TCEQ WPAP APPLICATION

for

SANTA RITA RANCH MAINTENANCE BARN

Prepared For:

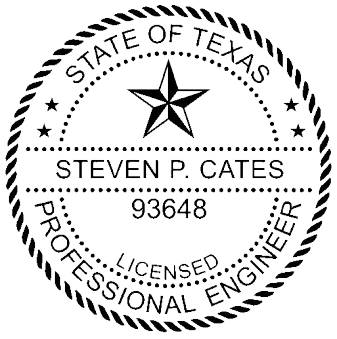
Santa Rita KC, LLC
Attn: James Edward Horne
1700 Cross Creek Lane, Suite 100
Liberty Hill, TX 78642
(512) 502-2050

Prepared By:

Steven P. Cates, P.E.
CARLSON, BRIGANCE & DOERING, INC.
5501 West William Cannon Drive
Austin, Texas 78749
(512) 280-5160
Firm #F3791

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

CBD No. 5605
February 2024



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

2-19-2024

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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 1 Maintenance Barn**						**2. Regulated Entity No.:**			
3. Customer Name: Santa Rita KC, LLC.						**4. Customer No.:604360008**			
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):**			7.14
9. Application Fee:	$5,000.00		**10. Permanent BMP(s):**			Wet Basin			
11. SCS (Linear Ft.):			**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson		**14. Watershed:**			Middle Fork San Gabriel River			

Application Distribution

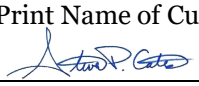
Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which 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  **2-19-2024** 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: 2/19/2024

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: Santa Rita Ranch Maintenance Barn
2. County: Williamson
3. Stream Basin: Middle 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: Santa Rita KC, 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.

North of Highway 29, just east of Ronald Reagan Blvd.

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: 01/15/2024

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 APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

