAT THE OWNERS OF THE TRACT OF LAND COVERED BY THIS PLAT MUST INSTALL AT THEIR OWN EXPENSE ALL TRAFFIC CONTROL DEVICES AND SIGNAGE THAT MAY BE REQUIRED BEFORE THE ROADS IN THE SUBDIVISION HAVE FINALLY BEEN ACCEPTED FOR MAINTENANCE BY THE COUNTY.
4. THIS PROPERTY IS SUBJECT TO A BLANKET-TYPE UTILITY EASEMENT GRANTED TO CHISHOLM TRAIL WATER SUPPLY CORPORATION IN VOLUME 939, PAGE 271, DEED RECORDS OF WILLIAMSON COUNTY, TEXAS.
5. ALL PUBLIC ROADWAYS AND EASEMENTS AS SHOWN ON THIS PLAT ARE FREE OF LIENS.

DRAINAGE AND FLOODPLAIN:

1. EXCEPT IN CERTAIN ISOLATED AREAS REQUIRED TO MEET ACCESSIBILITY REQUIREMENTS, THE MINIMUM LOWEST FINISHED FLOOR ELEVATION SHALL BE ONE FOOT HIGHER THAN THE HIGHEST SPOT ELEVATION THAT IS LOCATED WITHIN FIVE FEET OUTSIDE THE PERIMETER OF THE BUILDING, OR ONE FOOT ABOVE THE BFE, WHICHEVER IS HIGHER.
2. A DE FACTO CERTIFICATE OF COMPLIANCE IS HEREBY ISSUED FOR ALL LOTS WITHIN THIS SUBDIVISION EXCEPT LOTS 25–33, BLOCK F, LOTS 75–80, BLOCK L, AND LOTS 28–30, BLOCK M. THIS CERTIFICATE IS VALID UNTIL SUCH TIME AS FEMA REVISES OR NEWLY ADOPTS FLOODPLAIN BOUNDARIES IN THIS AREA.
3. THE PROPOSED 100-YR WATER SURFACE ELEVATION PER ATLAS 14 SHOWN ON THE PLAT WAS DETERMINED BY A STUDY PREPARED BY CARLSON, BRIGANCE & DOERING, INC., DATED DECEMBER 29, 2023. THE MINIMUM FINISHED FLOOR ELEVATIONS SHOWN ON THE PLAT WERE DETERMINED BY ADDING ONE (1) FOOT TO THE PROPOSED 100-YR WATER SURFACE ELEVATION PER ATLAS 14.
4. THIS SUBDIVISION IS SUBJECT TO STORM-WATER MANAGEMENT CONTROLS AS REQUIRED BY WILLIAMSON COUNTY SUBDIVISION REGULATIONS, SECTION 811.1, ON NEW DEVELOPMENT THAT WOULD EVOKE SUCH CONTROLS BEYOND EXISTING CONDITIONS.
5. MAINTENANCE RESPONSIBILITY FOR DRAINAGE WILL NOT BE ACCEPTED BY THE COUNTY OTHER THAN THAT ACCEPTED IN CONNECTION WITH DRAINING OR PROTECTING THE ROAD SYSTEM. MAINTENANCE RESPONSIBILITY FOR STORM WATER MANAGEMENT CONTROLS WILL REMAIN WITH THE OWNER.
6. ANY PROPOSED DEVELOPMENT THAT OBSTRUCTS OR DIVERTS FLOW WITHIN A DRAINAGE EASEMENT MAY NOT BE PERMITTED AND IS AT THE DISCRETION OF THE FLOODPLAIN ADMINISTRATOR.

WATER AND WASTEWATER:

1. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTION IS MADE TO AN APPROVED PUBLIC SEWER SYSTEM.
2. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL WATER SATISFACTORY FOR HUMAN CONSUMPTION IS AVAILABLE FROM A SOURCE IN ADEQUATE AND SUFFICIENT SUPPLY.
3. WATER SERVICE IS PROVIDED BY: WILLIAMSON COUNTY MUD 19C/ GEORGETOWN UTILITY SYSTEMS
4. WASTEWATER SERVICE IS PROVIDED BY: WILLIAMSON COUNTY MUD 19C/CITY OF LIBERTY HILL
5. ELECTRIC SERVICE IS PROVIDED BY: PEC

ROADWAY AND RIGHT-OF-WAY:

1. IN APPROVING THIS PLAT BY THE COMMISSIONERS COURT OF WILLIAMSON COUNTY, TEXAS, IT IS UNDERSTOOD THAT THE BUILDING OF ALL ROADS, AND OTHER PUBLIC THOROUGHFARES AND ANY BRIDGES OR CULVERTS NECESSARY TO BE CONSTRUCTED OR PLACED IS THE RESPONSIBILITY OF THE OWNER(S) OF THE TRACT OF LAND COVERED BY THIS PLAT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS PRESCRIBED BY THE COMMISSIONERS COURT OF WILLIAMSON COUNTY, TEXAS. SAID COMMISSIONERS COURT ASSUMES NO OBLIGATION TO BUILD ANY OF THE ROADS, OR PUBLIC THOROUGHFARES SHOWN ON THIS PLAT, OR OF CONSTRUCTING ANY OF THE BRIDGES OR DRAINAGE IMPROVEMENTS IN CONNECTION THEREWITH. THE COUNTY WILL ASSUME NO RESPONSIBILITY FOR DRAINAGE WAYS OR EASEMENTS IN THE SUBDIVISION, OTHER THAN THOSE DRAINING OR PROTECTING THE ROAD SYSTEM.
2. SIDEWALKS SHALL BE MAINTAINED BY THE HOMEOWNERS' ASSOCIATION.
3. DRIVEWAY ACCESS TO LOTS WITHIN THIS SUBDIVISION FROM SIDE STREETS IS PROHIBITED.
4. IMPROVEMENTS WITHIN THE COUNTY ROAD RIGHT-OF-WAY INCLUDING, BUT NOT LIMITED TO LANDSCAPING, IRRIGATION, LIGHTING, CUSTOM SIGNS, ARE PROHIBITED WITHOUT FIRST OBTAINING AN EXECUTED LICENSE AGREEMENT WITH WILLIAMSON COUNTY.
5. NO CONSTRUCTION, PLANTING OR GRADING SHALL BE PERMITTED TO INTERFERE WITH SIGHT EASEMENTS BETWEEN THE HEIGHTS OF THREE AND EIGHT FEET AS MEASURED FROM THE CROWNS OF THE ADJACENT STREETS.
6. THE OWNER SHALL CREATE A MANDATORY HOMEOWNERS' ASSOCIATION THAT SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND LIABILITY OF ANY LANDSCAPING, IRRIGATION, SIDEWALKS, ILLUMINATION, SUBDIVISION IDENTIFICATION SIGNS, WATER QUALITY FEATURES, ETC. PLACED WITHIN THE WILLIAMSON COUNTY RIGHT-OF-WAY. THIS ASSOCIATION SHALL HAVE ASSESSMENT AUTHORITY TO ENSURE THE PROPER FUNDING FOR MAINTENANCE.
7. A PUBLIC UTILITY EASEMENT 10 FEET WIDE IS HEREBY DEDICATED ADJACENT TO ALL STREET RIGHT-OF-WAY.

SHEET NO. 6 OF 8

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

J:\AC3D\5559\Survey\PLAT – SRR 2B-2

SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT

METES AND BOUNDS

BEING ALL OF A 58.109 ACRE TRACT OF LAND SITUATED IN THE GEORGE W. GLASSCOCK SURVEY, ABSTRACT NUMBER 417, AND THE WILLIAM W. SMITH SURVEY, ABSTRACT NUMBER 591, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF A CALLED 507.772 ACRE TRACT CONVEYED TO SRFV DEVELOPMENT, LLC. BY DEED RECORDED IN DOCUMENT NUMBER 2020153944, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND A PORTION OF A CALLED 124.093 ACRE TRACT OF LAND CONVEYED TO SANTA RITA KC, LLC. BY DEED RECORDED IN ______________, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, SAID 58.109 ACRE TRACT OF LAND BEING MORE FULLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, AT A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT THE NORTHEAST TERMINUS CORNER OF TOWER ROAD (120' R.O.W.), BEING ON THE SOUTH LINE OF LOT 34, BLOCK E, SANTA RITA RANCH PHASE 2A, SECTION 4 FINAL PLAT, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2022046570, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, SAME BEING AT THE BEGINNING OF A CURVE TO THE LEFT, FOR THE NORTHWEST CORNER AND THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT, AND WITH THE SOUTH AND EAST LINES OF SAID SANTA RITA RANCH PHASE 2A, SECTION 4, THE FOLLOWING FOUR (4) COURSES AND DISTANCES, NUMBERED 1 THROUGH 4,

1) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 940.00 FEET, AN ARC LENGTH OF 108.02 FEET, AND A CHORD THAT BEARS N71°24'25"E, A DISTANCE OF 107.96 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
2) N68°06'53"E, A DISTANCE OF 58.28 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
3) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 1,300.00 FEET, AN ARC LENGTH OF 151.28 FEET, AND A CHORD THAT BEARS N71°26'55"E, A DISTANCE OF 151.19 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, AND
4) N20°30'10"W, A DISTANCE OF 209.76 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "HAYNIE" ON THE EAST LINE OF SAID LOT 34, BEING ON THE SOUTH RIGHT-OF-WAY LINE OF OLD TOWER ROAD (80' R.O.W.), SAME BEING ON THE NORTH LINE OF SAID 507.772 ACRE TRACT, FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,

THENCE, WITH THE COMMON LINE OF SAID OLD TOWER ROAD AND SAID 507.772 ACRE TRACT OF LAND, THE FOLLOWING TWO (2) COURSES AND DISTANCES, NUMBERED 1 AND 2,

1) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 994.93 FEET, AN ARC LENGTH OF 288.53 FEET, AND A CHORD THAT BEARS S62°59'03"E, A DISTANCE OF 287.52 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, AND
2) S57°57'37"E, A DISTANCE OF 30.05 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "HAYNIE" FOR CORNER,

THENCE, N69°50'41"E, OVER AND ACROSS SAID OLD TOWER ROAD, PASSING AT A DISTANCE OF 170.06 FEET A 1/2 INCH IRON ROD FOUND ON THE NORTH LINE OF SAID OLD TOWER ROAD, BEING AT A CORNER ON THE NORTH LINE OF SAID 507.772 ACRE TRACT OF LAND, SAME BEING AT THE SOUTHWEST CORNER OF SAID 124.093 ACRE TRACT OF LAND, ALSO BEING AT THE SOUTH CORNER OF LOT 18, BLOCK A, GABRIEL'S RIDGE PHASE FOUR, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2012099358, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, AND CONTINUING WITH THE SOUTHEAST LINE OF SAID LOT 18, FOR A TOTAL DISTANCE OF 183.35 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,

THENCE, S71°19'17"E, OVER AND ACROSS SAID 124.093 ACRE TRACT OF LAND, A DISTANCE OF 2,487.82 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" AT A CORNER ON THE SOUTH LINE OF SAID 124.093 ACRE TRACT, FOR THE NORTHEAST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND,

THENCE, S18°40'43"W, PASSING A CORNER ON THE SOUTH LINE OF SAID 124.093 ACRE TRACT, AND OVER AND ACROSS SAID 507.772 ACRE TRACT OF LAND, A DISTANCE OF 171.13 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT OF LAND, THE FOLLOWING THIRTY-SIX (36) COURSES AND DISTANCES, NUMBERED 1 THROUGH 36,

1) S12°55'41"E, A DISTANCE OF 182.61 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
2) S15°04'37"W, A DISTANCE OF 243.54 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
3) S27°05'09"W, A DISTANCE OF 143.14 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
4) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 630.00 FEET, AN ARC LENGTH OF 102.31 FEET, AND A CHORD THAT BEARS S44°57'20"E, A DISTANCE OF 102.19 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
5) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 22.63 FEET, AND A CHORD THAT BEARS S83°31'33"E, A DISTANCE OF 20.54 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
6) S36°44'53"E, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
7) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 22.63 FEET, AND A CHORD THAT BEARS S10°01'47"W, A DISTANCE OF 20.54 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
8) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 630.00 FEET, AN ARC LENGTH OF 219.08 FEET, AND A CHORD THAT BEARS S23°13'50"E, A DISTANCE OF 217.97 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
9) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 25.08 FEET, AND A CHORD THAT BEARS S61°09'47"E, A DISTANCE OF 22.26 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
10) S19°03'27"E, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
11) S70°56'33"W, A DISTANCE OF 12.79 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
12) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 20.71 FEET, AND A CHORD THAT BEARS S31°23'22"W, A DISTANCE OF 19.10 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
13) S08°09'49"E, A DISTANCE OF 88.71 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
14) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 24.00 FEET, AN ARC LENGTH OF 26.52 FEET, AND A CHORD THAT BEARS S39°49'03"E, A DISTANCE OF 25.19 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
15) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 60.00 FEET, AN ARC LENGTH OF 99.27 FEET, AND A CHORD THAT BEARS S24°04'32"E, A DISTANCE OF 88.33 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
16) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 24.00 FEET, AN ARC LENGTH OF 25.94 FEET, AND A CHORD THAT BEARS S07°38'24"E, A DISTANCE OF 24.69 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
17) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 270.00 FEET, AN ARC LENGTH OF 145.92 FEET, AND A CHORD THAT BEARS S54°04'58"E, A DISTANCE OF 144.15 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
18) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 24.00 FEET, AND A CHORD THAT BEARS N64°35'23"E, A DISTANCE OF 21.52 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
19) N18°44'40"E, A DISTANCE OF 10.41 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
20) S71°15'20"E, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
21) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 27.88 FEET, AND A CHORD THAT BEARS S34°30'43"E, A DISTANCE OF 24.04 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
22) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 270.00 FEET, AN ARC LENGTH OF 13.63 FEET, AND A CHORD THAT BEARS S89°12'52"E, A DISTANCE OF 13.63 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
23) N89°20'21"E, A DISTANCE OF 103.07 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
24) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 330.00 FEET, AN ARC LENGTH OF 185.49 FEET, AND A CHORD THAT BEARS S74°33'29"E, A DISTANCE OF 183.06 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
25) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 19.74 FEET, AND A CHORD THAT BEARS N83°50'31"E, A DISTANCE OF 18.35 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
26) N46°08'21"E, A DISTANCE OF 11.06 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
27) S43°51'39"E, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
28) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.86 FEET, AND A CHORD THAT BEARS S00°33'49"W, A DISTANCE OF 21.43 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
29) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 330.00 FEET, AN ARC LENGTH OF 33.52 FEET, AND A CHORD THAT BEARS S42°06'08"E, A DISTANCE OF 33.50 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
30) S39°11'34"E, A DISTANCE OF 140.78 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
31) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 300.00 FEET, AN ARC LENGTH OF 51.29 FEET, AND A CHORD THAT BEARS S44°05'26"E, A DISTANCE OF 51.23 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
32) S27°27'12"W, A DISTANCE OF 430.97 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
33) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 305.00 FEET, AN ARC LENGTH OF 199.33 FEET, AND A CHORD THAT BEARS S46°10'33"W, A DISTANCE OF 195.80 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
34) S64°53'54"W, A DISTANCE OF 65.98 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
35) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 325.00 FEET, AN ARC LENGTH OF 169.15 FEET, AND A CHORD THAT BEARS S49°59'16"W, A DISTANCE OF 167.25 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
36) N54°55'21"W, A DISTANCE OF 233.70 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" ON THE SOUTHEAST LINE OF LOT 17, BLOCK A, SANTA RITA RANCH PHASE 1, SECTION 16, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2020159670, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, FOR CORNER,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT, AND ALONG THE SOUTHEAST, NORTHEAST AND NORTHWEST LINES OF SAID LOT 17, THE FOLLOWING FOUR(4) COURSES AND DISTANCES, NUMBERED 1 THOUGH 4,

1) N46°39'50"E, A DISTANCE OF 481.81 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
2) N51°29'37"W, A DISTANCE OF 700.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
3) S50°00'23"W, A DISTANCE OF 325.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
4) S81°00'20"W, A DISTANCE OF 399.99 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT THE NORTHWEST CORNER OF SAID LOT 17 FOR CORNER, BEING AT A CORNER ON THE EAST LINE OF LOT 35, BLOCK A, SANTA RITA RANCH PHASE 1, SECTION 14, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2021193618, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, FOR CORNER,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT, AND ALONG THE EAST LINE OF SAID LOT 35, THE FOLLOWING TWO (2) COURSES AND DISTANCES, NUMBERED 1 AND 2,

1) N26°00'38"W, A DISTANCE OF 924.73 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, AND
2) N89°59'49"W, A DISTANCE OF 270.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" ON THE NORTH LINE OF SAID LOT 35, BEING AT THE SOUTHEAST CORNER OF LOT 104, BLOCK L, SAID SANTA RITA RANCH PHASE 2B, SECTION 1, FOR CORNER,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT OF LAND, AND WITH THE EAST LINE OF SAID SANTA RITA RANCH PHASE 2B, SECTION 1, THE FOLLOWING FOUR (4) COURSES AND DISTANCES, NUMBERED 1 THROUGH 4,

1) N14°59'50"W, A DISTANCE OF 63.85 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
2) N11°12'27"W, A DISTANCE OF 137.06 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
3) N78°47'33"E, A DISTANCE OF 13.51 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, AND
4) N11°12'27"W, A DISTANCE OF 185.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT A CORNER ON THE EAST LINE OF LOT 30, BLOCK M, SAID SANTA RITA RANCH PHASE 2B, SECTION 1, FOR CORNER,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT OF LAND, THE FOLLOWING SEVEN (7) COURSES AND DISTANCES, NUMBERED 1 THROUGH 7,

1) N78°47'33"E, A DISTANCE OF 519.47 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
2) N33°47'58"E, A DISTANCE OF 573.80 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
3) N71°19'17"W, A DISTANCE OF 1,052.45 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
4) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.94 FEET, AND A CHORD THAT BEARS S62°57'11"W, A DISTANCE OF 21.48 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
5) N70°35'47"W, A DISTANCE OF 60.04 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
6) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.18 FEET, AND A CHORD THAT BEARS N27°02'49"W, A DISTANCE OF 20.94 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, AND
7) N71°19'17"W, PASSING THE NORTHEAST CORNER OF LOT 45, BLOCK F, SANTA RITA RANCH PHASE 2B, SECTION 1, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2024058645, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, AND CONTINUING WITH THE NORTH LINE OF SAID LOT 45, A TOTAL DISTANCE OF 350.36 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,

THENCE, OVER AND ACROSS SAID 507.772 ACRE TRACT OF LAND, AND WITH THE NORTH LINE OF SAID LOT 45 THE FOLLOWING TWO (2) COURSES AND DISTANCES, NUMBERED 1 AND 2,

1) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 1020.00 FEET, AN ARC LENGTH OF 604.92 FEET, AND A CHORD THAT BEARS N88°18'40"W, A DISTANCE OF 596.09 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
2) S74°41'57"W, A DISTANCE OF 381.15 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT THE NORTHEAST CORNER OF LOT 1, BLOCK F, SAID SANTA RITA RANCH PHASE 2B, SECTION 1, BEING AT THE SOUTH TERMINUS CORNER OF SAID TOWER ROAD, SAME BEING AT THE SOUTHEAST CORNER OF SAID SANTA RITA RANCH PHASE 2A, SECTION 4, FOR CORNER,

THENCE, N15°18'03"W, WITH THE TERMINUS LINE OF SAID TOWER ROAD, A DISTANCE OF 120.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 58.109 ACRES OF LAND.

SHEET NO. 7 OF 8

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

SANTA RITA RANCH PHASE 2B, SECTION 2
FINAL PLAT

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF WILLIAMSON §

I, JAMES EDWARD HORNE, VICE PRESIDENT, SRFV DEVELOPMENT, LLC, OWNER A CALLED 507.772 ACRE TRACT OF LAND CONVEYED IN DOCUMENT NUMBER 2020153944, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, AND THE OWNER OF A CALLED 124.093 ACRE TRACT OF LAND CONVEYED IN DOCUMENT NUMBER ______________, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, SITUATED IN THE GEORGE W. GLASSCOCK SURVEY, ABSTRACT NUMBER 266, AND THE WILLIAM W. SMITH SURVEY, ABSTRACT NUMBER 591, WILLIAMSON COUNTY, TEXAS, AND DO HEREBY SUBDIVIDE SAID TRACTS AS SHOWN HEREON, AND DO HEREBY CONSENT TO ALL PLAT NOTE REQUIREMENTS SHOWN HEREON, AND DO HEREBY FOREVER DEDICATE TO THE PUBLIC THE ROADS, ALLEYS, RIGHTS-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS WILLIAMSON COUNTY MAY DEEM APPROPRIATE. THIS SUBDIVISION IS TO BE KNOWN AS,

"SANTA RITA RANCH PHASE 2B, SECTION 2 FINAL PLAT"

TO CERTIFY WHICH, WITNESS BY MY HAND THIS ________ DAY OF ______________, 20___.

SRFV DEVELOPMENT, LLC.
A TEXAS LIMITED LIABILITY COMPANY

BY: ______________________________
JAMES EDWARD HORNE, VICE PRESIDENT
1700 CROSS CREEK LANE, STE. 100
LIBERTY HILL, TX 78642

STATE OF TEXAS §

COUNTY OF WILLIAMSON §

BEFORE ME THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED JAMES EDWARD HORNE, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT OF WRITING, AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

WITNESS MY HAND AND SEAL OF OFFICE, THIS THE _______ DAY OF ______________, 20___ A.D.

____
NOTARY PUBLIC IN AND FOR WILLIAMSON COUNTY, TEXAS

SANTA RITA KC, LLC.
A TEXAS LIMITED LIABILITY COMPANY

BY: ______________________________
JAMES EDWARD HORNE, VICE PRESIDENT
1700 CROSS CREEK LANE, STE. 100
LIBERTY HILL, TX 78642

STATE OF TEXAS §

COUNTY OF WILLIAMSON §

BEFORE ME THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED JAMES EDWARD HORNE, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT OF WRITING, AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

WITNESS MY HAND AND SEAL OF OFFICE, THIS THE _______ DAY OF ______________, 20___ A.D.

____
NOTARY PUBLIC IN AND FOR WILLIAMSON COUNTY, TEXAS

CONSENT OF MORTGAGEE

THE UNDERSIGNED, BEING THE HOLDER OF TWO DEEDS OF TRUST LIENS SECURED BY THE PROPERTY, THE FIRST DATED OCTOBER 31, 2013 RECORDED AS DOCUMENT NO. 2013103003 IN THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, SECURING A NOTE OF EVEN DATE THEREWITH, AND THE SECOND DATED JANUARY 31, 2018 RECORDED AS DOCUMENT NO. 2018009177, SECURING A NOTE OF EVEN DATE THEREWITH, EXECUTES THIS DECLARATION SOLELY FOR THE PURPOSES OF EVIDENCING ITS CONSENT TO THE TERMS AND PROVISIONS HEREOF.