ROAD MAP

Santa Rita Ranch

Water Pollution Abatement Plan Map

Leander NE Quadrant

N

0 1,000 2,000 4,000 Feet

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

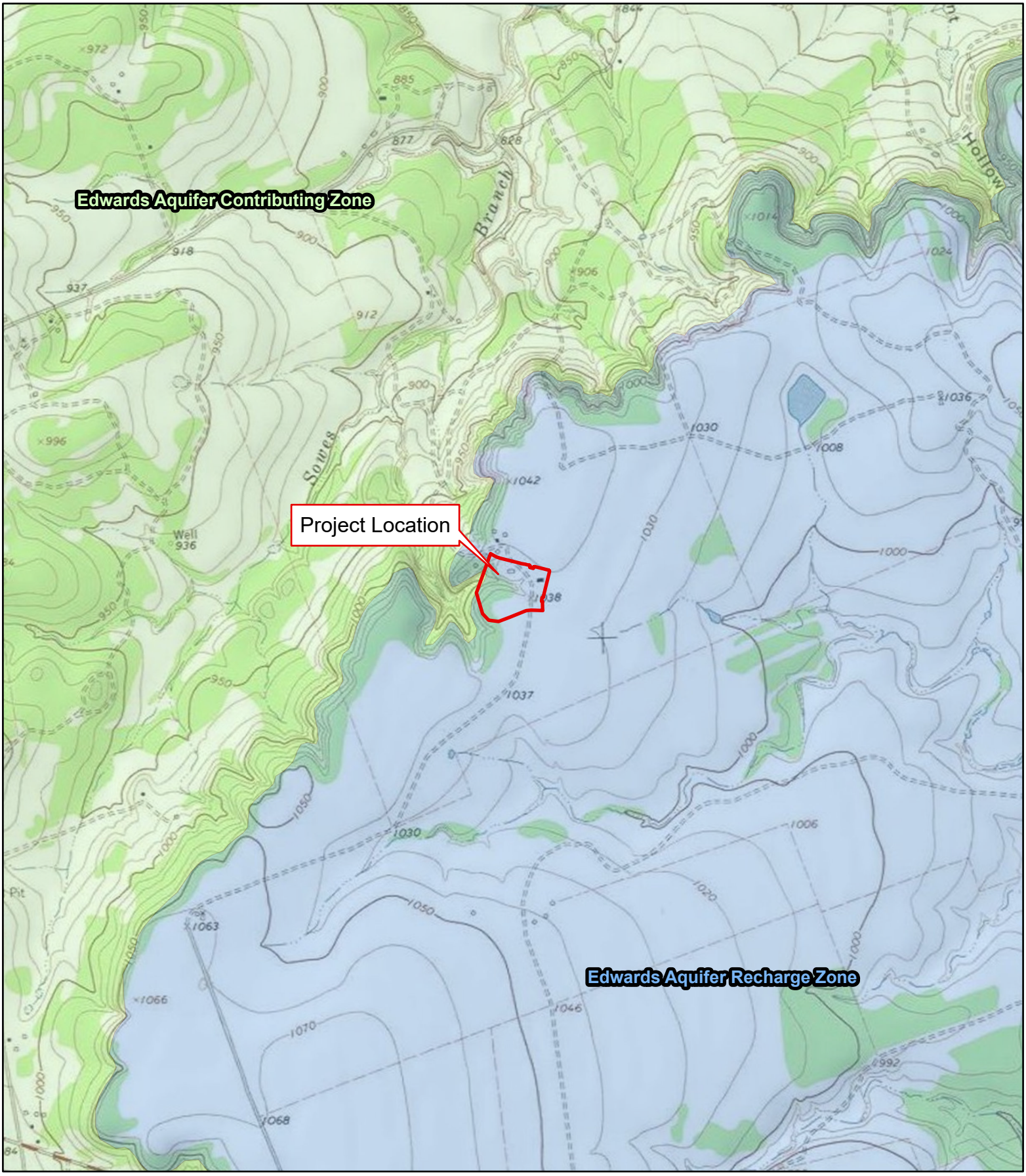
General Information Form
ATTACHMENT B

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

USGS / EDWARDS AUQUIFER RECHARGE ZONE MAP



Santa Rita Ranch

Water Pollution Abatement Plan Map

Leander NE Quadrant

N

0 1,000 2,000 4,000 Feet

Carlson, Brigance & Doering, Inc.

Civil Engineering ❖ Surveying

General Information Form
ATTACHMENT C

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn
Williamson County, Texas

Project Description:

Santa Rita Ranch Maintenance Barn is a 7.14-acre non-residential development that is composed of a maintenance barn, parking lot, existing wet basin, driveway access and 5 pickleball courts. The project is located approximately 2.5 miles north of Highway 29 on the east side of Ronald Reagan Blvd., west of Tierra Rosa Boulevard and south of Augustine Way. The project is located within the City of Liberty Hill ETJ, in Williamson County, Texas. This project includes approximately 0 linear feet of roadway, approximately 410 linear feet of 2" water main line, approximately 398 linear feet 6" SDR 26 PVC ASTM D3034 of wastewater main line.

The proposed private wastewater line will flow into an existing SCS approved gravity system and routed to Liberty Hill Wastewater Treatment plant. The SCS was approved with Santa Rita Ranch Phase 1 Section 20A-C EAPP #1100909 (SCS).

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 and revegetation of the property.

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 an existing approved Wet Basin, Pond #8 (EEAP ID #11000770), constructed with Santa Rita Ranch Phase 1 Section 8.

Within the 7.14-acre improvement area, approximately 0.95 acres of impervious cover will be installed (13.31% of total project site). A Batch Wet Basin has been sized to treat for Phase 1 Maintenance Barn, Phase 1 section 7 and existing Phase 1 section 8, section 9, section 1A and section 1E.

Horizon™
Environmental Services, Inc.

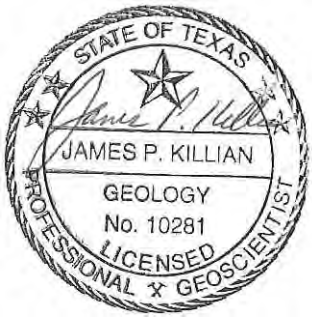
GEOLOGIC ASSESSMENT
SANTA RITA NORTH, C7 RANCH, AND MIDDLEBROOK
WILLIAMSON COUNTY, TEXAS
HJN 130065 GA

PREPARED FOR:

SANTA RITA C7 INVESTMENTS, LLC
AUSTIN, TEXAS

PREPARED BY:

HORIZON ENVIRONMENTAL SERVICES, INC.



SEPTEMBER 2014

CORPORATE HEADQUARTERS
1507 South IH 35 ★ Austin, Texas 78741 ★ 512.328.2430 ★ Fax 512.328.1804 ★ www.horizon-esi.com
Certified WBE/HUB/DBE/SBE

Horizon
Environmental Services, Inc.

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LIST OF APPENDICES

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

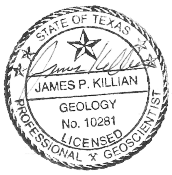
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

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

Date: 19 December 2019 Fax: 512 328-1804

Representing: Horizon Environmental Services, Inc. and TBPG Firm Registration No. 50488
(Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Santa Rita North, C7 Ranch, and Middlebrook; Williamson County, Texas

Project Information

1. Date(s) Geologic Assessment was performed: 26 June 2014; 2, 7-9, 14, 16, 17, 21, 23, 24, 28-31 July 2014; 4-8, 11, 12, and 15 August 2014
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
BkG - Brackett-Rock outcrop Real complex, 8-30% slopes	C	1-2
CfA - Crawford clay, 0-1% slopes	D	1-2
CfB - Crawford clay, 1-3% slopes	D	1-2
DnB - Denton silty clay, 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" = 2300'

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 14 (#) 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.

TABLE 1 – SURFACE SOILS, CON'T.

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
DnC - Denton silty clay, 3-5% slopes	D	1 - 3
DoC - Doss silty clay, moist, 1-5% slopes	C	2 - 4
EaD - Eckrant cobbly clay, 1-8% slopes	D	0 - 1
EeB - Eckrant extremely stony clay, 0-3% slopes	D	1 – 1.5
ErE - Eckrant-Rock outcrop complex, rolling	D	0 – 1.5
ErG - Eckrant-Rock outcrop complex, hilly	D	0 – 1.5
FaA - Fairlie clay, 0-1% slopes	D	1 - 2
FaB - Fairlie clay, 1-2% slopes	D	1 - 2
GeB - Georgetown clay loam, 0-2% slopes	D	2 - 3
GsB - Georgetown stony clay loam, 1-3% slopes	D	1 - 3
SuB - Sunev silty clay loam, 1-3% slopes	B	3 - 5

* 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.

TCEQ GEOLOGIC ASSESSMENT
ADDITIONAL COMMENTS

1.0 INTRODUCTION AND METHODOLOGY

This report and the planned abatement measures are intended to fulfill Texas Commission on Environmental Quality (TCEQ) reporting requirements (TCEQ, 1999). This geologic assessment includes a review of the site for potential aquifer recharge and documentation of general geologic characteristics for the subject site. Horizon conducted the necessary field and literature studies according to TCEQ Instructions to Geologists for completing Geologic Assessments within the Edwards Aquifer Recharge Zone (TCEQ, 2004).

Horizon walked transects spaced less than 50 feet apart and mapped the location of features using a subfoot accurate Trimble GeoHX handheld GPS and post-processed data utilizing aerial photographs, topographic maps, and GPS Pathfinder Office software. Horizon also searched the area around any potential recharge features that were encountered to look for any additional features.

The Geologic Assessment Table in Appendix C provides a description of any features that meet the TCEQ definition of potential recharge features (TCEQ, 2004). Features that do not meet the TCEQ definition, which include surface weathering, karren, or animal burrows, were evaluated in the field and omitted from this report. While walking transects, Horizon removed loose rocks and soil (by hand), when necessary, to preliminarily assess each feature's subsurface extent. However, labor-intensive excavation was not conducted.

The results of this survey do not preclude the possibility of finding 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, construction should be halted until the TCEQ (or appropriate agency) is contacted and a geologist can investigate the feature.