INTERNATIONAL BANK OF COMMERCE,
A TEXAS BANKING ASSOCIATION

BY: ______________________________

PRINTED NAME: ______________________________

TITLE: ______________________________

STATE OF TEXAS
COUNTY OF ______________________

BEFORE ME ON THIS DAY PERSONALLY APPEARED ______________________, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS THE _______ DAY OF ______________, 20___, A.D.

BY: ______________________________
NOTARY PUBLIC, STATE OF TEXAS

PRINTED NAME: ______________________________

MY COMMISSION EXPIRES: ______________

CITY OF LIBERTY HILL APPROVAL

THE CITY OF LIBERTY HILL, TEXAS ACKNOWLEDGES RECEIPT OF THIS PLAT FOR REVIEW AND/OR APPROVAL IN CONJUNCTION WIH PLANNING PURPOSES AND PAYMENT OF APPLICABLE FEES FOR THE PROVISION OF WATER AND/OR WASTEWATER SERVICES.

______________________________ ______________
PAUL BRANDENBURG, CITY MANAGER DATE
CITY OF LIBERTY HILL, TEXAS

ROAD NAME & 911 ADDRESSING APPROVAL

ROAD NAME AND ADDRESS ASSIGNMENTS VERIFIED THIS THE _____ DAY OF ______________, 20___ A.D.

____
WILLIAMSON COUNTY ADDRESSING COORDINATOR
WILLIAMSON COUNTY, TEXAS

PRINTED NAME:______________________________

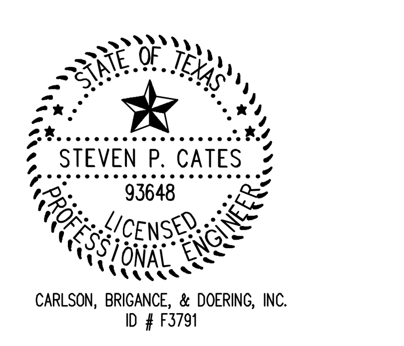
STATE OF TEXAS §

COUNTY OF TRAVIS §

NO PORTION OF THIS TRACT IS WITHIN THE 100 YEAR FLOOD PLAIN AS SHOWN ON FLOOD INSURANCE RATE COMMUNITY PANEL #48491C0275E, EFFECTIVE SEPTEMBER 26, 2008 FOR WILLIAMSON COUNTY, TEXAS.

I, STEVEN P. CATES, P.E., AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS, TO PRACTICE THE PROFESSION OF ENGINEERING, AND HEREBY CERTIFY THAT THIS SUBDIVISION PLAT COMPLIES WITH THE REQUIREMENTS OF WILLIAMSON COUNTY.

ENGINEERING BY:______________________________
STEVEN P. CATES, P.E. NO. 93648 DATE
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE,
AUSTIN, TEXAS 78749



CARLSON, BRIGANCE, & DOERING, INC.
ID # F3791

THIS FLOOD STATEMENT, AS DETERMINED BY A H.U.D.-F.I.A. FLOOD INSURANCE RATE MAP, DOES NOT IMPLY THAT THE PROPERTY OR THE IMPROVEMENTS THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. ON RARE OCCASIONS, GREATER FLOODS CAN AND WILL OCCUR, AND FLOOD HEIGHTS MAY INCREASE BY MAN-MADE OR NATURAL CAUSES.

THIS STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF ENGINEER OR SURVEYOR.

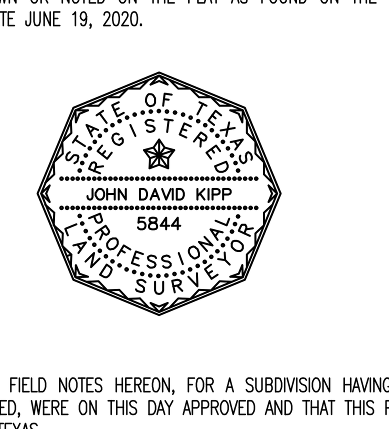
STATE OF TEXAS §

COUNTY OF TRAVIS §

I, AARON V. THOMASON, R.P.L.S., AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS, TO PRACTICE THE PROFESSION OF SURVEYING, AND HEREBY CERTIFY THAT THIS SUBDIVISION PLAT COMPLIES WITH THE WILLIAMSON COUNTY SUBDIVISION ORDINANCE. ALL EASEMENTS OF RECORD ARE SHOWN OR NOTED ON THE PLAT AS FOUND ON THE TITLE POLICY ISSUED BY TITLE RESOURCES GUARANTY COMPANY, GF NO. 2010289-COM, EFFECTIVE DATE JUNE 10, 2020, ISSUED DATE JUNE 19, 2020.

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. FOR REVIEW PURPOSES ONLY. RELEASED DECEMBER 10, 2024

SURVEYED BY:______________________________
AARON V. THOMASON, R.P.L.S. NO. 6214 DATE
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE,
AUSTIN, TEXAS 78749
AARON@CBDENG.COM



STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF WILLIAMSON §

I, BILL GRAVELL JR., COUNTY JUDGE OF WILLIAMSON COUNTY, TEXAS, DO HEREBY CERTIFY THAT THIS MAP OR PLAT, WITH FIELD NOTES HEREON, FOR A SUBDIVISION HAVING BEEN FULLY PRESENTED TO THE COMMISSIONERS COURT OF WILLIAMSON COUNTY, TEXAS, AND BY THE SAID COURT DULY CONSIDERED, WERE ON THIS DAY APPROVED AND THAT THIS PLAT IS AUTHORIZED TO BE REGISTERED AND RECORDED IN THE PROPER RECORDS OF THE COUNTY CLERK OF WILLIAMSON COUNTY, TEXAS.

______________________________ ______________
BILL GRAVELL JR., COUNTY JUDGE DATE
WILLIAMSON COUNTY, TEXAS

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF WILLIAMSON §

I, NANCY RISTER, CLERK OF THE COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IN WRITING, WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE ON THE _____ DAY OF ______________, 20___ A.D., AT _______ O'CLOCK, _____M., AND DULY RECORDED THIS THE_____ DAY OF ______________, 20___ A.D., AT _______ O'CLOCK, _____M. IN THE OFFICIAL PUBLIC RECORDS OF SAID COUNTY IN INSTRUMENT NO. ______________.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT THE COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GEORGETOWN, TEXAS, THE DATE LAST SHOWN ABOVE WRITTEN.

NANCY RISTER, CLERK COUNTY COURT
OF WILLIAMSON COUNTY, TEXAS

BY: ______________________________, DEPUTY

PRINTED NAME:______________________________

SHEET NO. 8 OF 8

Carlson, Brigance & Doering, Inc.
FIRM ID #F3791 ◆ REG. # 10024900
Civil Engineering ◆ Surveying
5501 West William Cannon ◆ Austin, Texas 78749
Phone No. (512) 280-5160 ◆ Fax No. (512) 280-5165

EXISTING POND 1-14

REPAIR AREA PER SEPARATE EXHIBIT EC ITEM 17.pdf

REPAIR POND SIDE SLOPE PER SEPARATE EXHIBIT EC ITEM 16.pdf

CHANNEL TO BE LINED WITH IMPERMEABLE GEOTEXTILE LINER SEE DETAILS ON SHEET 73 ADD 4" OF TOP SOIL, SEED WITH DAM SEED MIX AND INSTALL EROSION CONTROL MATTING

ADJUST LINER AROUND EXISTING HEADWALL AND ROCK RIP-RAP

EXISTING SANTA RITA RANCH PHASE 2B SECTION 1

MATCHLINE – SEE THIS SHEET FOR CONTINUATION

THIS AREA WILL NEED TO BE REVEGETAED AFTER THE DIRT NEEDED TO BALANCE SRR 2B-2 IS REMOVED

EXISTING TOWER ROAD

STABILIZED CONSTRUCTION ENTRANCE (50'L x 20'W) SEE DETAIL SHEET 10

CONTRACTOR STAGING AND TEMPORARY SPOILS AREA

CONCRETE WASHOUT SEE DETAIL SHEET 10

LA CRESTA PASS

INSTALL TEMPORARY ORANGE CONSTRUCTION FENCING AND SILK FENCE ALONG BUFFER ZONE

TCEQ BUFFER ZONE

PIONEER HILLS BEND

FUTURE SANTA RITA RANCH PHASE 2C SECTION 1

CHANNEL TO BE LINED WITH IMPERMEABLE GEOTEXTILE LINER SEE DETAILS ON SHEET 73 ADD 4" OF TOP SOIL, SEE WITH DAM SEED MIX AND INSTALL EROSION CONTROL MATTING

CONTRACTOR STAGING AND TEMPORARY SPOILS AREA

TEMPORARY ROCK BERM

CONCRETE WASHOUT SEE DETAIL SHEET 10

INLET PROTECTION (TYP.)

FOLLOWING REMOVAL OF THE TEMPORARY SEDIMENT BASIN EXTEND LINER AND 18"-24" ROCK RIP RAP TO HEADWALL APRON

EXTEND LINER TO TOE OF TEMPORARY SEDIMENT BASIN INSTALL 18"-24" ROCK RIP RAP ABOVE LINER

TEMPORARY SEDIMENT BASIN SEE SHEET 74

COW CAMP LANE

LA COLINA BEND

AMADOR COURT

LOC AND SILT FENCE AT PROPERTY LINE. LINES ARE SHOWN OFFSET FOR GRAPHICAL PURPOSE ONLY

STABILIZED CONSTRUCTION ENTRANCE (50'L x 20'W) SEE DETAIL SHEET 10

EXISTING SANTA RITA RANCH PHASE 2B SECTION 1

MATCHLINE – SEE NEXT SHEET FOR CONTINUATION

M 40 O.S., L.S.E., D.E. & P.U.E.

L 152 O.S., L.S.E., D.E. & P.U.E.

LEGEND

- SF — SILT FENCE
- JH — SILT FENCE J-HOOK
- LOC — LIMITS OF CONSTRUCTION
- TEMPORARY ORANGE CONSTRUCTION FENCING
- IP — INLET PROTECTION
- RB — TEMPORARY ROCK BERM
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- SEEDING & TOPSOIL (PERMANENT) WITHIN THE ROW ONLY
- ROLLED EROSION CONTROL MATTING, SEEDING & TOPSOIL (PERMANENT) FOR SLOPES 5:1 & STEEPER
- SEEDING & TOPSOIL (PERMANENT) FOR EASEMENTS, OPEN SPACE LOTS, AND VEGETATIVE FILTER STRIPS ON ALL SLOPES FLATTER THAN 5:1
- IMPERMEABLE LINER WITH ROLLED EROSION CONTROL MATTING, SEEDING & TOPSOIL (PERMANENT)

*ALL AREAS DISTURBED OUTSIDE OF THE SINGLE FAMILY LOTS ARE REQUIRED TO BE REVEGETATED BY THE CONTRACTOR

0 60' 120'

SCALE: 1" = 60'

DESIGNED BY: SPC | DRAFTED BY: CEL

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 12129 RR 620 N. Suite 600 Austin, Texas 78750 Fax No. (512) 280-5165

SHEET NAME: EROSION CONTROL PLAN (1 OF 2)

JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
8-22-2025

DATE: MAR 2025

JOB NUMBER: 5559

SHEET: 8 OF 78

SHEET NO.: 8

FILE PATH: J:\ACD\5559\dwg\5559-EROSION.dwg - Aug 20, 2025 - 3:42pm

MATCHLINE – SEE PREVIOUS SHEET FOR CONTINUATION

LEGEND

- SF — SILT FENCE
- JH — SILT FENCE J-HOOK
- LOC — LIMITS OF CONSTRUCTION
- TEMPORARY ORANGE CONSTRUCTION FENCING
- IP — INLET PROTECTION
- RB — TEMPORARY ROCK BERM
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- SEEDING & TOPSOIL (PERMANENT) WITHIN THE ROW ONLY
- ROLLED EROSION CONTROL MATTING, SEEDING & TOPSOIL (PERMANENT) FOR SLOPES 5:1 & STEEPER
- SEEDING & TOPSOIL (PERMANENT) FOR EASEMENTS, OPEN SPACE LOTS, AND VEGETATIVE FILTER STRIPS ON ALL SLOPES FLATTER THAN 5:1
- IMPERMEABLE LINER WITH ROLLED EROSION CONTROL MATTING, SEEDING & TOPSOIL (PERMANENT)

*ALL AREAS DISTURBED OUTSIDE OF THE SINGLE FAMILY LOTS ARE REQUIRED TO BE REVEGETATED BY THE CONTRACTOR

0 60' 120'

SCALE: 1" = 60'

LA COLINA BEND

QUEEN COURT

COW CAMP LANE

PIONEER HILLS BEND

BACK OF BUILDING LINE

INLET PROTECTION (TYP.)

TEMPORARY BERM

72' CONTRIBUTING IMPERVIOUS LOT AREA TO VFS

15' VEGETATED FILTER STRIP SEE DETAIL SHEET 75

LOC AND SILT FENCE AT PROPERTY LINE. LINES ARE SHOWN OFFSET FOR GRAPHICAL PURPOSE ONLY

INSTALL TEMPORARY ORANGE CONSTRUCTION FENCING AROUND BUFFER ZONE

LOC AND SILT FENCE AT EDGE OF BUFFER ZONE LINES ARE SHOWN OFFSET FOR GRAPHICAL PURPOSE ONLY

FUTURE SANTA RITA RANCH PHASE 2C SECTION 1

EXISTING SANTA RITA RANCH PHASE 1 SECTION 14

EXISTING SANTA RITA RANCH PHASE 1 SECTION 16

TCEQ BUFFER ZONE

DESIGNED BY: SPC | DRAFTED BY: CEL

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 12129 RR 620 N. #300, Austin, Texas 78750 Fax No. (512) 280-5165

SHEET NAME: EROSION CONTROL PLAN (2 OF 2)

JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
8-22-2025

DATE: MAR 2025

JOB NUMBER: 5559

SHEET: 9 OF 78

SHEET NO.: 9

FILE PATH: J:\ACAD\5559\dwg\5559-EROSION.dwg - Aug 20, 2025 - 3:42pm

Specifications

Western Excelsior manufactures a full line of Rolled Erosion Control Products (RECPs). Excel SS-2 temporary Erosion Control Blanket is composed of a 100% certified weed free agricultural straw matrix mechanically (stitch) bound on two inch centers between two photodegradable, synthetic nets. Excel SS-2 is intended for use in channels or on slopes requiring erosion protection for a period up to twelve months. Actual field longevity is dependent on soil and climatic conditions.

Each roll of EXCEL SS-2 is made in the USA and manufactured under Western Excelsior's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness. Typical manufactured properites are provided in Table 1 and product characteristics are provided in Table 2.

Table 1- Specified Expected Values

Tested Property	Test Method	Value
Tensile Strength (MD) x (TD)	ASTM D6818	10.0 lb/in (1.8 kN/m) x 6.2 lb/in (1.1 kN/m)
Elongation (MD) x (TD)	ASTM D6818	20 % x 26 %
Mass Per Unit Area	ASTM D6475	8.0 oz/yd^2 (271 g/m^2)
Thickness	ASTM D6525	0.28 in (7 mm)
Light Penetration	ASTM D6567	22 % open
Water Absorption	ASTM D1117	450 %

Table 2 - Netting

Top Net Type	Synthetic, Photodegradable
Bottom Net Type	Synthetic, Photodegradable
Top Net Opening Dimensions	0.5 in (13 mm) x 0.5 in (13 mm)
Bottom Net Opening Dimensions	0.5 in (13 mm) x 0.5 in (13 mm)

Excel SS-2 is available in multiple roll sizes ranging in width from 8.0 ft to 16.0 ft. and 112.5 ft to 600 ft in length. Standard roll sizes are 100 square yards, measuring 8.0 ft wide by 112.5 ft long. Custom roll sizes are available upon request.

Document # WE_DICD_SS2_SPEC. This document has been developed to provide the characteristic properties of the product described. For questions, to request performance data or installation recommendations, contact Western Excelsior at 866-540-9810 or wexcotech@westernexcelsior.com. Updated 4/14/2014.

I. PERMANENT EROSION CONTROL:

1. All disturbed areas outside of the single family lots shall be revegetated as noted below.
2. All revegetated areas require a minimum of four (4) inches of topsoil be placed prior to revegetation. Do not add topsoil within the critical root zone of existing trees.
3. All revegetated areas are required to be watered immediately after installation to achieve germination and a healthy stand of plants that can ultimately survive without supplemental water. Apply the water uniformly to the planted areas without causing displacement or erosion of the materials or soil. Maintain the seedbed in a moist condition favorable for grass growth. A temporary sprinkler system must be installed in areas not accessible to a water truck. The sprinkler system must remain in place until acceptable grass growth per #4 below is established.
4. Permanent erosion control shall be acceptable when the grass has grown at least 1½ inches high with a minimum of 95 percent with no bare spots larger than 10 square feet.

II. VEGETATIVE STABILIZATION:

1. Seed Mix:
   a) Seed mix shall be ordered from Native American Seed - 10101 FM 1102 New Braunfels, TX 78130 – (800) 728-4043
   b) Dam Slope Mix Item #2808MIX 31222 (see mix below). You must submit to the engineer (via email at steve@cbdeng.com), a receipt showing total pounds purchased is equal to the seed rate multiplied by the total square footage of area to be revegetated. The dam slope mix seed rate is 2 lbs. per 1000 sq.ft. for Hydromulch.

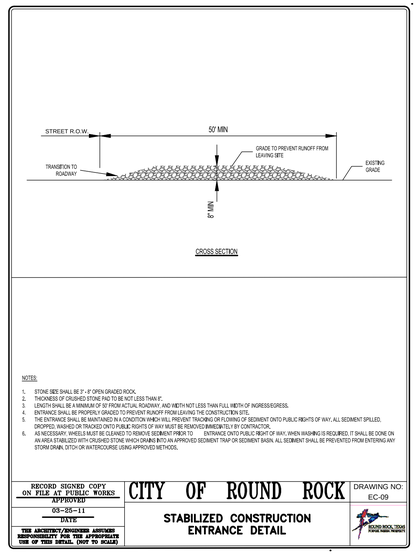
Name	% by wt	Test Date	Germination	Dormant	Total Germ
Prairie Wildrye	16.70%	8/2022	15%	70%	85%
Virginia Wildrye	14.32%	8/2022	7%	85%	92%
Sideoats Grama	11.93%	8/2022	54%	14%	68%
Big Bluestem	11.93%	7/2022	97%	2%	99%
Tall Dropseed	8.95%	11/2022	31%	51%	82%
Indiangrass	5.97%	7/2022	51%	47%	98%
Purity: 85.18%	Inert: 14.81%	Other: 0.01%	Weed: 0%	Noxious: None	**Origin: USA**
Germ: 39.47%	Dormant: 45.22%	Ttl Germ: 84.69%	PLS: 72.14%	Seeds/lb: 264,245	**Net Weight: 50 Lbs**

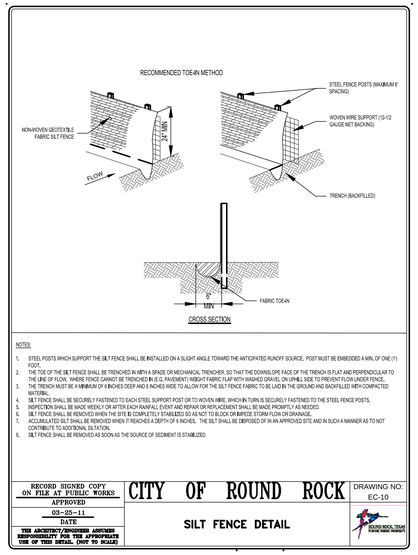
Little Bluestem 4.89%, Blue Grama 4.89%, Little Bluestem - Pineywoods 4.89%, Buffalograss 2.98%, Western Wheatgrass 2.98%, Switchgrass 1.79%, Eastern Gamagrass 1.12%, Sand Lovegrass 1.01%, Cane Bluestem 0.89%, Sand Dropseed 0.89%, Curly Mesquite 0.36%, Texas Cupgrass 0.18%, Slender Grama 0.050%

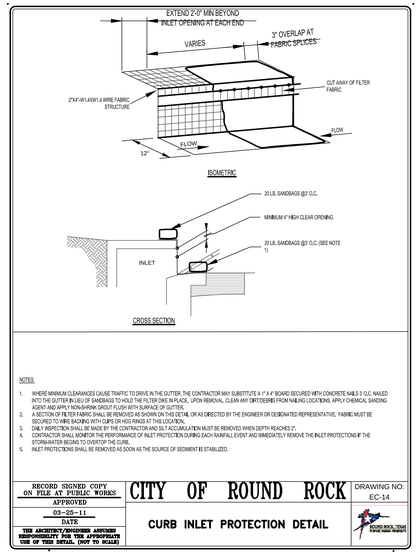
2. Revegetation between September 15th to March 1st:
   a) Add Cereal Rye Grain to Dam Slope Mix. You must submit to the engineer (via email at steve@cbdeng.com), a receipt showing total pounds purchased is equal to the seed rate multiplied by the total square footage of area to be revegetated. The cereal rye grain seed rate is 10 lbs. per 1000 sq.ft. for Hydromulch.
   b) Hydromulch shall comply with Table 1, below.

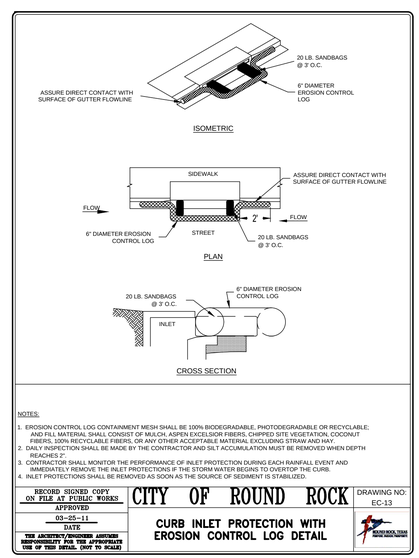
Material	Description	Longevity	Typical Applications	Application Rates
Bonded Fiber Matrix (BFM)	80% Organic defibrated fibers			
10% Tackifier		6 months	On slopes up to 2:1 and erosive soil conditions	2,500 to 4,000 lbs per acre (see manufacturers recommendations)
Fiber Reinforced Matrix (FRM)	65% Organic defibrated fibers 25% Reinforcing Fibers or less 10% Tackifier	Up to 12 months	On slopes up to 1:1 and erosive soil conditions	3,000 to 4,500 lbs per acre (see manufacturers recommendations)

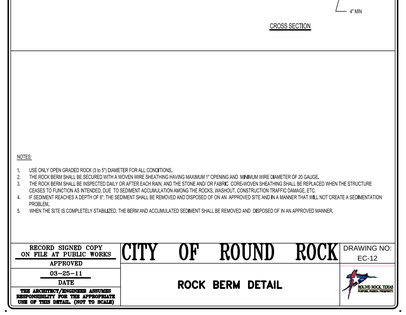
1. Erosion Control Matting:
   a) Erosion control matting shall be installed within areas delineated on the Erosion Control Plan. Matting shall be EXCEL SS-2 per the specification on this sheet.