2.0 ENVIRONMENTAL SETTING

2.1 LAND USE

The subject site consists of approximately 2976 acres of mostly undeveloped rangeland, farmland, and woodland that are currently used to raise beef cattle and/or for row crop production in West-Central Williamson County, Texas. The site is divided into 3 separate tracts identified as Santa Rita North (±1472 acres), C7 Ranch (±1100 acres), and Middlebrook (±404 acres). Access to the site is along Ronald Reagan Boulevard, and/or State Highway 29 (Appendix A, Figure 1). One newly developing residential subdivision is present to the west of Ronald Reagan Boulevard within the Middlebrook tract. A second residential development is under construction along the east side of Ronald Reagan Boulevard at Elizabeth Park Road, within a portion of Santa Rita North. No residential developments are currently under construction within C7 Ranch. Surrounding land use is predominantly undeveloped rangeland, farmland, and/or rural residential.

2.2 TOPOGRAPHY AND SURFACE WATER

The subject site is situated on gently to steeply sloping terrain within the North and Middle Forks of the San Gabriel River watershed (Appendix A, Figures 2 and 3). Surface elevations on the subject site vary from a minimum of approximately 840 feet above mean sea level (amsl) along Sowes Branch at the northern site boundary of Santa Rita North to a maximum of approximately 1070 feet amsl at the west side of Middlebrook. Drainage on most of the site occurs primarily by overland sheet flow, in multiple directions based on location, near several unnamed tributaries of the North and Middle Forks of the San Gabriel River.

2.3 EDWARDS AQUIFER ZONE

As shown in Appendix A, Figure 2, most of the subject site (approximately 2392 acres) is found within the Edwards Aquifer Recharge Zone, as mapped by TCEQ Recharge Zone Boundary Maps. However, approximately 584 acres of Santa Rita North is located outside of the recharge zone and is mapped within the Edwards Aquifer Contributing Zone (TCEQ, 2014).

2.4 SURFACE SOILS

Mapping by the Natural Resources Conservation Service (NRCS, 2014) shows approximately 16 soil mapping units within the subject site (Appendix A, Figure 4) associated with the soil series described below.

Brackett gravelly clay loam, 3 to 12% slopes (BkE) occurs within Santa Rita North. This soil 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.

Brackett-Rock outcrop Real complex, 8 to 30% slopes (BkG) occurs within Santa Rita North and 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.

Crawford clay, 0 to 1% slopes (CfA) occurs along the southwest side of Middlebrook. Typically, the surface layer is neutral, dark grayish-brown clay about 6 inches thick. The layer below that, to 32 inches, is neutral, dark brown clay. The substratum is fractured, whitish limestone. This soil is well-drained, and permeability is very slow. This soil swells when wet and shrinks when dry. Water enters the soil rapidly when the soil is dry and very slowly when the soil is moist. The available water capacity is low, and runoff is slow.

Crawford clay, 1 to 3% slopes (CfB): This gently sloping soil is on footslopes and at the heads of drainageways on uplands at Santa Rita North and C7 Ranch. Typically, the uppermost layer is neutral clay about 27 inches thick. It is brown in the upper 6 inches and dark reddish-brown below that. The underlying material is whitish, fractured, hard limestone. This soil is well-drained, and the available water capacity is low. When the soil is dry and cracked, permeability is rapid; but, when the soil is wet and the cracks are closed, permeability is very slow. Runoff is medium.

Denton silty clay, 1 to 3% slopes (DnB): This soil occurs near Sowes Branch within Santa Rita North. Typically, the upper layer is dark brown, silty clay about 33 inches thick. The layer below that, to 36 inches, is very pale brown, silty clay loam. The underlying material is fractured limestone and limy material. The soil is calcareous and moderately alkaline throughout. It is well-drained and slowly permeable soil. Runoff is medium, and the available water capacity is medium. This soil cracks when dry, and erosion is a slight hazard.

Denton silty clay, 3 to 5% slopes (DnC) occurs on either side of Sowes Branch within Santa Rita North. Typically, the upper layer is 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.