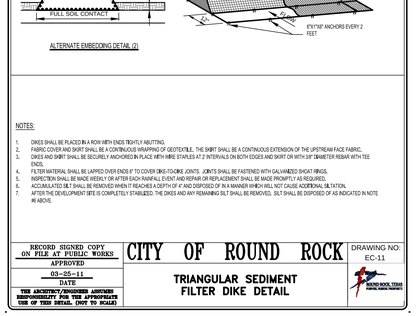


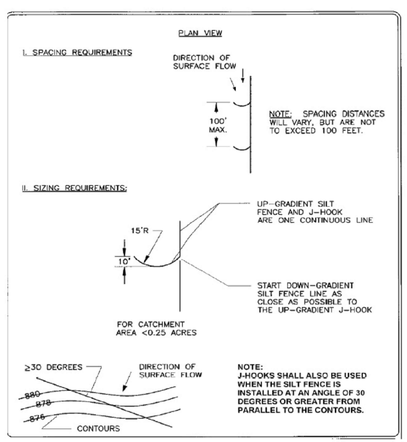


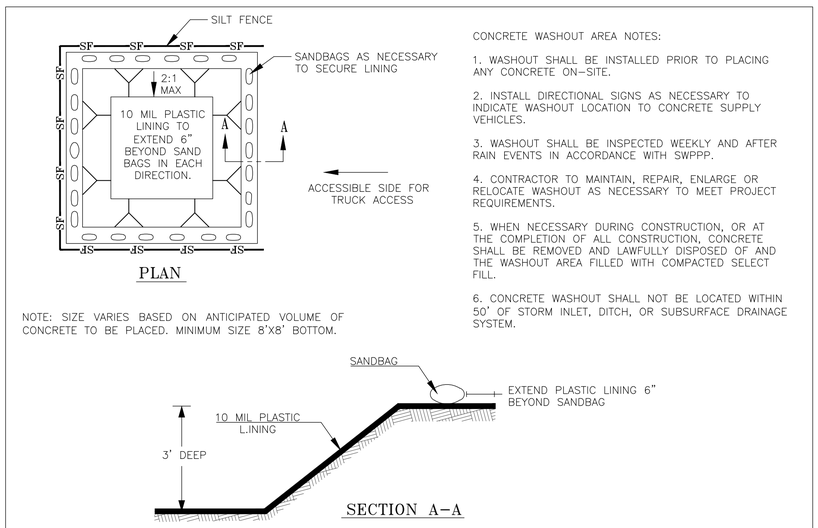












CONCRETE WASHOUT AREA NOTES:

1. WASHOUT SHALL BE INSTALLED PRIOR TO PLACING ANY CONCRETE ON–SITE.
2. INSTALL DIRECTIONAL SIGNS AS NECESSARY TO INDICATE WASHOUT LOCATION TO CONCRETE SUPPLY VEHICLES.
3. WASHOUT SHALL BE INSPECTED WEEKLY AND AFTER RAIN EVENTS IN ACCORDANCE WITH SWPPP.
4. CONTRACTOR TO MAINTAIN, REPAIR, ENLARGE OR RELOCATE WASHOUT AS NECESSARY TO MEET PROJECT REQUIREMENTS.
5. WHEN NECESSARY DURING CONSTRUCTION, OR AT THE COMPLETION OF ALL CONSTRUCTION, CONCRETE SHALL BE REMOVED AND LAWFULLY DISPOSED OF AND THE WASHOUT AREA FILLED WITH COMPACTED SELECT FILL.
6. CONCRETE WASHOUT SHALL NOT BE LOCATED WITHIN 50' OF STORM INLET, DITCH, OR SUBSURFACE DRAINAGE SYSTEM.

CONCRETE WASHOUT DETAIL
N.T.S

DESIGNED BY: SPC | DRAFTED BY: CEL

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
CBD
5501 West William Cannon Dr. 120 Broadway, Suite 600
Austin, Texas 78749 North Office Austin, Texas 78752
Phone No. (512) 280-5160 Fax No. (512) 280-5165
FIRM ID #F3791

SHEET NAME: EROSION CONTROL NOTES & DETAILS
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
6-3-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 10 OF 78
SHEET NO.: 10

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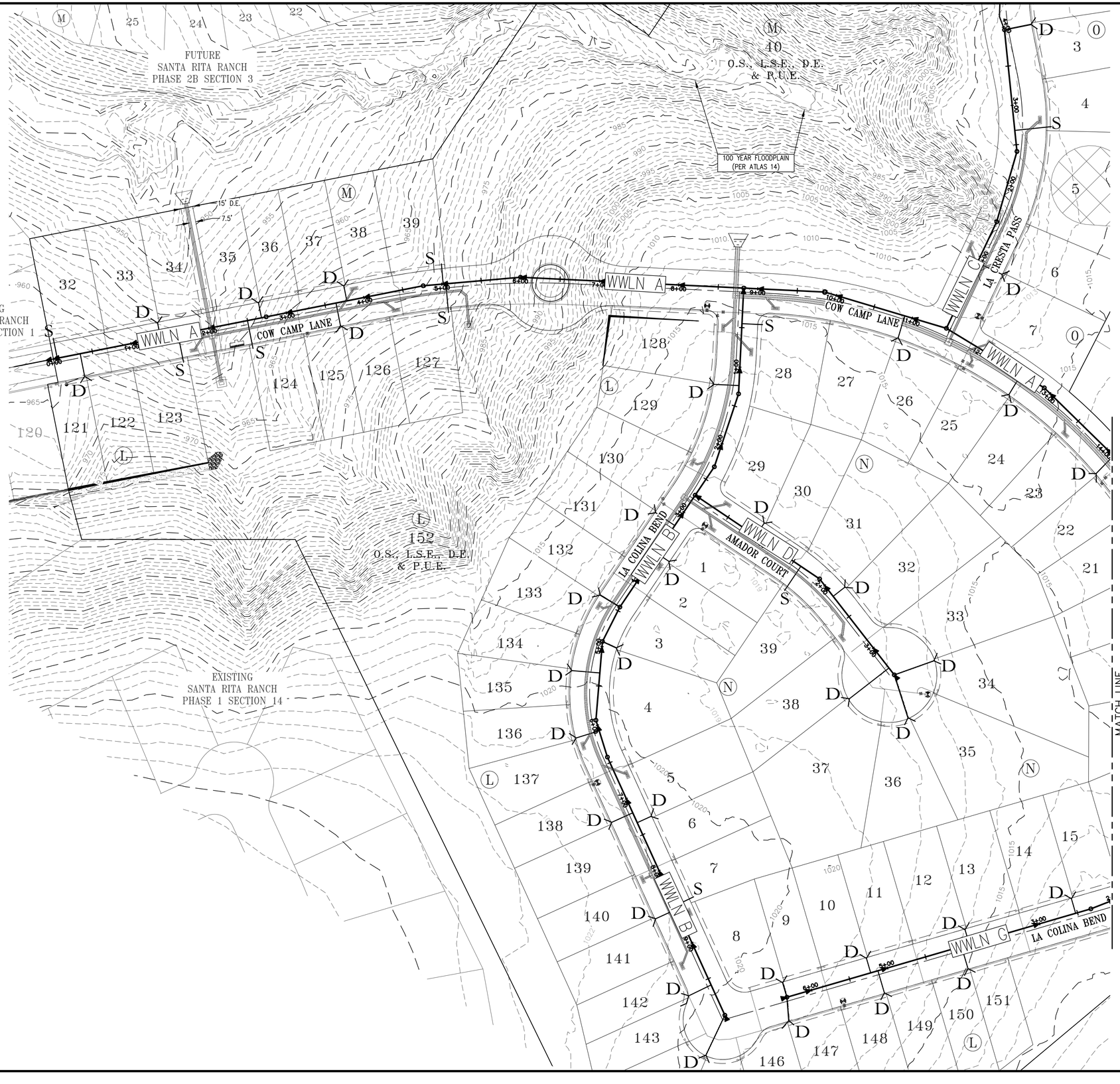

WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

0 60' 120'

SCALE: 1" = 60'

WASTEWATER NOTES

PER THE CITY OF LIBERTY HILL WASTEWATER NOTES
REVISED JUNE 10, 2024

1. ALL STREETS ARE TO BE BUILT TO SUB-GRADE PRIOR TO UTILITY INSTALLATION.
2. PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 150), SDR26. HIGHER PRESSURE RATED (160 PSI). OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D2241 OR D3034, MAX. DR-26) AND DUCTILE IRON (AWWA C-100, MIN. CLASS 200).
3. UNLESS OTHERWISE ACCEPTED BY THE CITY ENGINEER, MINIMUM DEPTH OF COVER FOR ALL LINES OUTSIDE OF THE PAVEMENT SHALL BE 42" BELOW FINISHED GRADE AND 30" BELOW SUBGRADE FOR ALL LINES LOCATED IN PAVED AREAS.
4. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH A MINIMUM OF 8-MIL POLYETHYLENE AND SEALED WITH DUCT TAPE OR AN EQUIVALENT ACCEPTABLE BY THE CITY ENGINEER.
5. THE CONTRACTOR SHALL CONTACT THE CITY OF LIBERTY HILL PUBLIC WORKS DEPARTMENT BY BOTH CALLING 512-548-5529 AND EMAILING pubworks@libertyhilltx.gov TO COORDINATE UTILITY TIE-INS AND NOTIFY THEM AT LEAST 48 HOURS PRIOR TO CONNECTING TO ANY EXISTING LINES.
6. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS. CORE CONNECTIONS TO FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.
7. THE CONTRACTOR, AT CONTRACTOR'S EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL WASTEWATER LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY THE CITY OF LIBERTY HILL PERSONNEL.
8. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF LIBERTY HILL PUBLIC WORKS DEPARTMENT AND PROVIDE NO LESS THAN 24 HOURS' NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING, OR PRESSURE TESTING BY BOTH CALLING (512) 548-5529 AND EMAILING pubworks@libertyhilltx.gov.
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10. ALL WASTEWATER SERVICE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:
    WASTEWATER SERVICE "S" ON TOP OF CURB
    TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE ENGINEER AND ACCEPTED BY THE CITY OF LIBERTY HILL.
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SIEVE SIZE BY WEIGHT	PERCENT RETAINED
1/2"	0
3/8"	0-2
#4	40-85
#10	95-100

13. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS (7AM - 4PM) AND POSSIBLY BETWEEN 12AM AND 6AM.
14. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 317, AS APPLICABLE. ALL WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH TCEQ REGULATIONS, 30 TAC CHAPTER 290. WHENEVER TCEQ AND CITY OF LIBERTY HILL SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.

PROJECT #2025-3-CON

DESIGNED BY: SPC | DRAFTED BY: CEJ

DATE | REVISION

Carlson, Brigance & Doering, Inc.
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North Office: 2008 DCNN, Suite 600, Austin, Texas 78758
Phone No. (512) 280-5160 Fax No. (512) 280-5165

SHEET NAME: OVERALL WASTEWATER PLAN (1 OF 2)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F-3791
7-23-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 57 OF 78
SHEET NO.: 57

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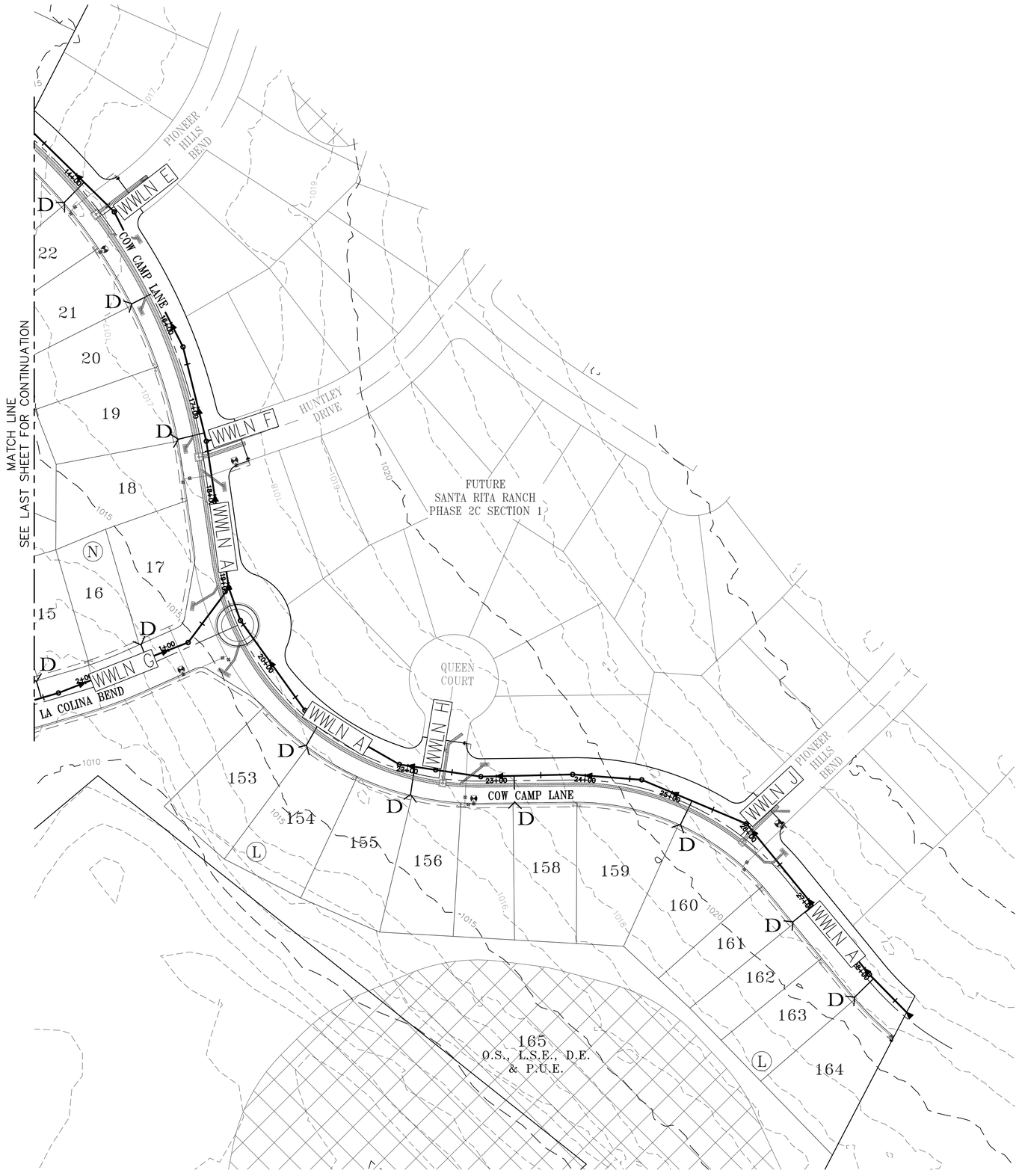

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- EXISTING MANHOLE
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WASTEWATER NOTES

PER THE CITY OF LIBERTY HILL WASTEWATER NOTES
REVISED JUNE 10, 2024

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PROJECT #2025-3-CON

DESIGNED BY: SPC
DRAFTED BY: CEL

DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office
5501 West William Cannon Dr. 78749
Austin, Texas
Phone No. (512) 280-5160
North Office
12129 RR 620 N, Suite 600
Austin, Texas 78750
Fax No. (512) 280-5165

SHEET NAME: OVERALL WASTEWATER PLAN (2 OF 2)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED
PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
7-23-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 58 OF 78
SHEET NO.: 58

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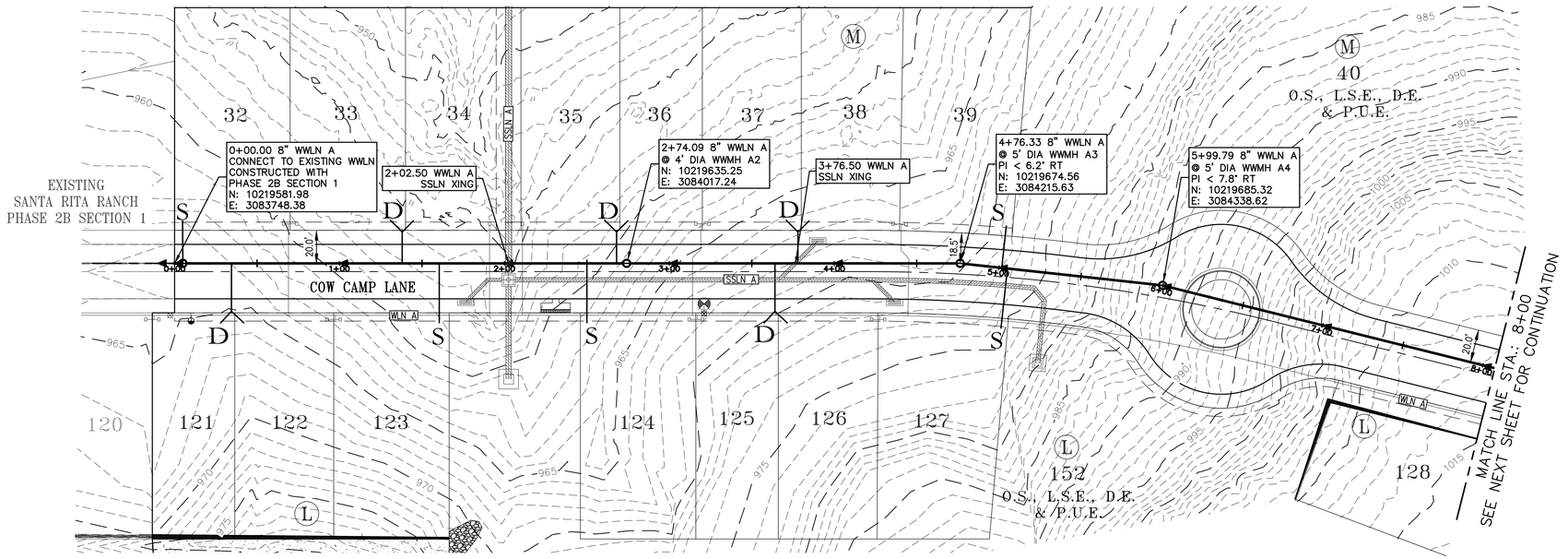

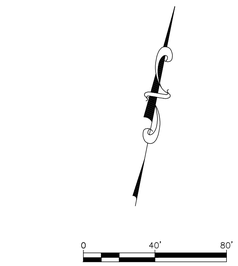

SCALE: 1" = 40'

WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
- D — PROPOSED DOUBLE SERVICE
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WASTEWATER NOTES

PER THE CITY OF LIBERTY HILL WASTEWATER NOTES REVISED JUNE 10, 2024

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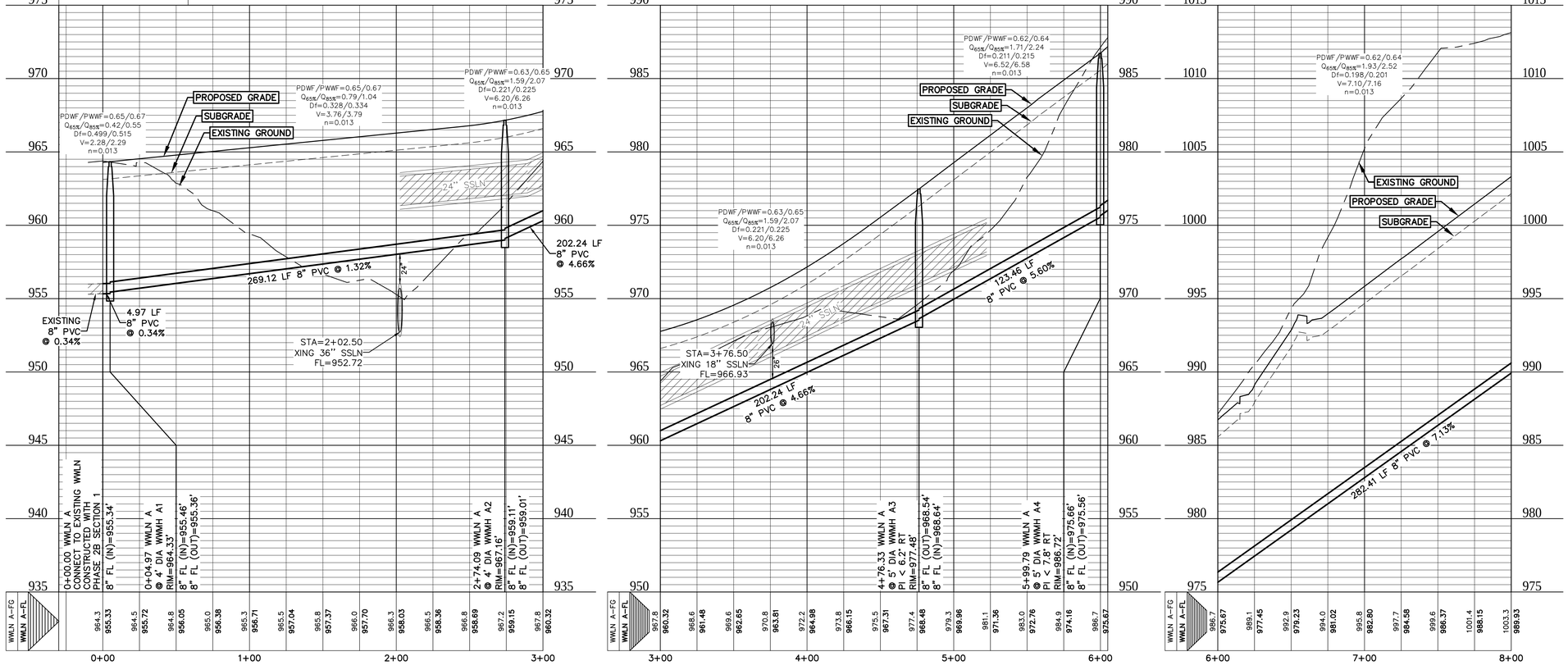
WWLN "A"
8" SDR-26 PVC STA. 0+00 TO 08+00

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



PROJECT #2025-3-CON

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DESIGNED BY: SPC
DRAFTED BY: CEL

DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
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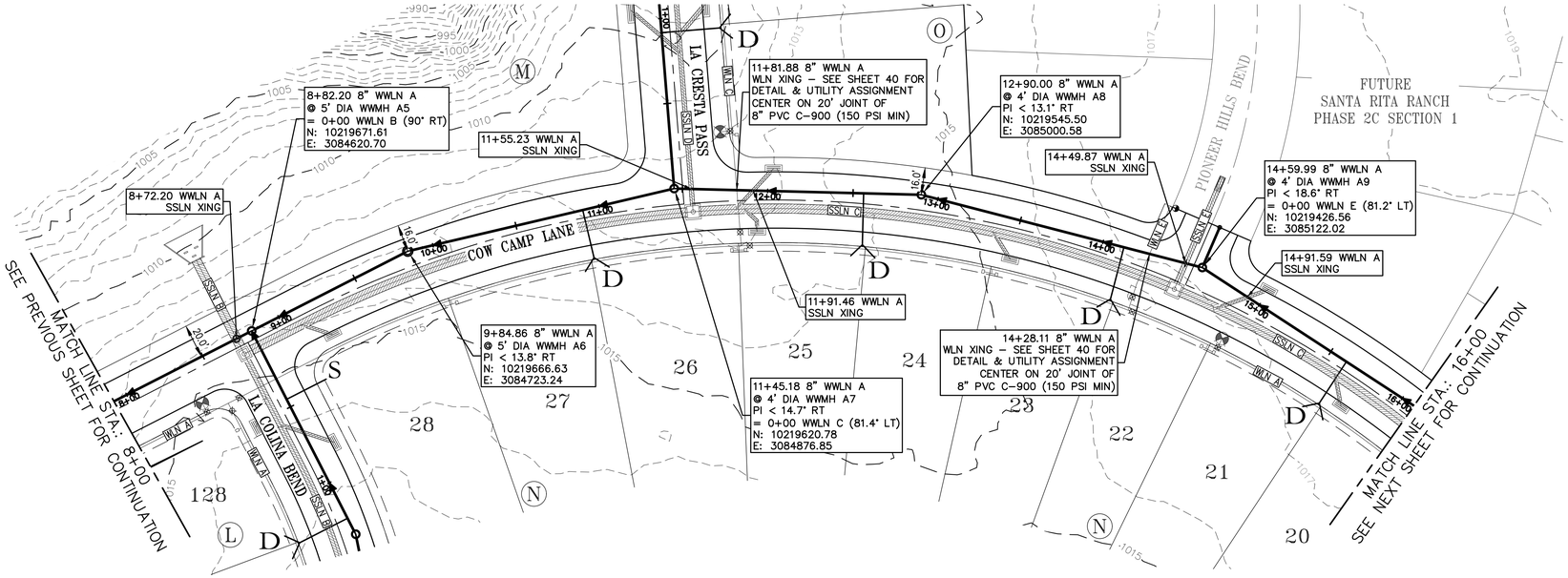
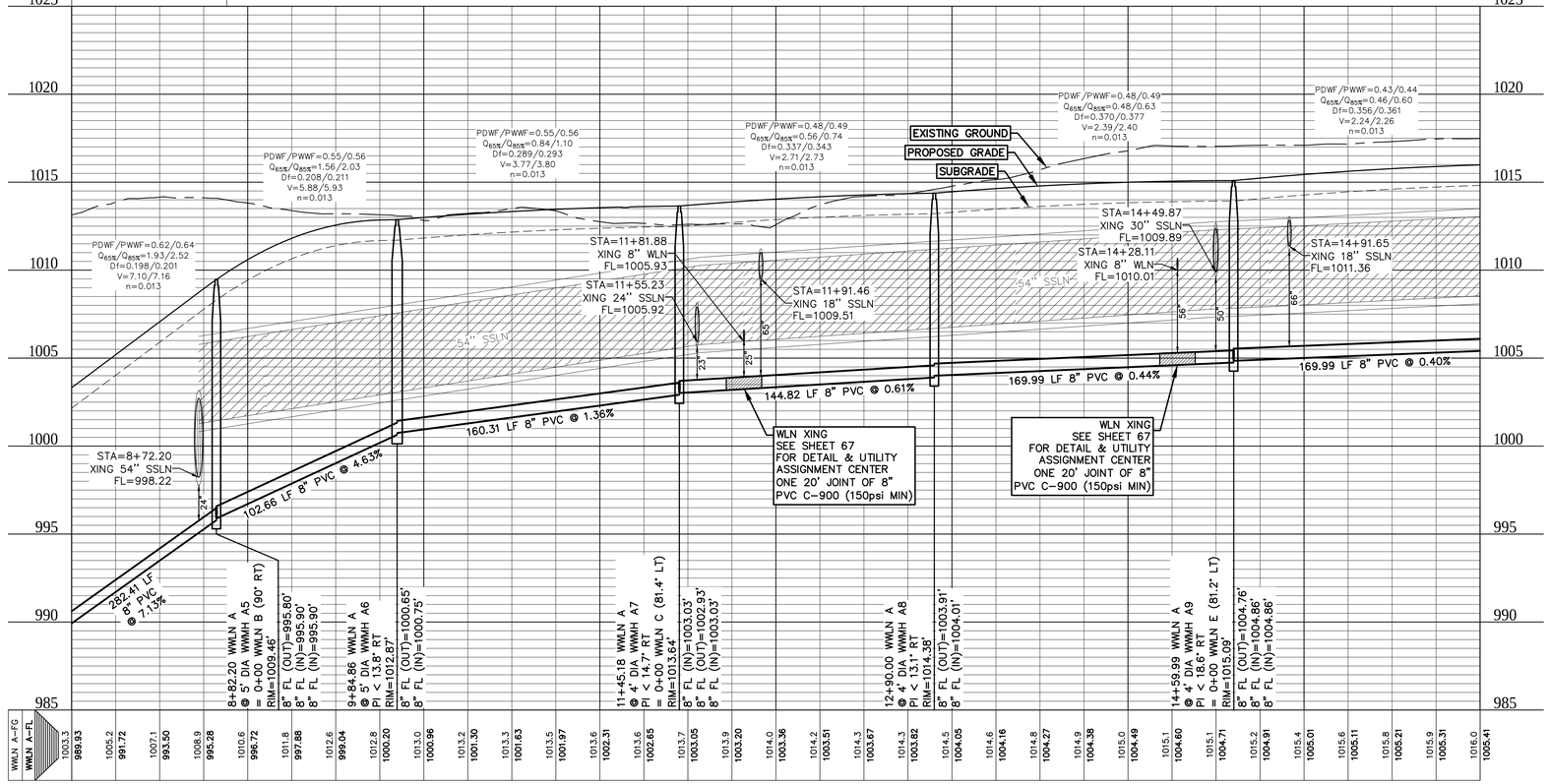
5501 West William Cannon Dr. 78749
Austin, Texas 78749
Phone No. (512) 280-5160
North Office
1218 RR 620 N. 600
Austin, Texas 78750
Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINE A (0+00 TO 8+00)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
8-4-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 59 OF 78
SHEET NO.: 59





WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

SCALE: 1" = 40'

WASTEWATER NOTES

PER THE CITY OF LIBERTY HILL WASTEWATER NOTES
REVISED JUNE 10, 2024

1. ALL STREETS ARE TO BE BUILT TO SUB-GRADE PRIOR TO UTILITY INSTALLATION.
2. PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 150), SDR26. HIGHER PRESSURE RATED (160 PSI). OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D2241 OR D3034, MAX. DR-26) AND DUCTILE IRON (AWWA C-100, MIN. CLASS 200).
3. UNLESS OTHERWISE ACCEPTED BY THE CITY ENGINEER, MINIMUM DEPTH OF COVER FOR ALL LINES OUTSIDE OF THE PAVEMENT SHALL BE 42" BELOW FINISHED GRADE AND 30" BELOW SUBGRADE FOR ALL LINES LOCATED IN PAVED AREAS.
4. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH A MINIMUM OF 8-MIL POLYETHYLENE AND SEALED WITH DUCT TAPE OR AN EQUIVALENT ACCEPTABLE BY THE CITY ENGINEER.
5. THE CONTRACTOR SHALL CONTACT THE CITY OF LIBERTY HILL PUBLIC WORKS DEPARTMENT BY BOTH CALLING 512-548-5529 AND EMAILING pubworks@libertyhilltx.gov TO COORDINATE UTILITY TIE-INS AND NOTIFY THEM AT LEAST 48 HOURS PRIOR TO CONNECTING TO ANY EXISTING LINES.
6. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS. CORE CONNECTIONS TO FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.
7. THE CONTRACTOR, AT CONTRACTOR'S EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL WASTEWATER LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY THE CITY OF LIBERTY HILL PERSONNEL.
8. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF LIBERTY HILL PUBLIC WORKS DEPARTMENT AND PROVIDE NO LESS THAN 24 HOURS' NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING, OR PRESSURE TESTING BY BOTH CALLING (512) 548-5529 AND EMAILING pubworks@libertyhilltx.gov.
9. THE CONTRACTOR (OR SUBCONTRACTORS) SHALL NOT OPEN OR CLOSE ANY VALVES UNLESS AUTHORIZED BY THE CITY OF LIBERTY HILL PERSONNEL.
10. ALL WASTEWATER SERVICE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:
    WASTEWATER SERVICE "S" ON TOP OF CURB
    TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE ENGINEER AND ACCEPTED BY THE CITY OF LIBERTY HILL.
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12. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ASTM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

SIEVE SIZE BY WEIGHT	PERCENT RETAINED
1/2"	0
3/8"	0-2
#4	40-85
#10	95-100

13. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS (7AM – 4PM) AND POSSIBLY BETWEEN 12AM AND 6AM.
14. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 317, AS APPLICABLE. ALL WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH TCEQ REGULATIONS, 30 TAC CHAPTER 290. WHENEVER TCEQ AND CITY OF LIBERTY HILL SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.

PROJECT #2025-3-CON

DESIGNED BY: SPC | DRAFTED BY: CEL

DATE

REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. 120 | Austin, Texas 78749 | Phone No. (512) 280-5160
North Office: 2705 Bee Cave Rd. Suite 220 | Austin, Texas 78746 | Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINE A (8+00 TO 16+00)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
8-4-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 60 OF 78
SHEET NO.: 60

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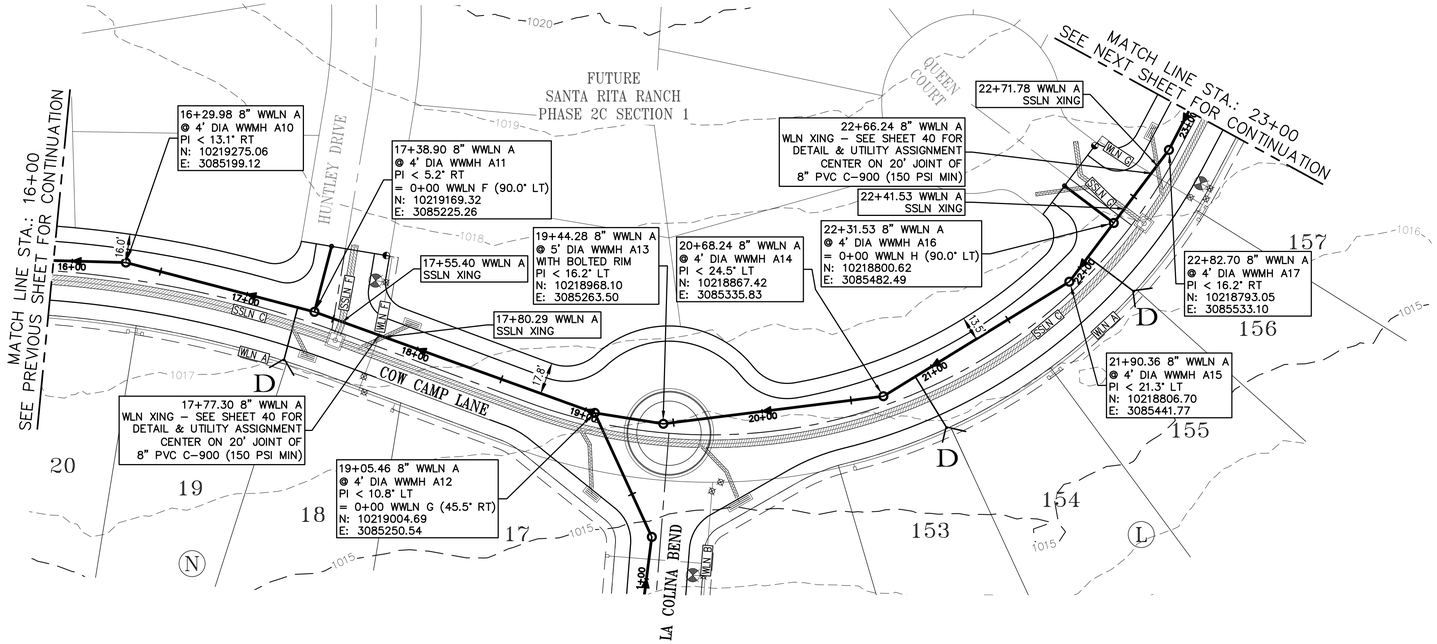
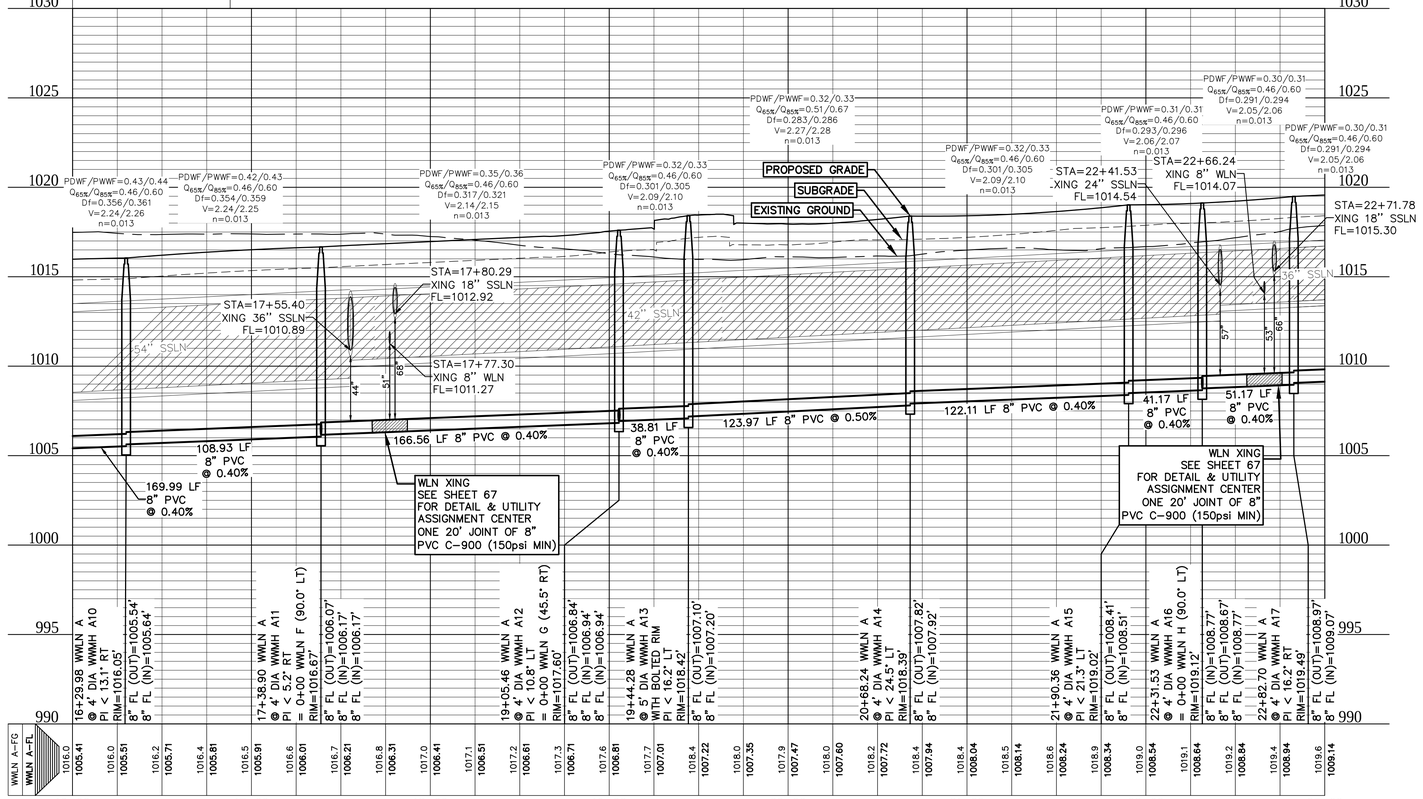


PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

WWLN "A"
8" SDR-26 PVC STA. 16+00 TO 23+00



WWLN A–FG	16+29.98 WWLN A @ 4' DIA WWMH A10 PI < 13.1' RT RIM=1016.05'	17+38.90 WWLN A @ 4' DIA WWMH A11 PI < 5.2' RT = 0+00 WWLN F (90.0' LT) RIM=1016.67'	19+05.46 WWLN A @ 4' DIA WWMH A12 PI < 10.8' LT = 0+00 WWLN G (45.5° RT) RIM=1017.60'	19+44.28 WWLN A @ 5' DIA WWMH A13 WITH BOLTED RIM PI < 16.2' LT RIM=1018.42'	20+68.24 WWLN A @ 4' DIA WWMH A14 PI < 24.5' LT RIM=1018.39'	21+90.36 WWLN A @ 4' DIA WWMH A15 PI < 21.3' LT RIM=1019.02'	22+31.53 WWLN A @ 4' DIA WWMH A16 = 0+00 WWLN H (90.0' LT) RIM=1019.12'	22+82.70 WWLN A @ 4' DIA WWMH A17 PI < 16.2' RT RIM=1019.49'
WWLN A–FL	8" FL (OUT)=1005.54'	8" FL (OUT)=1006.07'	8" FL (OUT)=1006.84'	8" FL (OUT)=1007.10'	8" FL (OUT)=1007.82'	8" FL (OUT)=1008.41'	8" FL (OUT)=1008.67'	8" FL (OUT)=1008.97'
1016.0	8" FL (IN)=1005.64'	8" FL (IN)=1006.17'	8" FL (IN)=1006.94'	8" FL (IN)=1007.20'	8" FL (IN)=1007.92'	8" FL (IN)=1008.51'	8" FL (IN)=1008.77'	8" FL (IN)=1009.07'
1005.41	1016.2	1016.7	1017.3	1017.7	1018.4	1018.9	1019.2	1019.6
1016.0	1005.71	1006.21	1006.71	1007.01	1007.72	1008.34	1008.64	1008.94
1005.51	1016.4	1016.8	1017.6	1017.7	1018.4	1018.9	1019.2	1019.4
1016.2	1005.81	1006.31	1006.81	1007.07	1007.94	1008.51	1008.77	1008.97
1005.71	1016.5	1017.0	1017.7	1018.4	1018.4	1019.0	1019.2	1019.6
1016.4	1005.91	1006.41	1006.61	1007.22	1008.04	1008.54	1008.84	1008.94
1005.81	1016.6	1017.1	1017.2	1018.0	1018.5	1019.1	1019.4	1019.6
1016.5	1006.01	1006.51	1006.61	1007.35	1008.14	1008.64	1008.84	1009.14
1005.91	1016.7	1017.2	1017.3	1017.9	1018.6	1019.2	1019.4	
1016.6	1006.07	1006.61	1006.71	1007.47	1008.24	1008.84	1008.94	
1006.01	1016.8	1017.3	1017.6	1018.0	1018.6	1019.2	1019.4	
1016.7	1006.17	1006.71	1006.81	1007.60	1008.24	1008.84	1008.94	
1006.07	1016.8	1017.6	1017.7	1018.2	1018.4	1019.0	1019.4	
1016.8	1006.21	1006.81	1007.01	1007.72	1007.94	1008.54	1008.94	
1006.17	1016.8	1017.7	1018.4	1018.4	1018.9	1019.1	1019.4	
1016.8	1006.31	1007.01	1007.22	1008.04	1008.34	1008.64	1008.94	
1006.21	1017.0	1018.4	1018.0	1018.5	1019.0	1019.1	1019.4	
1016.8	1006.41	1007.22	1007.35	1008.14	1008.54	1008.64	1008.94	
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1006.41	1017.2	1017.9	1018.0	1018.6	1019.2	1019.4	1019.6	
1017.1	1006.61	1007.47	1007.60	1008.24	1008.84	1008.94	1009.14	
1006.51	1017.3	1018.0	1018.2	1018.9	1019.2	1019.4		
1017.2	1006.71	1007.60	1007.72	1008.34	1008.84	1008.94		
1006.61	1017.6	1018.2	1018.4	1019.0	1019.4	1019.6		
1017.3	1006.81	1007.72	1007.94	1008.54	1008.94	1009.14		
1006.71	1017.7	1018.4	1018.4	1019.1	1019.4			
1017.6	1007.01	1007.94	1008.04	1008.64	1008.94			
1006.81	1018.4	1018.4	1018.5	1019.2	1019.4			
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1007.01	1018.5	1018.5	1018.6	1019.4	1019.6			
1018.4	1007.20	1008.14	1008.24	1008.94	1009.14			

WASTEWATER LEGEND

- S / D — PROPOSED SINGLE SERVICE / PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

SCALE: 1" = 40'

WASTEWATER NOTES

PER THE CITY OF LIBERTY HILL WASTEWATER NOTES REVISED JUNE 10, 2024

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PROJECT #2025-3-CON

DESIGNED BY: SPC | DRAFTED BY: CEJ

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 | Phone No. (512) 280-5160
North Office: 1120 RR 620 N, Suite 600 Austin, Texas 78750 | Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINE A (16+00 TO 23+00)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

8-4-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 61 OF 78
SHEET NO.: 61

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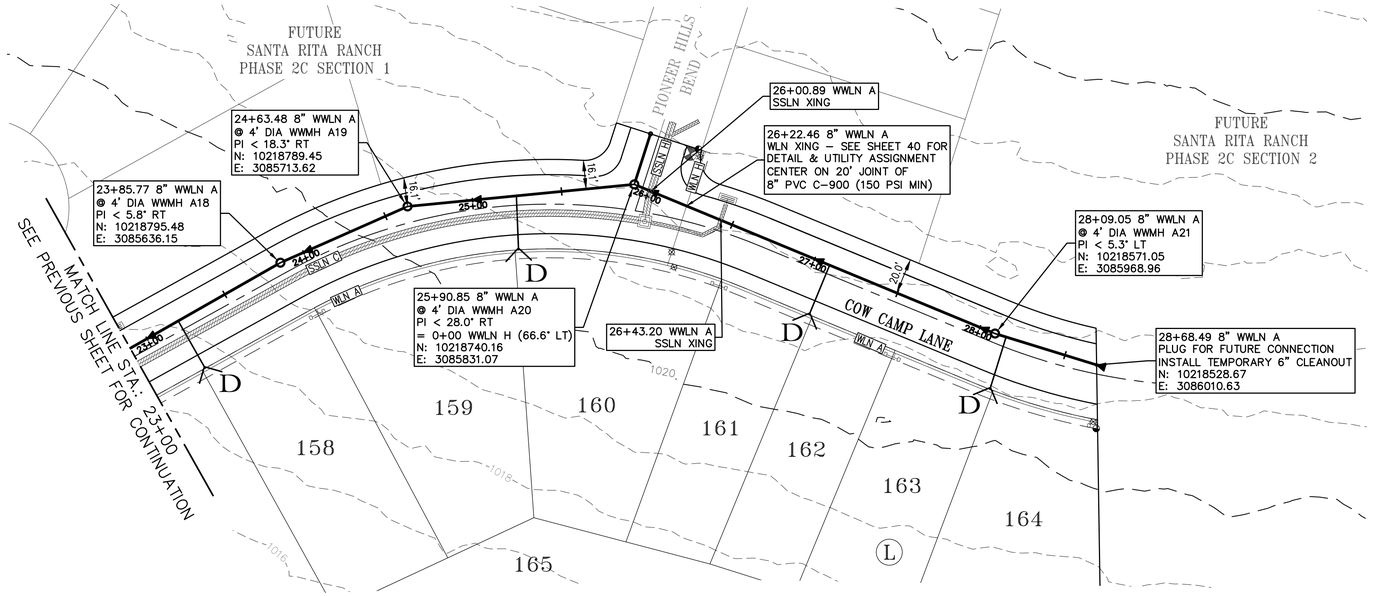
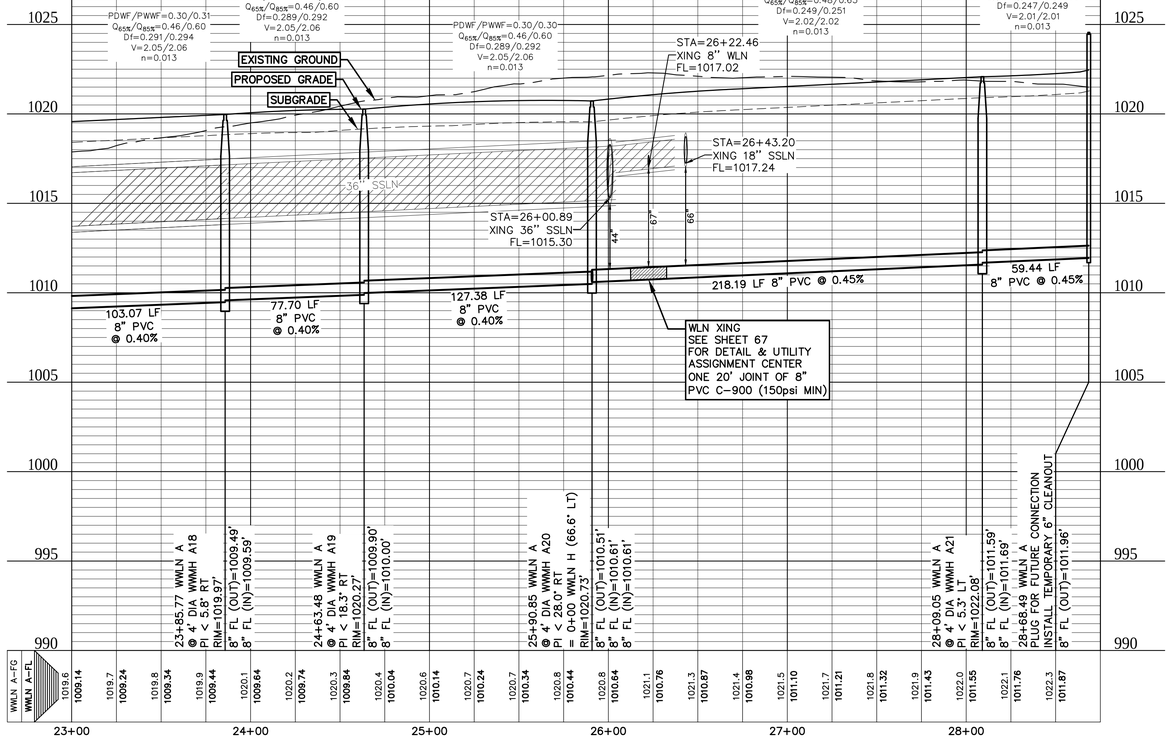


WWLN "A"
8" SDR-26 PVC STA. 23+00 TO END

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



WASTEWATER LEGEND

- S / D — PROPOSED SINGLE SERVICE
- S / D — PROPOSED DOUBLE SERVICE
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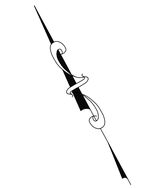
- EXISTING MANHOLE
- FLOW DIRECTION ARROW



0 40' 80'

SCALE: 1" = 40'

WASTEWATER NOTES
PER THE CITY OF LIBERTY HILL WASTEWATER NOTES
REVISED JUNE 10, 2024

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PROJECT #2025-3-CON

DESIGNED BY: SPC | DRAFTED BY: CEL

DATE | REVISION

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Main Office: 5501 West William Cannon Dr. 78749, Austin, Texas
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STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
7-23-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 62 OF 78
SHEET NO.: 62

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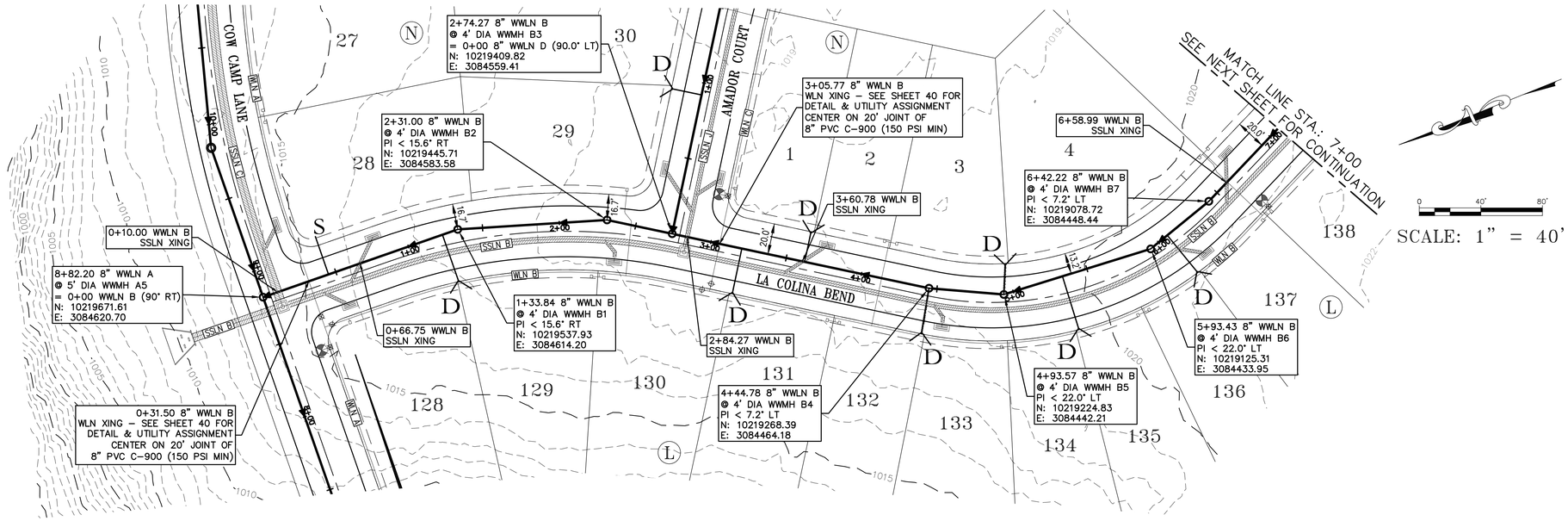

WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

VARIANCE NOTE

WWLN B STA. 1+33.84 TO 7+00 DOES NOT MEET 2 FPS IN PDWF. A MINIMUM 1% SLOPE IS BEING UTILIZED FOR ALL PIPES THAT CANNOT ACHIEVE 2 FPS IN PDWF, AND A VARIANCE FOR THE DESIGN VELOCITY REQUIREMENTS IS BEING APPROVED BY LIBERTY HILL.

WASTEWATER NOTES

PER THE CITY OF LIBERTY HILL WASTEWATER NOTES REVISED JUNE 10, 2024

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6. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS. CORE CONNECTIONS TO FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.
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8. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF LIBERTY HILL PUBLIC WORKS DEPARTMENT AND PROVIDE NO LESS THAN 24 HOURS' NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING, OR PRESSURE TESTING BY BOTH CALLING (512) 548-5529 AND EMAILING pubworks@libertyhilltx.gov.
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    WASTEWATER SERVICE "S" ON TOP OF CURB
    TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE ENGINEER AND ACCEPTED BY THE CITY OF LIBERTY HILL.
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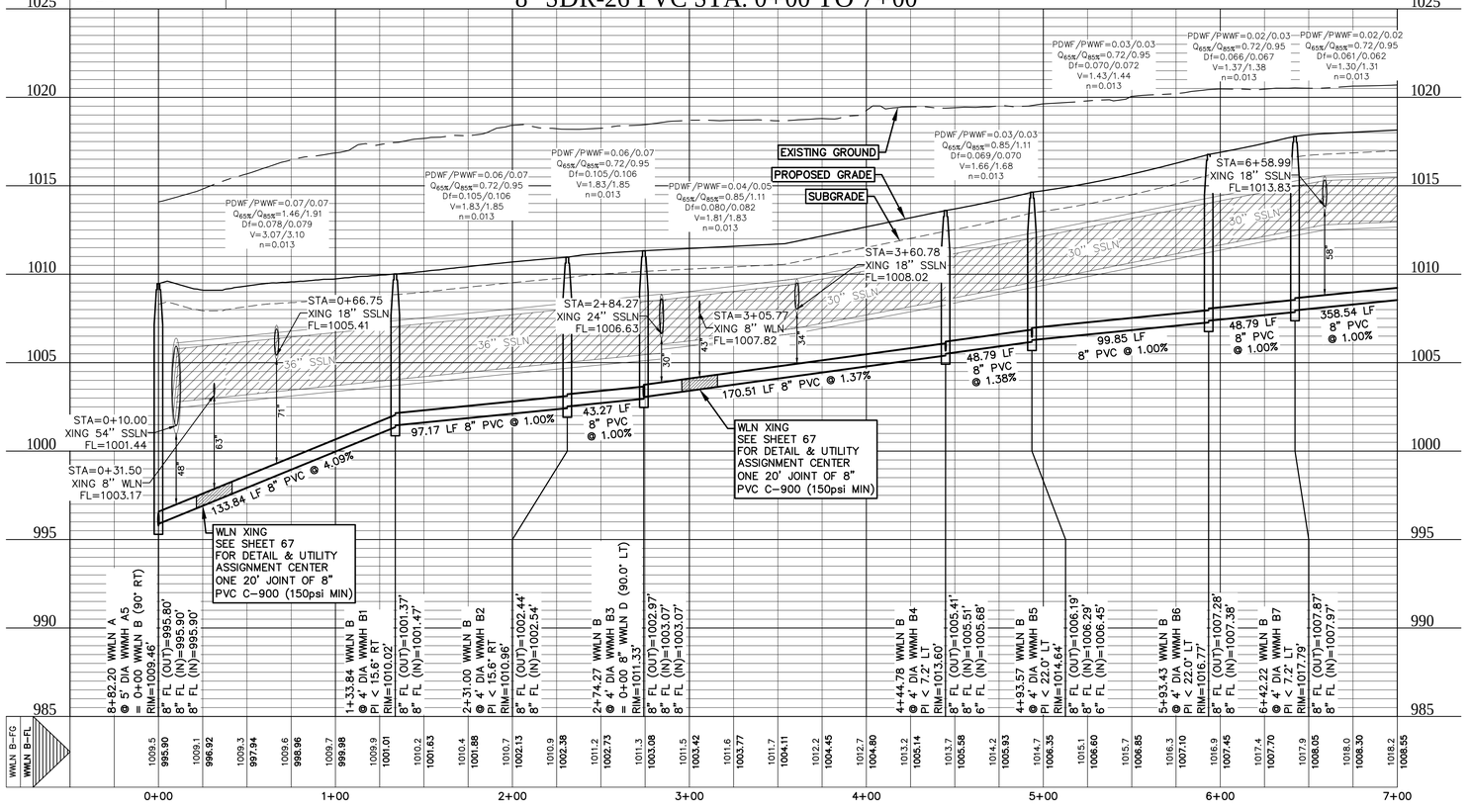
SIEVE SIZE	PERCENT RETAINED
1/2"	0
3/8"	0-2
#4	40-85
#10	95-100

13. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS (7AM - 4PM) AND POSSIBLY BETWEEN 12AM AND 6AM.
14. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 317, AS APPLICABLE. ALL WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH TCEQ REGULATIONS, 30 TAC CHAPTER 290. WHENEVER TCEQ AND CITY OF LIBERTY HILL SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

WWLN "B"
8" SDR-26 PVC STA. 0+00 TO 7+00



PROJECT #2025-3-CON

DESIGNED BY: SPC | DRAFTED BY: CEL

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. 78749 Austin, Texas
North Office: 12129 RR 620 N. 600 Austin, Texas 78750
Phone No. (512) 280-5160 Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINE B (0+00 TO 7+00)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
7-23-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 63 OF 78
SHEET NO.: 63

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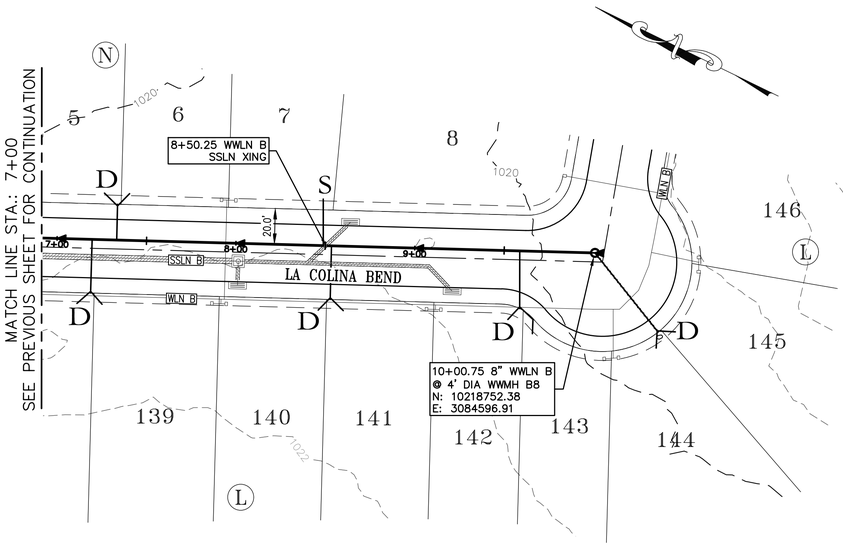
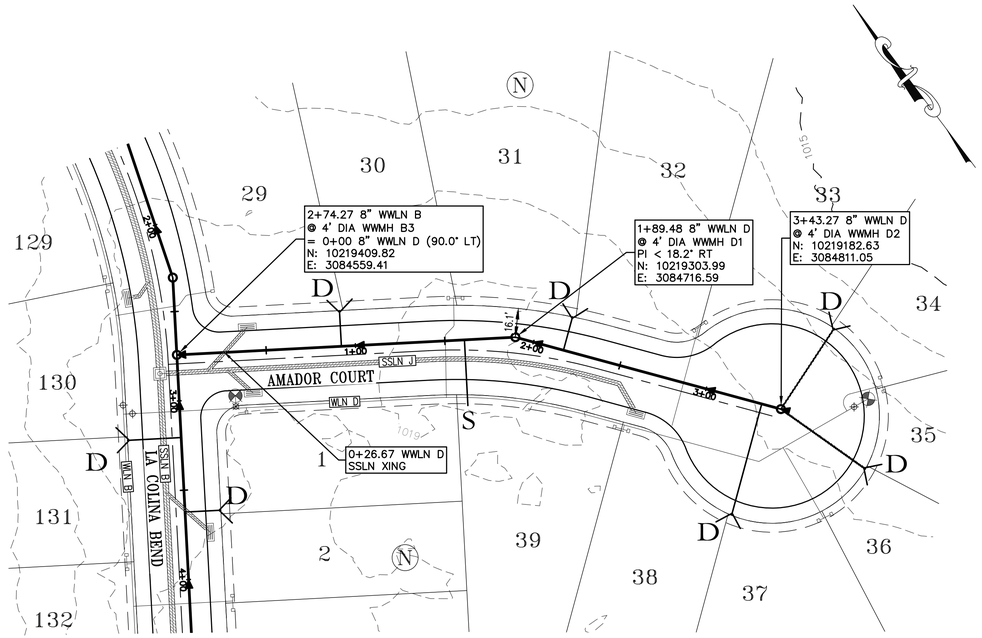
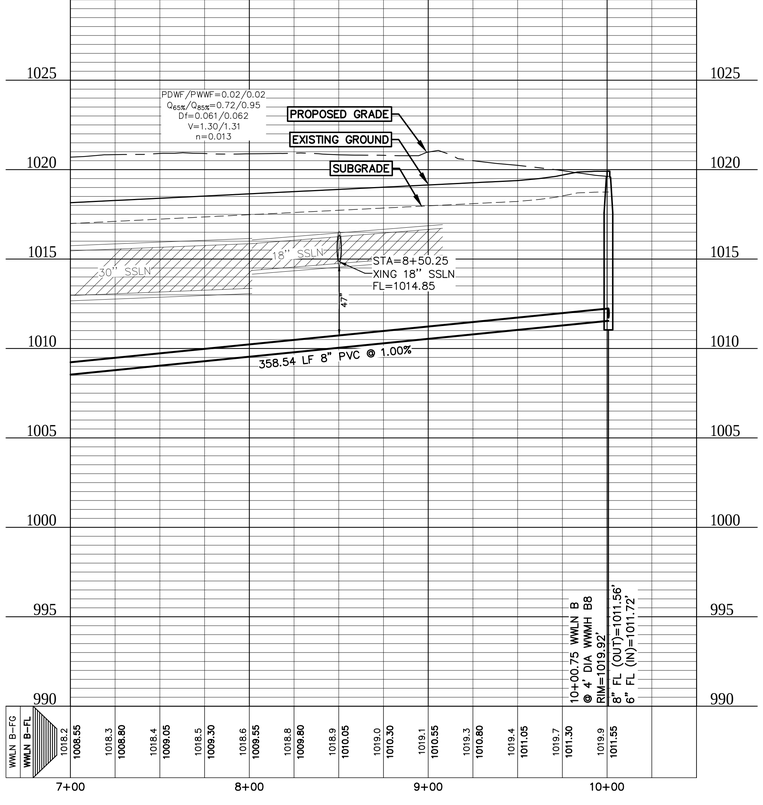
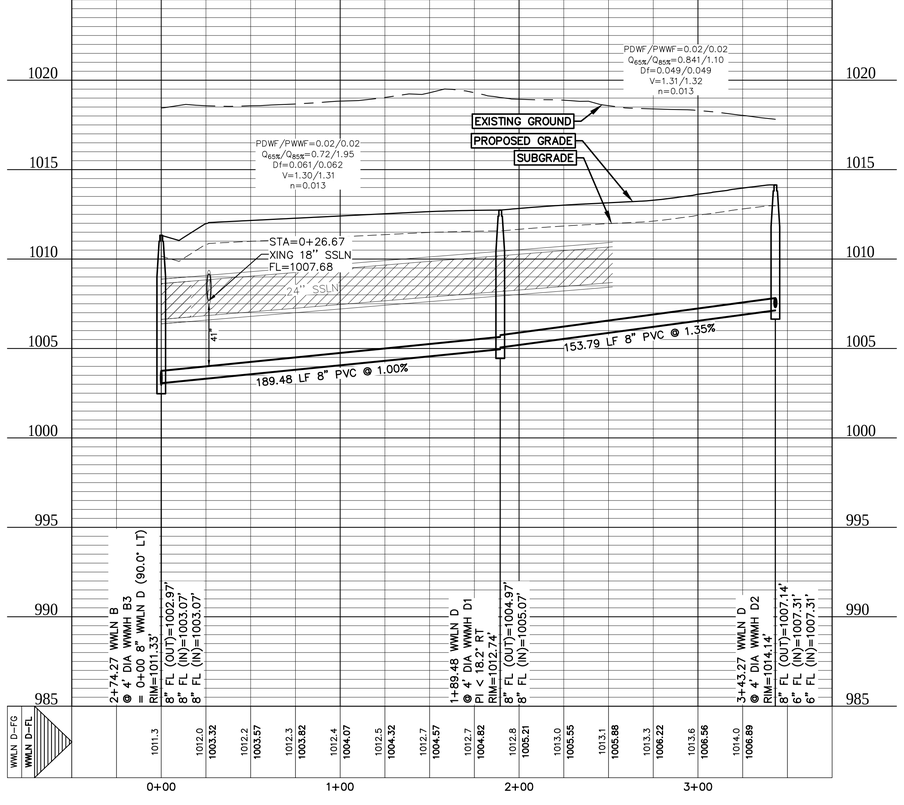




WWLN "B"
8" SDR-26 PVC
STA. 7+00 TO END



WWLN "D"
8" SDR-26 PVC STA. 0+00 TO END



WASTEWATER LEGEND

- S / D — PROPOSED SINGLE SERVICE / PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

0 40' 80'

SCALE: 1" = 40'

VARIANCE NOTE

WWLN B STA. 7+00 TO 10+00.75 DOES NOT MEET 2 FPS IN PDWF. A MINIMUM 1% SLOPE IS BEING UTILIZED FOR ALL PIPES THAT CANNOT ACHIEVE 2 FPS IN PDWF, AND A VARIANCE FOR THE DESIGN VELOCITY REQUIREMENTS IS BEING APPROVED BY LIBERTY HILL.

WASTEWATER NOTES

PER THE CITY OF LIBERTY HILL WASTEWATER NOTES
REVISED JUNE 10, 2024

1. ALL STREETS ARE TO BE BUILT TO SUB-GRADE PRIOR TO UTILITY INSTALLATION.
2. PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 150), SDR26. HIGHER PRESSURE RATED (160 PSI). OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D2241 OR D3034, MAX. DR-26) AND DUCTILE IRON (AWWA C-100, MIN. CLASS 200).
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DESIGNED BY: SPC | DRAFTED BY: CEJ

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. 120 | RR Office: 2705 Bee Cave Rd., Suite 600, Austin, Texas 78746
Phone No. (512) 280-5160 | Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINE B(7+00 TO END) & D(0+00 TO END)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
7-23-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 64 OF 78
SHEET NO.: 64

PROJECT #2025-3-CON

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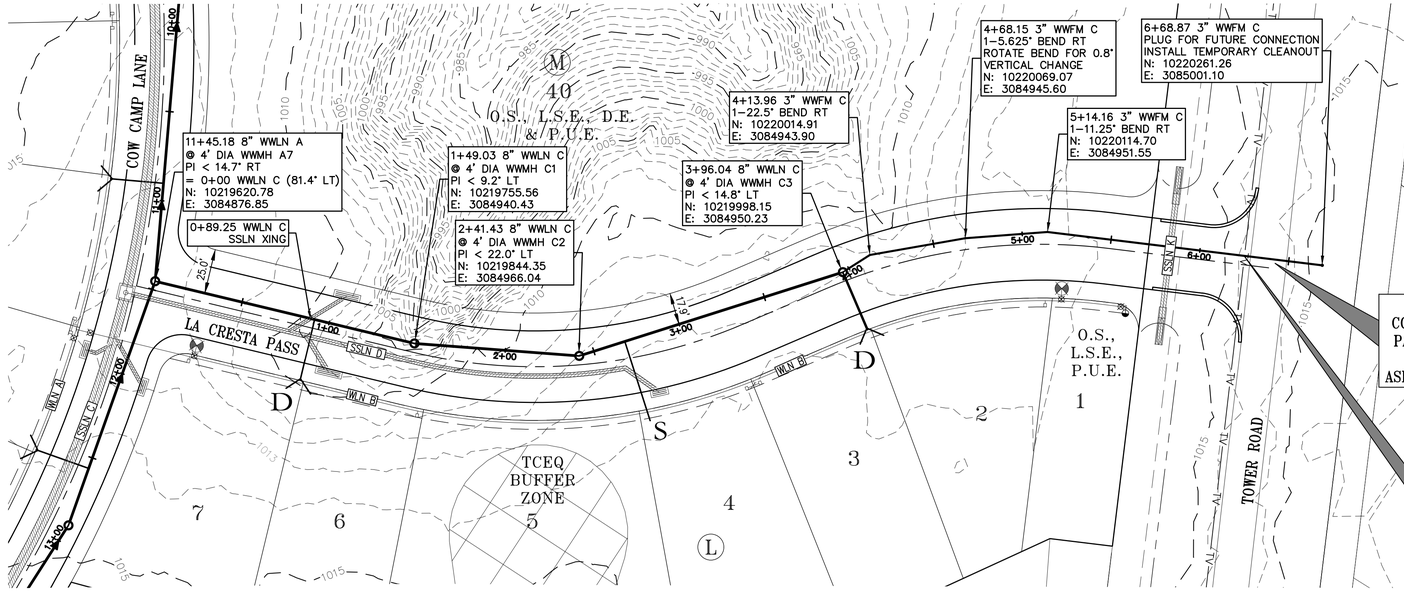

SCALE: 1" = 40'

TOWER ROAD TO BE OPEN CUT
CONTRACTOR TO PROVIDE ADEQUATE TRAFFIC CONTROL FOR VEHICLE PASSAGE AT ALL TIMES. STEEL PLATES MUST BE PLACED OVER THE TRENCH IF LEFT OPEN DURING NON-WORKING HOURS
ASPHALT REPAIR TO BE COMPLETED PER DETAIL DU-03 ON SHEET 68

!!!CAUTION!!!
EXISTING FIBER LINE
DO NOT CUT!

WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

VARIANCE NOTE

WWLNS C AND D STA. 0+00 TO END DO NOT MEET 2 FPS IN PDWF. A MINIMUM 1% SLOPE IS BEING UTILIZED FOR ALL PIPES THAT CANNOT ACHIEVE 2 FPS IN PDWF, AND A VARIANCE FOR THE DESIGN VELOCITY REQUIREMENTS IS BEING APPROVED BY LIBERTY HILL.

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PER THE CITY OF LIBERTY HILL WASTEWATER NOTES REVISED JUNE 10, 2024

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SIEVE SIZE BY WEIGHT	PERCENT RETAINED
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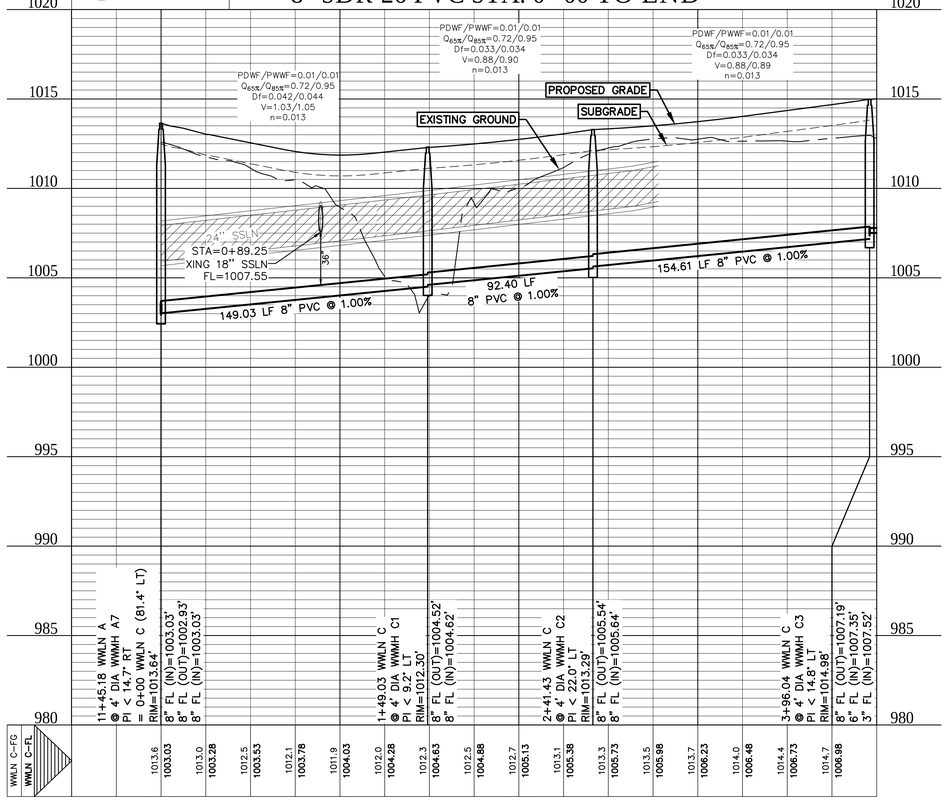
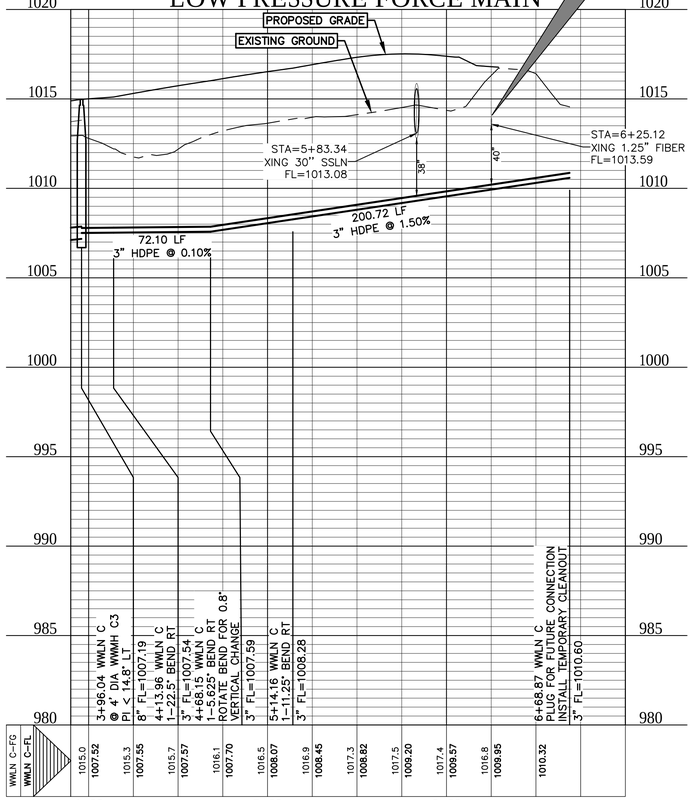
PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

WWLN "C"
8" SDR-26 PVC STA. 0+00 TO END



PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

WWFM "C"
3" HDPE DR 13.5
LOW PRESSURE FORCE MAIN



PROJECT #2025-3-CON

DESIGNED BY: SPC
DRAFTED BY: CEJ
DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 1120 RR 620 N. #600 Austin, Texas 78750 Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINES C (0+00 TO END)
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
8-4-2025

DATE: MAR 2025
JOB NUMBER: 5559
SHEET: 65 OF 78
SHEET NO.: 65

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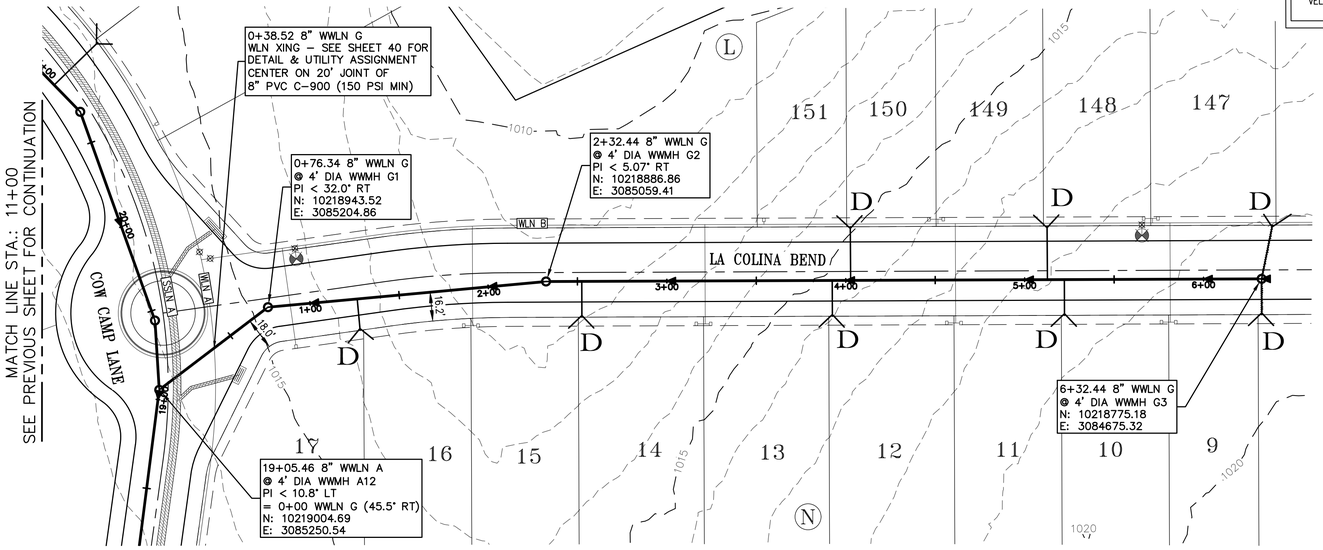

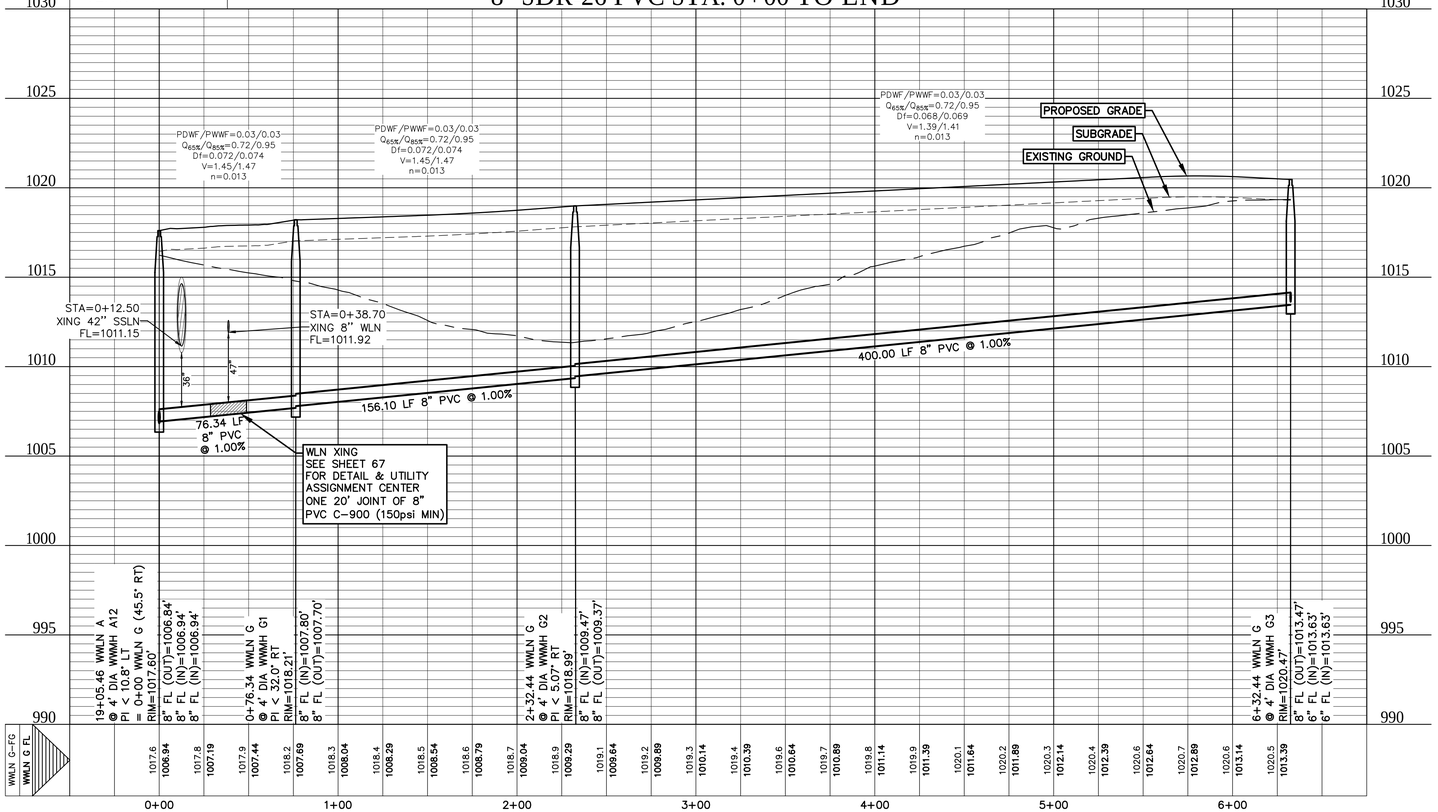

VARIANCE NOTE

WWLN G STA. 0+00 TO END DOES NOT MEET 2 FPS IN PDWF. A MINIMUM 1% SLOPE IS BEING UTILIZED FOR ALL PIPES THAT CANNOT ACHIEVE 2 FPS IN PDWF, AND A VARIANCE FOR THE DESIGN VELOCITY REQUIREMENTS IS BEING APPROVED BY LIBERTY HILL.

WASTEWATER LEGEND

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- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

SCALE: 1" = 40'

WASTEWATER NOTES

PER THE CITY OF LIBERTY HILL WASTEWATER NOTES REVISED JUNE 10, 2024

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#10	95-100

13. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS (7AM – 4PM) AND POSSIBLY BETWEEN 12AM AND 6AM.
14. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 317, AS APPLICABLE. ALL WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH TCEQ REGULATIONS, 30 TAC CHAPTER 290. WHENEVER TCEQ AND CITY OF LIBERTY HILL SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.

PROJECT #2025-3-CON

DESIGNED BY:	DRAFTED BY:
SPC	CEL

DATE

REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office
5501 West William Cannon Dr.
Austin, Texas 78749
Phone No. (512) 280-5160
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12129 RR 620 N, Suite 600
Austin, Texas 78750
Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINE G (0+00 TO END)

JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
@ F3791

7-23-2025

DATE: MAR 2025

JOB NUMBER: 5559

SHEET: 66 OF 78

SHEET NO.: 66

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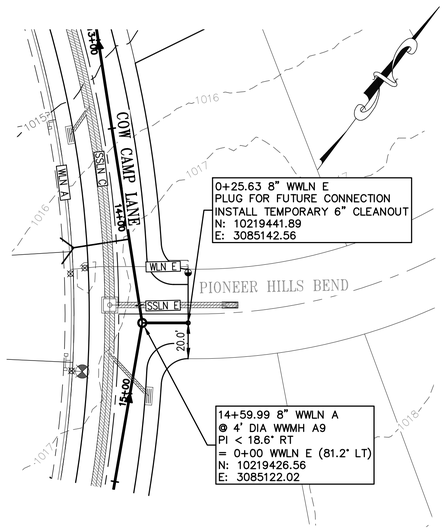
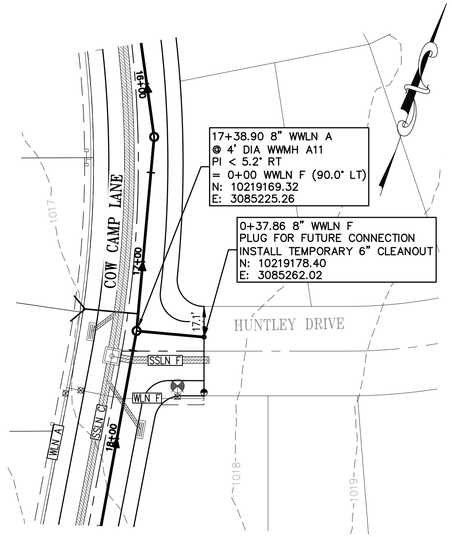
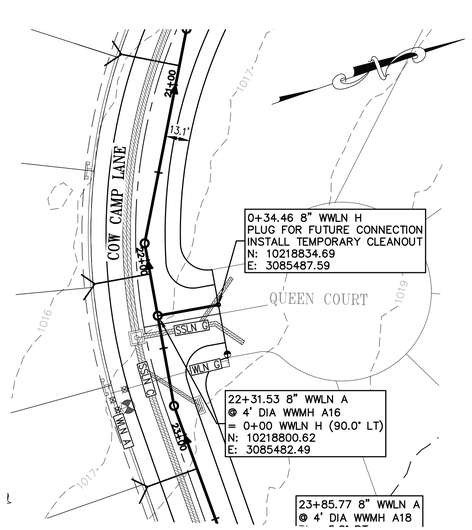
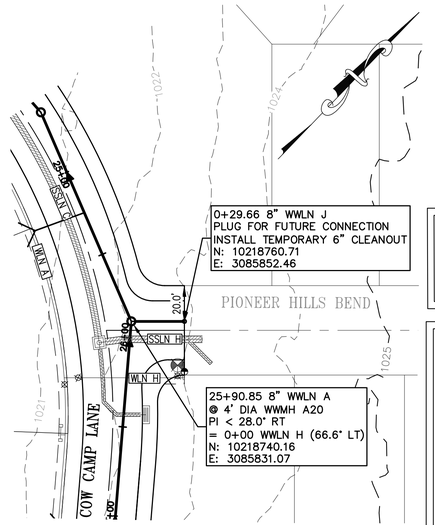


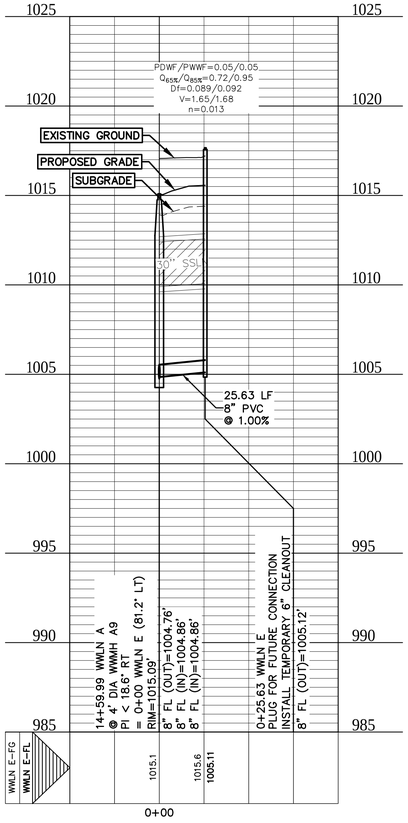




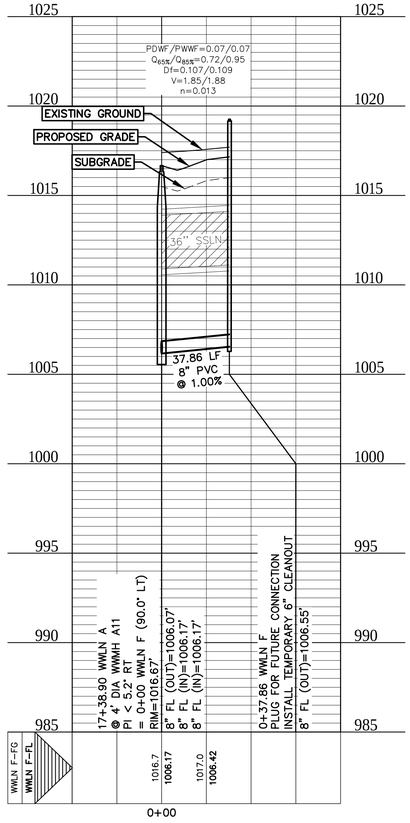


PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

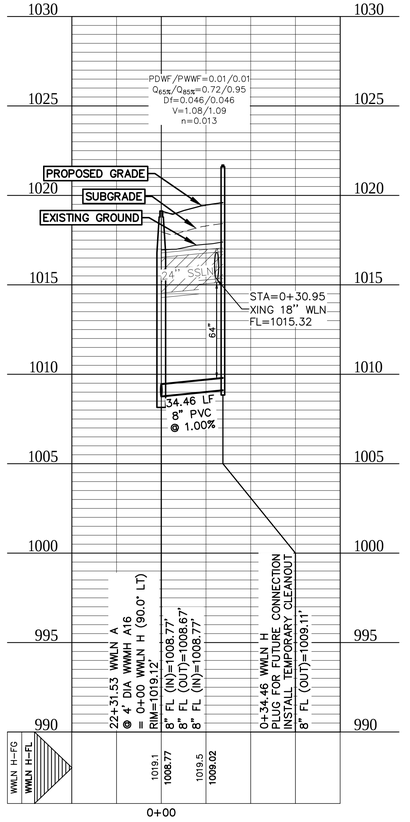
WWLN "E"
8" SDR-26 PVC STA. 0+00 TO END



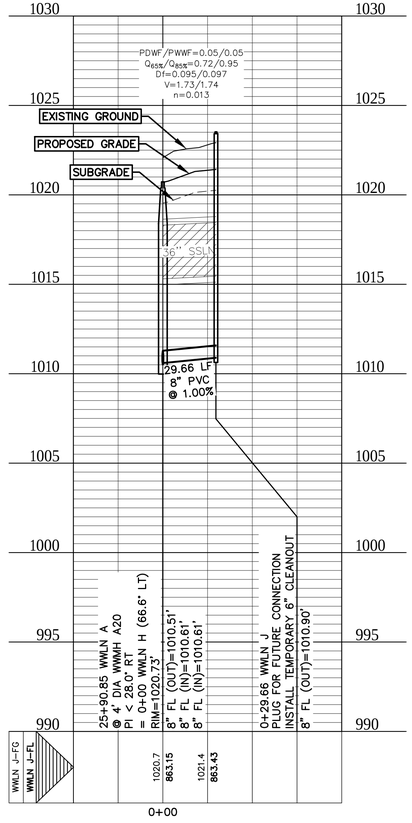
WWLN "F"
8" SDR-26 PVC STA. 0+00 TO END



WWLN "H"
8" SDR-26 PVC STA. 0+00 TO END



WWLN "J"
8" SDR-26 PVC STA. 0+00 TO END



WASTEWATER LEGEND

- S — PROPOSED SINGLE SERVICE
- D — PROPOSED DOUBLE SERVICE
- PROPOSED MANHOLE
- EXISTING MANHOLE
- FLOW DIRECTION ARROW

0 40' 80'

SCALE: 1" = 40'

VARIANCE NOTE

WWLNS E, F, H, AND J STA. 0+00 TO END DO NOT MEET 2 FPS IN PDWF. A MINIMUM 1% SLOPE IS BEING UTILIZED FOR ALL PIPES THAT CANNOT ACHIEVE 2 FPS IN PDWF, AND A VARIANCE FOR THE DESIGN VELOCITY REQUIREMENTS IS BEING APPROVED BY LIBERTY HILL.