Doss silty clay, 1 to 5% (DoC). This gently sloping soil occurs on uplands within the northwest corner of Santa Rita North. Typically, this soil has a dark grayish-brown, silty clay surface layer about 9 inches thick. The subsoil, to 19 inches, is brown, silty clay loam. The underlying material is weakly cemented limy earth interbedded with fragments of limestone. This soil is calcareous and moderately alkaline. This soil is well-drained and has a low available water capacity. Permeability is moderately slow, and runoff is medium. Erosion is a moderate hazard.

Eckrant cobbly clay, 1 to 8% slopes (EaD) occurs within Santa Rita North. This soil has a surface layer about 13 inches thick. The upper part is dark grayish-brown, cobbly clay and the lower part is dark brown, cobbly clay. The underlying material is coarsely fractured, indurated limestone. This soil is calcareous and moderately alkaline. The surface has about 50% cover of limestone fragments that are mostly 4 to 8 inches across. This soil is well-drained, permeability is moderately slow, and runoff is rapid. The available water capacity is very low.

Eckrant extremely stony clay, 0 to 3% slopes (EeB) occurs within Middlebrook and Santa Rita North. 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.

Eckrant-Rock outcrop complex, rolling (ErE) occurs within Santa Rita North and consists of Eckrant soils and Rock outcrop located along hills, ridges, and on sides of drainageways on uplands. This complex is made up of about 70% Eckrant soils, 15% Rock outcrop, and 15% other soils. Typically, the surface layer of Eckrant soils is calcareous, moderately alkaline, dark grayish-brown, extremely stony clay about 8 inches thick. The underlying material is fractured, indurated limestone. Fragments of limestone from 6 inches to 2 feet across cover about 35% of the surface. Rock outcrop consists of exposed limestone bedrock in narrow bands within areas of Eckrant soils. Loose cobbles and stones on the surface are common. Permeability is moderately slow, and surface runoff is rapid. The available water capacity is very low.

Eckrant-Rock outcrop complex, hilly (ErG) occurs within the northeast corner of Santa Rita North, consisting of Eckrant soils and Rock outcrop, mostly along major streams where erosion has formed sharp hills, ridges, and ravines. This complex is made up of about 41% Eckrant soils, 38% Rock outcrop, and 21% other soils. Typically, the Eckrant soils have a calcareous, moderately alkaline, extremely stony, dark grayish-brown, silty clay loam surface layer about 11 inches thick. The underlying material is indurated limestone. About 55% of the soil surface is covered with fragments of limestone that are 1 to 6 feet across. Rock outcrop consists of exposed limestone bedrock below the crests of hills and ridges. Loose cobbles and stones on the surface are common. The other soil included in this complex is Doss. The soils are well-drained, permeability is moderately slow, and surface runoff is rapid. The available water capacity is low.

Fairlie clay, 0 to 1% slopes (FaA) and 1 to 2% slopes (FaB): This nearly level soil is on broad plateaus, slightly depressed areas near the heads of drains, and in shallow valleys on uplands throughout the site. Typically, this soil has a dark gray, clay upper layer about 36 inches thick. The layer below that, which extends to about 46 inches, is gray clay. The underlying material to a depth of 55 inches is weakly cemented limestone interbedded with limy material. This soil is calcareous and moderately alkaline. This soil is moderately well drained. When dry, it has wide cracks, and water enters it rapidly. However, when this soil is wet and the cracks are sealed, water enters it very slowly. Surface runoff is slow when this soil is dry and cracked. The available water capacity is high, and erosion is a slight hazard.

Georgetown clay loam, 0 to 2% slopes (GeB): This nearly level to gently sloping soil is on uplands along the southeast part of C7 Ranch. Typically, the surface layer is slightly acidic, brown, clay loam about 7 inches thick. The subsoil extends to about 35 inches; it is neutral to slightly acidic, reddish-brown clay in the upper part, and cobbly clay in the lower part. The underlying

material is indurated limestone that has limy earth imbedded in the crevices. This soil is well-drained. Permeability is slow, and surface runoff is medium. The available water capacity is low.

Georgetown stony clay loam, 1 to 3% slopes (GsB). This gently sloping soil occurs within upland areas of Santa Rita North and C7 Ranch. 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.

Sunev silty clay loam, 1 to 3% slopes (SuB) occurs along the stream terraces of Sowes Branch at Santa Rita North. The upper layer is dark grayish-brown, silty clay loam about 18 inches thick. The subsoil, to 52 inches, is light yellowish-brown silty clay loam. The underlying layer, which extends to 60 inches, is reddish-yellow silty clay loam and has many soft masses and concretions of calcium carbonate. This soil is calcareous and moderately alkaline throughout. This soil is well-drained, permeability is moderate, and surface runoff is medium. The available water capacity is moderate, and erosion is a slight hazard (NRCS, 2014).

2.5 GEOLOGY

A review of existing literature shows most of the subject site is underlain by the undifferentiated Edwards Limestone Formation (Ked) (UT-BEG, 2014) with an estimated maximum thickness of about 85 feet at higher elevations located along the east sides of Santa Rita North and C7 Ranch. The Edwards Formation consists mostly of gray to light brownish-gray, thin to medium-bedded, dense dolomite, dolomitic limestone, and limestone.

The Comanche Peak Limestone Formation (Kc) underlies the Edwards and crops out on the steep, north-facing slopes located above Sowes Branch within Santa Rita North. 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 Walnut Formation (Kw), which crops out along the moderate to gently sloping areas located near Sowes Branch within Santa Rita North. The uppermost 50 ft of the Walnut is named the Keys Valley Marl Member (Kwkv) 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 Upper Member of the Glen Rose Limestone (Kgru) crops out in the northwest corner of Santa Rita North with an estimated thickness of up to 220 feet. It consists of alternating resistant and recessive beds of light gray to yellowish-gray limestone, dolomite, and marl.

An overlying mantle of recent (Quaternary-age) terrace deposits (QTa) occurs throughout most of the Middlebrook tract and at the West-Central part of C7 Ranch with an estimated thickness of less than 10 feet. These deposits consist of clay, silt, sand, and gravel. In addition, thin deposits (less than 10 feet) of terraces along streams (Qt) occur within an unnamed tributary at the South-Central portion of C7 Ranch. Terraces along streams are predominately gravel, sand, silt, and clay. Thickness varies depending on distance from the floodplain source.

The subject site is located several miles west of the Balcones Fault Zone. However, available geologic reports indicate the immediate area has been affected by geologically inactive, normal faulting. A normal fault is an inclined fault in which the hanging wall appears to have slipped downward relative to the footwall. The nearest mapped fault is located through a portion of Santa Rita North within the Contributing Zone, trending from southwest to northeast at N25-30°E (UT-BEG, 1995 and 2014). In general, the rock strata beneath the site dip to the east-southeast at approximately 35 to 45 feet per mile.

Table 2 depicts the stratigraphic relationship and approximate thicknesses of the uppermost geologic unit found at the subject site.

TABLE 2 – GEOLOGIC STRATIGRAPHIC COLUMN

Geologic Period	Hydrologic Unit	Geologic Unit	Geologic Member	Approximate Thickness (feet)	Description
Quaternary	--	Terraces (QTa)	--	Up to 10	Gravel, sand, silt, and clay
Quaternary	--	Terraces along streams (Qt)	--	Up to 10	Gravel, sand, silt, and clay in various proportions, with gravel more prominent in the older, higher terraces
Lower Cretaceous	Edwards Aquifer	Edwards Formation (Ked)	--	85	Gray to light brownish-gray, thin- to medium-bedded, dense dolomite, dolomitic limestone, and limestone containing rudists (long, conical bivalves); gray to black chert is common; low to moderate cave development
Lower Cretaceous	Edwards Aquifer	Comanche Peak Formation (Kc)	--	50	Gray to very light brown, fine-grained, nodular limestone, marly limestone, and marl; no cave development.
Lower Cretaceous	Confining Unit	Walnut Formation (Kwa)	Keys Valley Marl (Kwkv) Cedar Park Limestone (Kwcp) Bee Cave Marl (Kwbc)	50 40 35	Keys Valley Marl - chalky, soft, white, with marine megafossils; no cave development. Cedar Park Ls - lithologically and faunally similar to Comanche Peak Ls; low to moderate cave development Bee Cave Marl - lithologically and faunally similar to Keys Valley Marl, except Exogyra texana more abundant and ammonites are scarce; low cave development
Lower Cretaceous	Confining Unit	Glen Rose Formation (Kgr)	Upper (Kgru)	220	Alternating resistant and recessive beds of limestone, dolomite, and marl; limestone is aphanitic to fine-grained, hard to soft and marly, light gray to yellowish-gray; dolomite is fine-grained, porous, yellowish-brown; marine megafossils include molluscan steinherns, rudistids, oysters, and echinoids; upper part is relatively thinner bedded, more dolomitic, and less fossiliferous than the lower part; some surface cave development