WASTEWATER NOTES

PER THE CITY OF LIBERTY HILL WASTEWATER NOTES
REVISED JUNE 10, 2024

1. ALL STREETS ARE TO BE BUILT TO SUB-GRADE PRIOR TO UTILITY INSTALLATION.
2. PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 150), SDR26. HIGHER PRESSURE RATED (160 PSI). OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D2241 OR D3034, MAX. DR-26) AND DUCTILE IRON (AWWA C-100, MIN. CLASS 200).
3. UNLESS OTHERWISE ACCEPTED BY THE CITY ENGINEER, MINIMUM DEPTH OF COVER FOR ALL LINES OUTSIDE OF THE PAVEMENT SHALL BE 42" BELOW FINISHED GRADE AND 30" BELOW SUBGRADE FOR ALL LINES LOCATED IN PAVED AREAS.
4. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH A MINIMUM OF 8-MIL POLYETHYLENE AND SEALED WITH DUCT TAPE OR AN EQUIVALENT ACCEPTABLE BY THE CITY ENGINEER.
5. THE CONTRACTOR SHALL CONTACT THE CITY OF LIBERTY HILL PUBLIC WORKS DEPARTMENT BY BOTH CALLING 512-548-5529 AND EMAILING pubworks@libertyhilltx.gov TO COORDINATE UTILITY TIE-INS AND NOTIFY THEM AT LEAST 48 HOURS PRIOR TO CONNECTING TO ANY EXISTING LINES.
6. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS. CORE CONNECTIONS TO FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.
7. THE CONTRACTOR, AT CONTRACTOR'S EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL WASTEWATER LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY THE CITY OF LIBERTY HILL PERSONNEL.
8. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF LIBERTY HILL PUBLIC WORKS DEPARTMENT AND PROVIDE NO LESS THAN 24 HOURS' NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING, OR PRESSURE TESTING BY BOTH CALLING (512) 548-5529 AND EMAILING pubworks@libertyhilltx.gov.
9. THE CONTRACTOR (OR SUBCONTRACTORS) SHALL NOT OPEN OR CLOSE ANY VALVES UNLESS AUTHORIZED BY THE CITY OF LIBERTY HILL PERSONNEL.
10. ALL WASTEWATER SERVICE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:
    WASTEWATER SERVICE "S" ON TOP OF CURB
    TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE ENGINEER AND ACCEPTED BY THE CITY OF LIBERTY HILL.
11. CONTACT THE CITY OF LIBERTY HILL PUBLIC WORKS DEPARTMENT FOR ASSISTANCE IN OBTAINING EXISTING WASTEWATER LOCATIONS BY BOTH CALLING (512) 548-5529 AND EMAILING pubworks@libertyhilltx.gov.
12. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ASTM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

SIEVE SIZE BY WEIGHT	PERCENT RETAINED
1/2"	0
3/8"	0-2
#4	40-85
#10	95-100

13. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS (7AM - 4PM) AND POSSIBLY BETWEEN 12AM AND 6AM.
14. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 317, AS APPLICABLE. ALL WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH TCEQ REGULATIONS, 30 TAC CHAPTER 290. WHENEVER TCEQ AND CITY OF LIBERTY HILL SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.

DESIGNED BY:	DRAFTED BY:
SPC	CEJ

DATE

REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
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Phone No. (512) 280-5160 Fax No. (512) 280-5165

SHEET NAME: WASTEWATER LINES E, F, H AND J (0+00 TO END)

JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED
PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
7-23-2025

DATE: MAR 2025

JOB NUMBER: 5559

SHEET: 67 OF 78

SHEET NO.: 67

PROJECT #2025-3-CON

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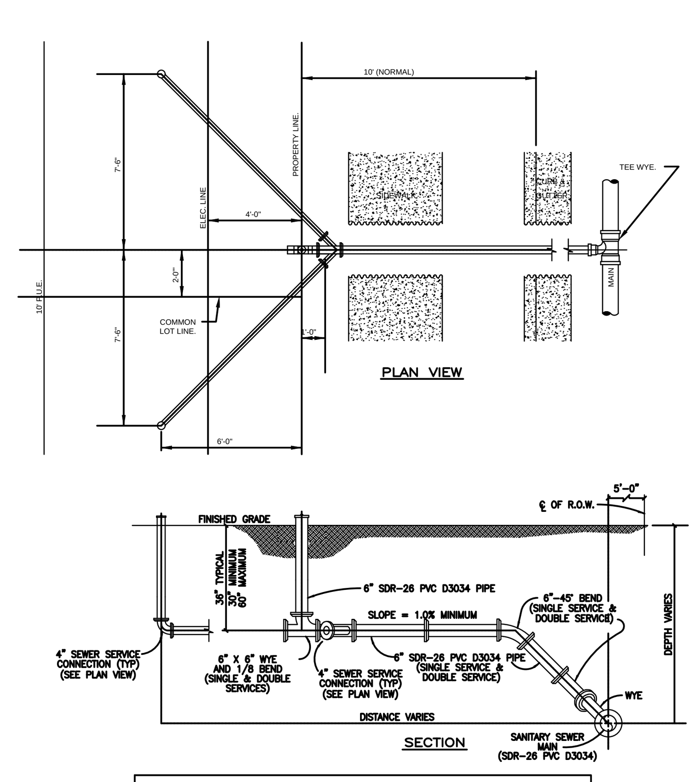
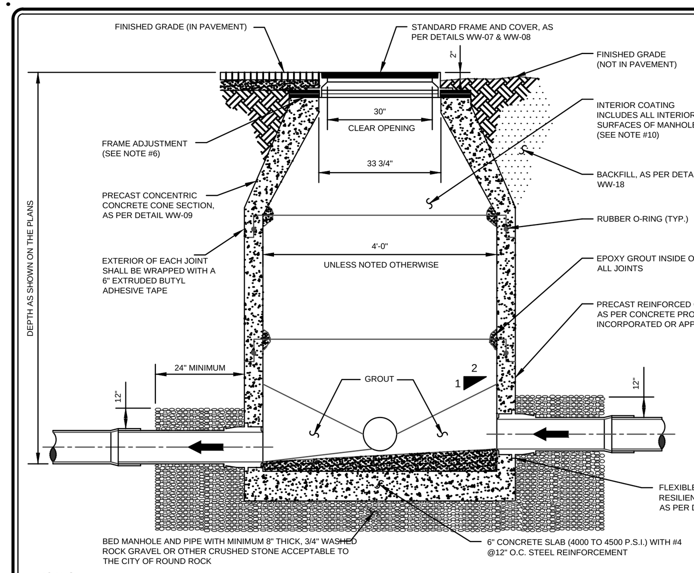


GASKET FITTINGS ARE REQUIRED FOR ALL SERVICES
SOLVENT WELD FITTINGS ARE NOT ALLOWED

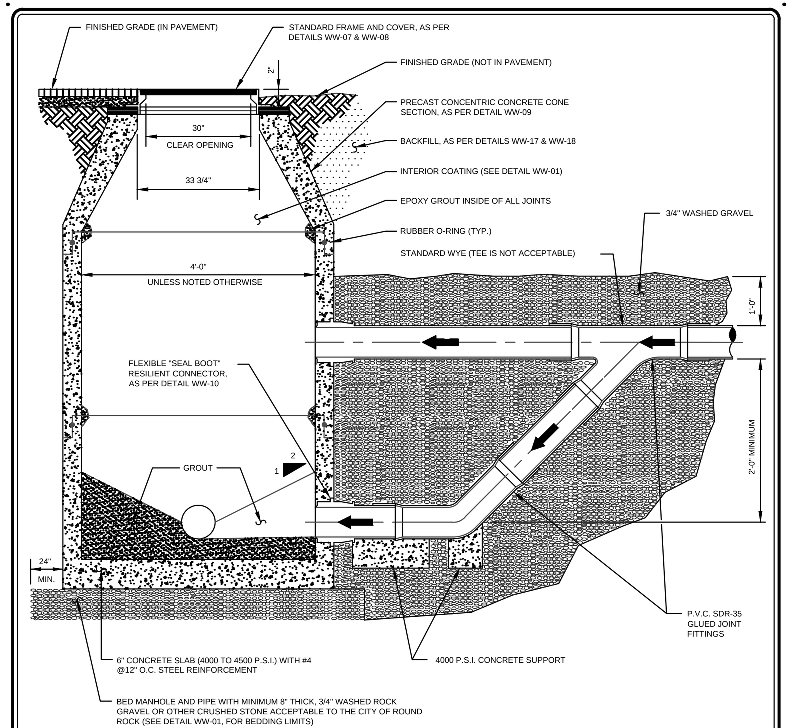
SANTA RITA RANCH
DOUBLE WASTEWATER SERVICE DETAIL
NTS



NOTES:

1. IF DROP IS SIX INCHES (6") TO TWO FEET (2'-0"), CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED INVERT TO EXTEND UNDER THE DROP CONNECTION.
2. SEE CONSTRUCTION PLANS FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZES AND TYPES.
3. MANHOLES SHALL BE PRECAST A.S.T.M. C478 BELL AND SPIGOT WITH "O" RING JOINTS.
4. MANHOLES TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR H20 TRAFFIC LOADING.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED, WHEN MANHOLES ARE LOCATED OUTSIDE OF PAVEMENT.
6. FRAME ADJUSTMENT HEIGHT SHALL CONSIST OF FIVE INCHES (5") MINIMUM TO EIGHTEEN INCHES (18") MAXIMUM. GRADE RINGS SHALL BE GROUTED WITH A NON-SHRINK GROUT INSIDE AND OUTSIDE. HDPE GRADE RINGS, MAY NOT BE USED.
7. FOR MANHOLES TO BE VENTED, SEE DETAILS WW-05 AND WW-06.
8. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO THE FLOW STREAM. ALL P.V.C. PIPE SHALL BE REMOVED FROM INVERT.
9. BASE SECTION SHALL BE DESIGNED FOR H20 LOADING, PLUS EARTH LOAD AT 130 PCF.
10. ENTIRE INTERIOR CONCRETE SURFACES OF WASTEWATER MANHOLES TO BE COATED WITH RAVEN 405, SPRAYWALL, OR APPROVED EQUAL, (WITH A UNIFORM THICKNESS OF 124 MILS AND A MINIMUM THICKNESS OF 100 MILS, APPLIED AFTER MANHOLE HAS PASSED THE VACUUM TEST). FOR REHABILITATING MANHOLES 1/2" MINIMUM THICKNESS CALCIUM ALUMINATE CEMENTITIOUS COATING AND OTHER INTERIOR SURFACES MAY BE COATED IF RECOMMENDED BY COATING MANUFACTURER. (IN LIEU OF INTERIOR COATINGS NEW PRECAST MANHOLES CONTAINING CONSHIELD WILL BE ACCEPTED PROVIDING THE MANUFACTURER STENCILS "CONSHIELD" ON THE INSIDE AND OUTSIDE OF ALL MANHOLE SECTIONS.)

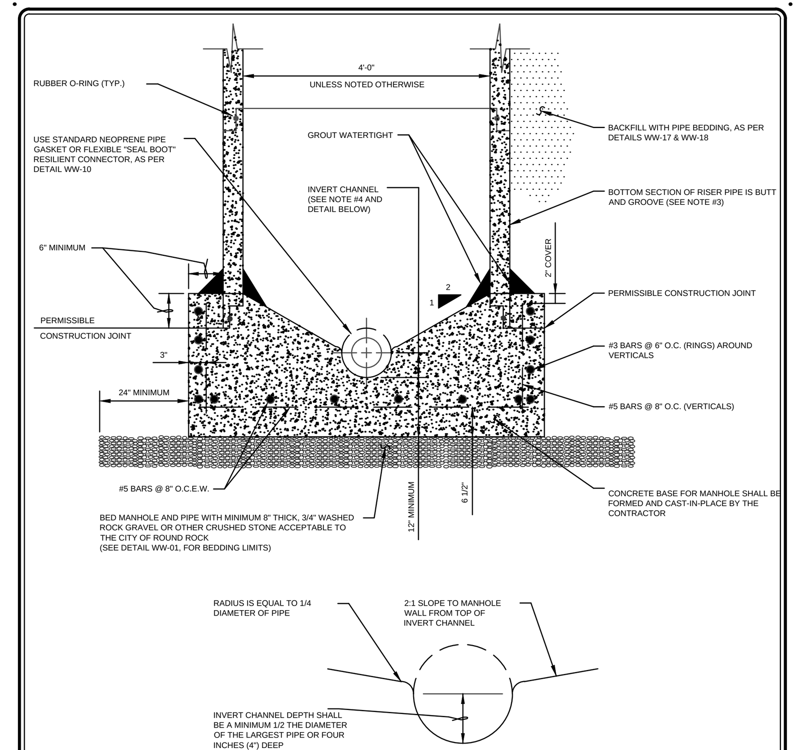
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — PRECAST CONCRETE WASTEWATER MANHOLE DETAIL	DRAWING NO: WW-01 — ROUND ROCK TEXAS



NOTES:

1. SEE NOTES #2 THROUGH #10 ON DETAIL WW-01.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED MORE THAN TWO FEET (2'-0") ABOVE THE MAIN INVERT CHANNEL.
3. WHEN P.V.C. PIPE IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS TO BE UTILIZED IN THE DROP ASSEMBLY ONLY. FITTINGS TO BE P.V.C. SDR-35 WITH TWO PART WATER RESISTANT GLUE AT ALL JOINTS.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — PRECAST CONCRETE WASTEWATER MANHOLE WITH DROP CONNECTION DETAIL	DRAWING NO: WW-02 — ROUND ROCK TEXAS

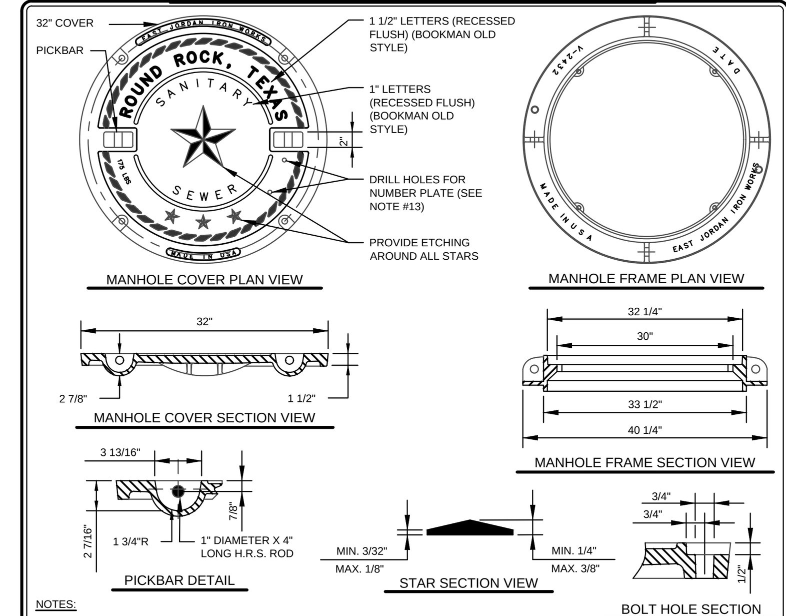


NOTES:

1. CAST-IN-PLACE BASE SHALL BE 4000 TO 4500 P.S.I. CONCRETE, 28 DAY STRENGTH.
2. STEEL SHALL BE GRADE 60.
3. MANHOLE RISER PIPE FURNISHED IN LENGTHS OF ONE (1), TWO (2), THREE (3), FOUR (4) OR SIX (6) FEET AND SHALL BE IN ACCORDANCE WITH A.S.T.M. C478.
4. INVERT CHANNEL SHALL BE PROVIDED THAT AS MUCH AS POSSIBLE, FORMS A SMOOTH CONTINUATION OF INLET AND OUTLET PIPES.
5. BASE SHALL BE PROPERLY FORMED IN THE FIELD WITH WOOD OR OTHER APPROVED FORMS.
6. VERTICAL BARS MAY BE EXTENSIONS OF BOTTOM STEEL OR SEPARATE FROM, BUT TIED TO BOTTOM HORIZONTAL STEEL.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — CAST-IN-PLACE BASE FOR CONCRETE WASTEWATER MANHOLE DETAIL	DRAWING NO: WW-04 — ROUND ROCK TEXAS

MANHOLE COVER SHALL NOT REFERENCE THE CITY OF ROUND ROCK.

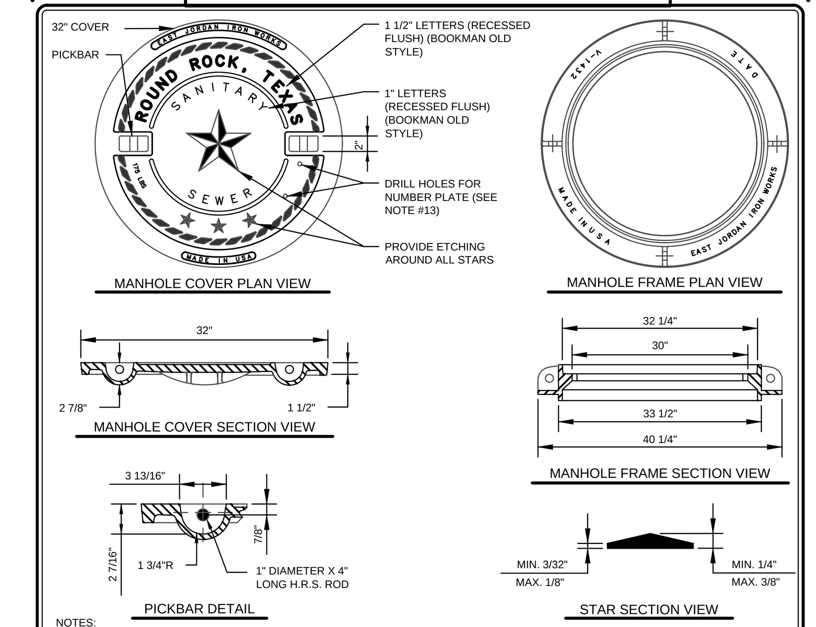


NOTES:

1. COVER AND FRAME SHALL COMPLY WITH STANDARD SPECIFICATIONS FOR DRAINAGE, SEWER, UTILITY AND RELATED CASTINGS: AASHTO DESIGNATION M306-04.
2. MANHOLE COVER SHALL BE MODEL NUMBER: V-2432-3 (PRODUCT NUMBER: 42432033), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
3. MANHOLE FRAME SHALL BE MODEL NUMBER: V-2432 (PRODUCT NUMBER: 42432010), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
4. MANHOLE COVER AND FRAME ASSEMBLY, IF ORDERED AS A SET, SHALL BE MODEL NUMBER: V-2432 (PRODUCT NUMBER: 42432073), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
5. ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM AND 1/8" MAXIMUM RADIUS.
6. MANHOLE COVERS SHALL BE CAST WITH TWO 1" DIAMETER STEEL PICKBARS.
7. MANHOLE COVER WEIGHT SHALL BE 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF COVER.
8. MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE COVER MEETS HS-20 LOADING.
9. FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
10. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
11. COVER SHALL BE DIPPED IN A WATER-BASED ASPHALTIC COATING, PRIOR TO SHIPMENT FROM FOUNDRY.
12. BOLTS SHALL BE 5/8"-11NC X 2" LONG HEX STAINLESS STEEL WITH WASHER.
13. MANUFACTURER SHALL DRILL 2-3/16" X 1/2" DEEP HOLES FOR A MANHOLE NUMBER PLATE TO BE PROVIDED BY THE CITY OF ROUND ROCK. THE TOP HOLE SHALL BE DRILLED 1" O.C. FROM THE BOTTOM OF THE PICKBAR AND THE BOTTOM HOLE SHALL BE DRILLED 4" O.C. FROM THE TOP HOLE.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — BOLTED WASTEWATER MANHOLE COVER AND FRAME DETAIL	DRAWING NO: WW-07 — ROUND ROCK TEXAS

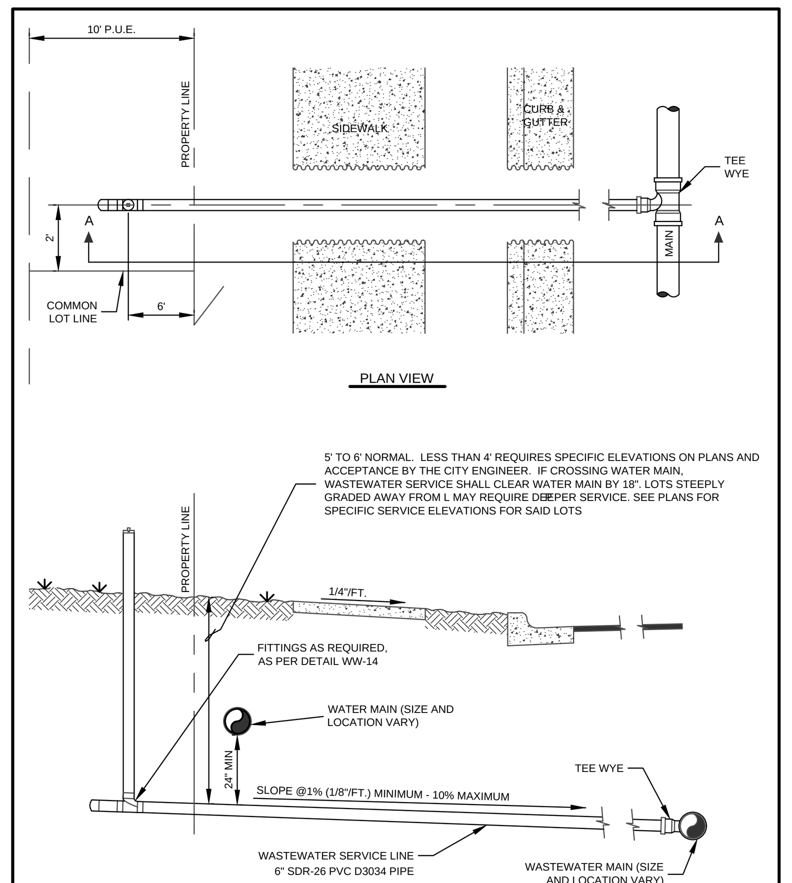
MANHOLE COVER SHALL NOT REFERENCE THE CITY OF ROUND ROCK.



NOTES:

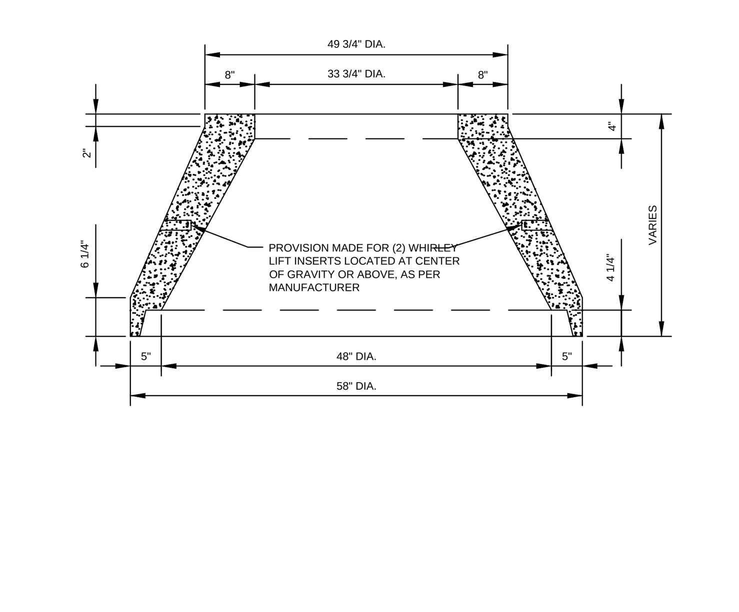
1. COVER AND FRAME SHALL COMPLY WITH STANDARD SPECIFICATIONS FOR DRAINAGE, SEWER, UTILITY AND RELATED CASTINGS: AASHTO DESIGNATION M306-04.
2. MANHOLE COVER SHALL BE MODEL NUMBER: V-1432-3 (PRODUCT NUMBER: 41432059), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
3. MANHOLE FRAME SHALL BE MODEL NUMBER: V-1432 (PRODUCT NUMBER: 41432010), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
4. MANHOLE COVER AND FRAME ASSEMBLY, IF ORDERED AS A SET, SHALL BE MODEL NUMBER: V-1432 (PRODUCT NUMBER: 41432089), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
5. ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM AND 1/8" MAXIMUM RADIUS.
6. MANHOLE COVERS SHALL BE CAST WITH TWO 1" DIAMETER STEEL PICKBARS.
7. MANHOLE COVER WEIGHT SHALL BE 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF COVER.
8. MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE COVER MEETS HS-20 LOADING.
9. FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
10. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
11. COVER SHALL BE DIPPED IN A WATER-BASED ASPHALTIC COATING, PRIOR TO SHIPMENT FROM FOUNDRY.
12. MANUFACTURER SHALL DRILL 2-3/16" X 1/2" DEEP HOLES FOR A MANHOLE NUMBER PLATE TO BE PROVIDED BY THE CITY OF ROUND ROCK. THE TOP HOLE SHALL BE DRILLED 1" O.C. FROM THE BOTTOM OF THE PICKBAR AND THE BOTTOM HOLE SHALL BE DRILLED 4" O.C. FROM THE TOP HOLE.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — NON-BOLTED WASTEWATER MANHOLE COVER AND FRAME DETAIL	DRAWING NO: WW-08 — ROUND ROCK TEXAS



GASKET FITTINGS ARE REQUIRED FOR ALL SERVICES
SOLVENT WELD FITTINGS ARE NOT ALLOWED

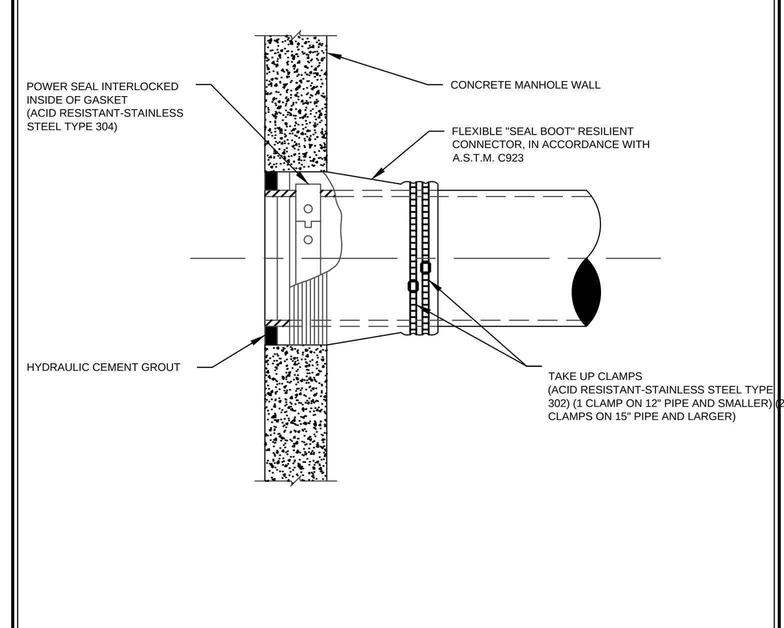
SANTA RITA RANCH
SINGLE WASTEWATER SERVICE DETAIL
NTS



NOTE:

CONCENTRIC CONCRETE CONE SECTION SHALL BE MANUFACTURED USING 4000 TO 4500 P.S.I. CONCRETE, 28 DAY STRENGTH AND IN ACCORDANCE WITH A.S.T.M. C478, AS MANUFACTURED BY CONCRETE PRODUCTS INCORPORATED, OR APPROVED EQUAL.

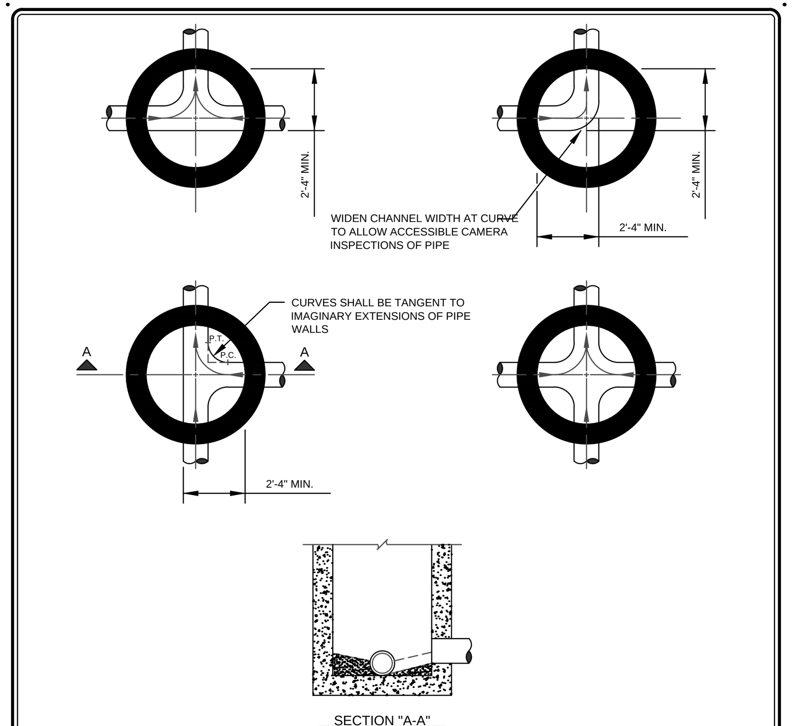
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — PRECAST 48" CONCENTRIC CONCRETE CONE SECTION DETAIL	DRAWING NO: WW-09 — ROUND ROCK TEXAS



NOTE:

1. FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR TO BE A MINIMUM OF 12 INCHES (12") FROM A MANHOLE JOINT.

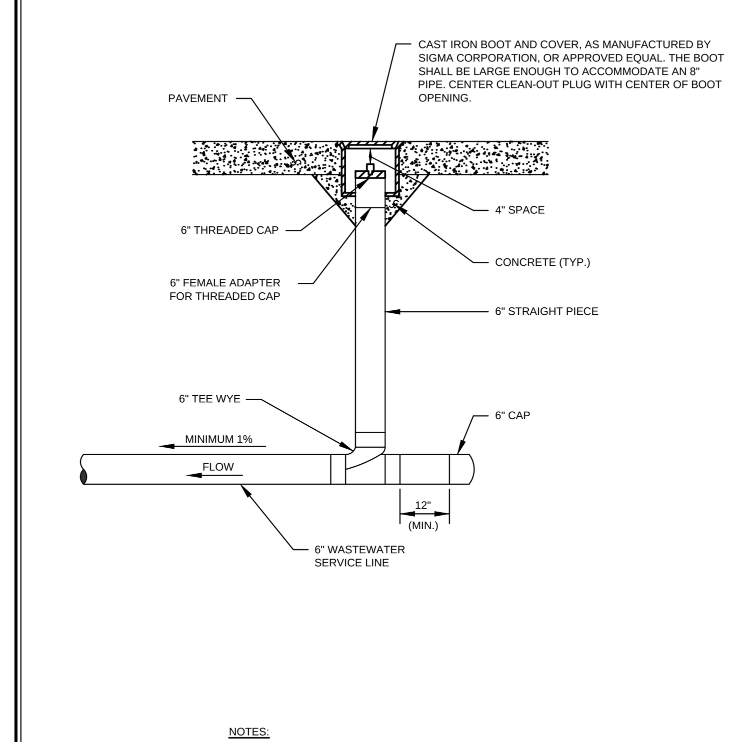
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR DETAIL	DRAWING NO: WW-10 — ROUND ROCK TEXAS



NOTES:

1. MINIMUM DROP FROM INLET TO OUTLET OF MANHOLE IS 0.1 FEET AND MAXIMUM DROP IS 2 FEET, UNLESS SPECIAL APPROVAL IS OBTAINED FROM THE CITY OF ROUND ROCK.
2. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
3. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
4. CHANNELS FOR FUTURE CONSTRUCTIONS, SHALL BE CONSTRUCTED WITH PIPE EXTENDING 3' BEYOND EXTERIOR OF MANHOLE WALL, WITH GLUED PLUG.
5. SLOPE MANHOLE BENCH AT 2:1 SLOPE FROM MANHOLE WALL TO CHANNEL.
6. INVERT CHANNEL SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR FOUR INCHES (4") DEEP.

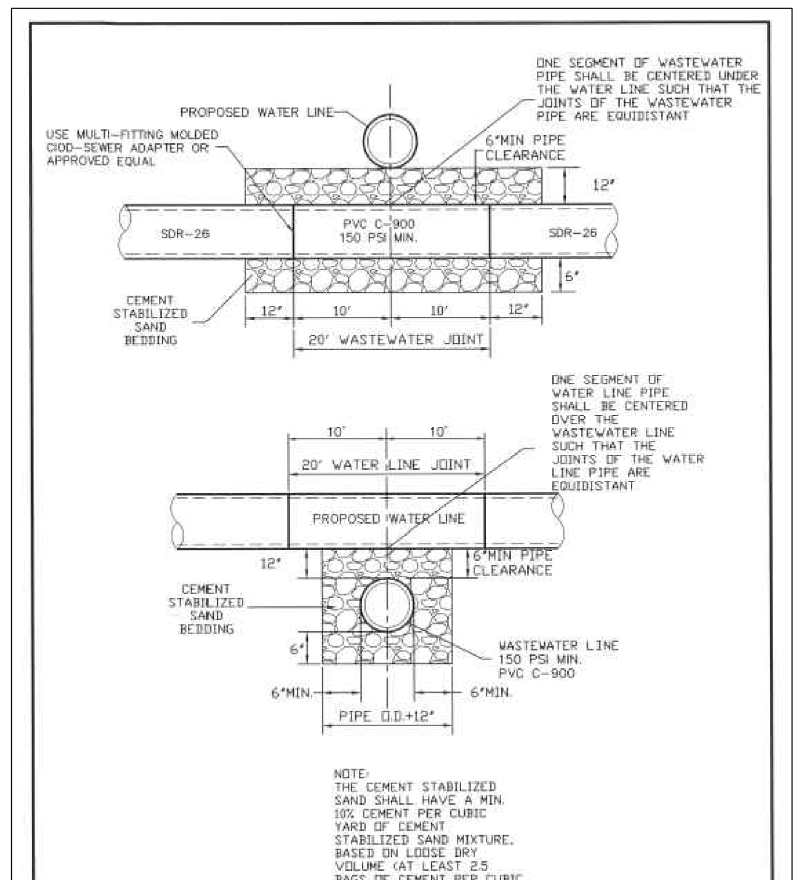
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — WASTEWATER FLOW PATTERNS FOR INVERT CHANNELS DETAIL	DRAWING NO: WW-11 — ROUND ROCK TEXAS



NOTES:

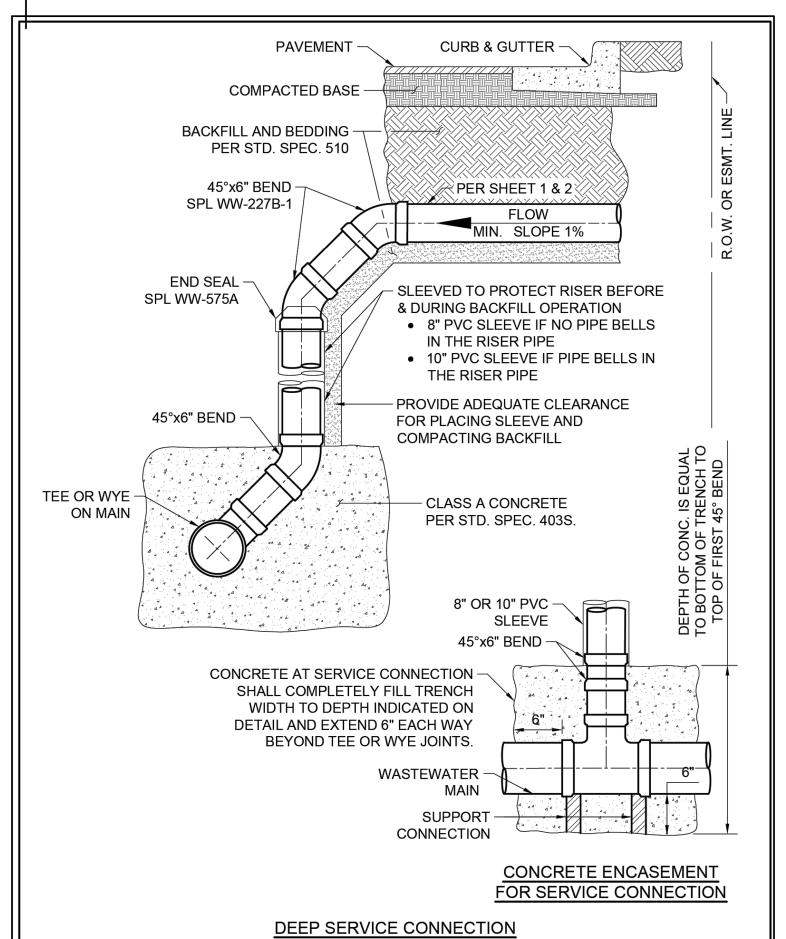
1. ALL PIPE TO BE SDR 26.
2. ALL FITTINGS TO BE SDR 35 SOLVENT WELD FITTINGS.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — WASTEWATER SERVICE CLEAN-OUT DETAIL (PAVED SURFACE)	DRAWING NO: WW-13 — ROUND ROCK TEXAS



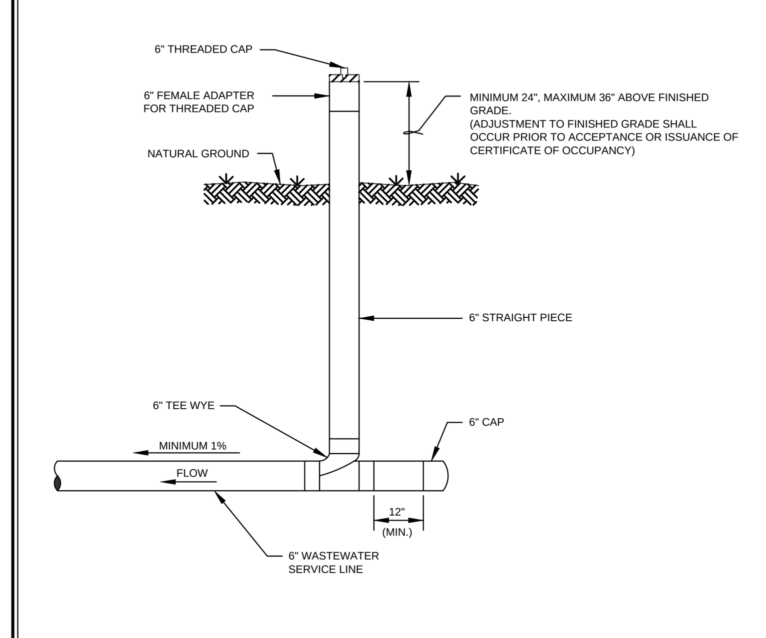
WATER LINE/WASTEWATER LINE CROSSING DETAIL

STANDARD PIPE SIZE DIMENSIONS:
PVC-SDR 26 – 8"
O.D. 8.40 in.; t=0.24 in.; I.D.=7.92 in.



DEEP SERVICE CONNECTION

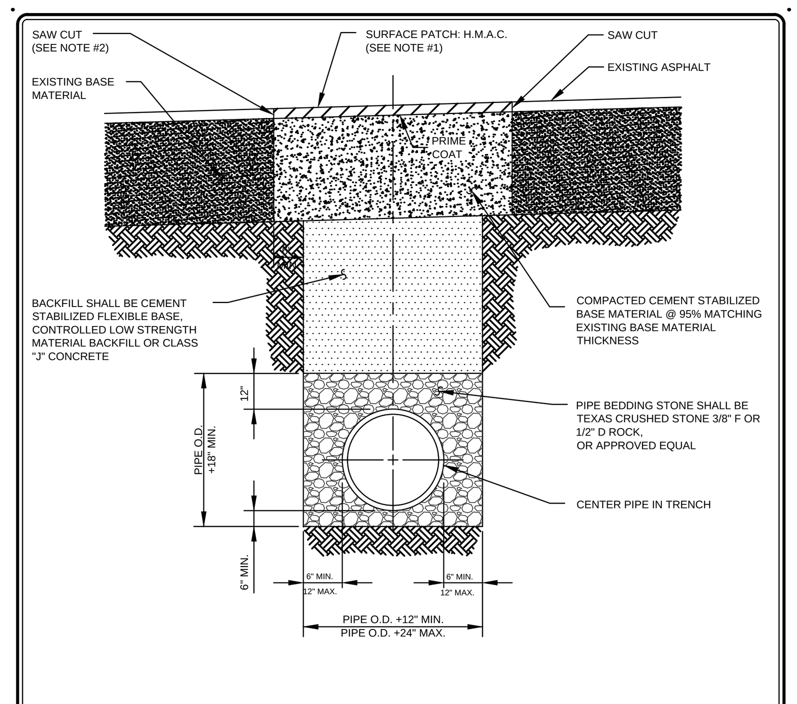
CITY OF AUSTIN AUSTIN WATER	SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION	
RECORD COPY SIGNED JEFF A. KYLE — 11/07/2018 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-01C 3 OF 4



NOTES:

1. ALL PIPE TO BE SDR 26.
2. ALL FITTINGS TO BE SDR 35 SOLVENT WELD FITTINGS.

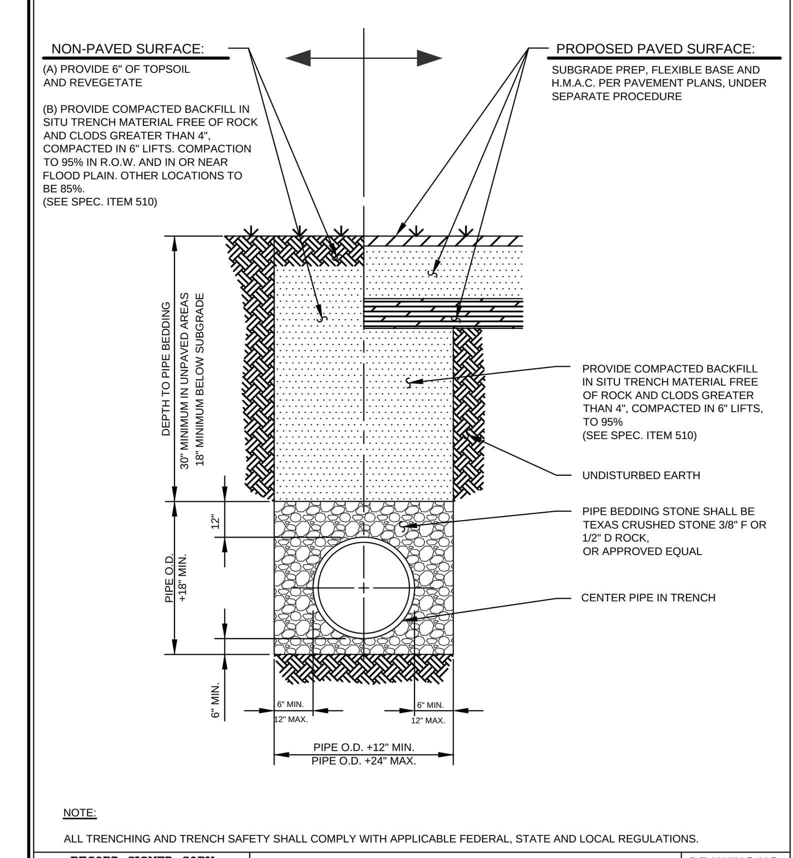
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — WASTEWATER SERVICE CLEAN-OUT DETAIL (NON-PAVED SURFACE)	DRAWING NO: WW-14 — ROUND ROCK TEXAS



NOTES:

1. H.M.A.C. THICKNESS SHALL MATCH EXISTING ASPHALT THICKNESS AND NO LESS THAN 2".
2. THE CONTRACTOR SHALL SAW CUT, REMOVE AND REPLACE EXISTING PAVEMENT AND FLEXIBLE BASE A MINIMUM OF 6" BEYOND EITHER THE EDGE OF THE WASTEWATER LINE TRENCH OR THE POINT WHERE EXISTING PAVEMENT IS DAMAGED DUE TO TRENCHING OPERATIONS, WHICHEVER IS GREATER. FINISHED PATCH SHALL BE NEAT AND UNIFORM.
3. INSTALLATION OF BACKFILL, SAW CUTTING AND REMOVAL OF EXISTING PAVEMENT AND SURFACE PATCH SHALL NOT BE PAID FOR SEPARATELY. COSTS FOR THESE ITEMS SHALL BE INCLUDED IN UNIT PRICE BID FOR WASTEWATER PIPE.
4. THE CONTRACTOR SHALL PROVIDE STEEL PLATES TO SPAN THE TRENCH AS NECESSARY OR TO ALLOW BACKFILL TO CURE. SUCH PLATES SHALL BE SUITABLE FOR VEHICLE PASSAGE OVER THE TRENCH AND SHALL BE SATISFACTORILY ANCHORED IN PLACE. COSTS FOR THIS ITEM SHALL BE INCLUDED IN UNIT PRICE BID FOR WASTEWATER PIPE.
5. ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — WASTEWATER LINE BEDDING AND SURFACE REPAIR DETAIL (EXISTING PAVED SURFACE)	DRAWING NO: WW-17 — ROUND ROCK TEXAS



NOTE:

ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT — APPROVED 03-01-18 DATE — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	CITY OF ROUND ROCK — WASTEWATER LINE BEDDING AND SURFACE REPAIR DETAIL (NON-PAVED & PROPOSED PAVED SURFACE)	DRAWING NO: WW-18 — ROUND ROCK TEXAS

PROJECT #2025-3-CON

DESIGNED BY: SPC — DRAFTED BY: CEL

DATE	REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ❖ Surveying
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SHEET NAME: WASTEWATER DETAILS
JOB NAME: SANTA RITA RANCH PHASE 2B SECTION 2
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS — STEVEN P. CATES — 93648 — LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC. ID# F3791
6-6-2025

DATE	MAR 2025
JOB NUMBER	5559
SHEET	72 OF 78
SHEET NO.	72

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