2.6 WATER WELLS

A search was made for water wells on and within 0.5 miles of the subject site. A review of the records of the TCEQ and the Texas Water Development Board (TWDB) revealed no water wells at the subject site and only 1 well within 0.5 miles from the subject site (TWDB, 2014). However, there was evidence of numerous water wells present during the field investigation. A total of 14 water wells were identified (M-4, M-6 to M-10, M-13, M-14, M-16, M-19, and M-20 to M-23). Approximately 6 of these wells (M-8, M-9, M-10, M-13, M-16, and M-21) appear to be currently unused and/or abandoned. Several recently drilled water wells (M-6, M-7, M-14, M-20, and M-22) were observed during the field investigation. The results of this survey do not preclude the existence of additional unused/abandoned wells at the subject site.

Private water well (No. 5818403) was found within 0.5 miles from the subject site (TWDB, 2014). This water well is reported to have been completed in the Glen Rose Formation (Upper and/or Middle Trinity aquifers) at a total depth of 152 feet and is powered by a windmill for domestic use.

Abandoned wells must be capped or properly abandoned according to the Administrative Rules of the Texas Department of Licensing and Regulation, 16 Texas Administrative Code (TAC), Chapter 76, effective 3 January 1999. A plugging report must be submitted (by a licensed water well driller) to the Texas Department of Licensing and Regulation, Water Well Driller's Program, Austin, Texas. If a well is intended for use, it must comply with 16 TAC §76.

2.7 GEOLOGIC AND MANMADE FEATURES

Field surveys of the subject site were conducted by a licensed Horizon geologist with support staff on 26 June 2014; 2, 7 to 9, 14, 16, 17, 21, 23, 24, and 28 to 31 July 2014; 4 to 8, 11, 12, and 15 August 2014. Previous geologic assessments were conducted on portions of the subject site at Santa Rita North by SWCA Environmental Consultants (SWCA, 2006) and J. Jackson Harper, PG Geological and Hydrogeological Consulting (Harper, 2013). SWCA identified approximately 9 geologic features (SF-11 and SF-13 to SF-20) and 1 manmade feature (SF-12, now M-13). Harper identified 1 geologic feature (G-02) and 1 manmade feature (G-01).

A total of 38 natural geologic features (C7 Ranch: C-1 to C-8; Santa Rita North: G-02, SF-11, SF-13 to SF-20, and SR-1 to SR-20) were identified within the subject site. No geologic features were found at Middlebrook. Geologic features at the subject site are prefixed with the following nomenclature: SF, SR, and G for Santa Rita North and C for C7 Ranch.

A total of 25 manmade features (G-01 and M-1 to M-24) were identified at the subject site, 11 of which are stock ponds (G-01, M-1 to M-3, M-5, M-11, M-12, M-15, M-17, M-18, and M-24) and 14 of which are water wells (previously discussed).

Approximately 7 springs (SPG-1 to SPG-7) were identified at the subject site at Santa Rita North within Sowes Branch; however, these springs (discharge features) are located within the

contributing zone of the Edwards Aquifer. No apparent springs were identified within the recharge zone at the subject site. However, the closest spring known to be occupied by a federally listed salamander species is approximately 2.09 miles northeast of the subject site. According to the Texas Parks and Wildlife Department (TPWD) Natural Diversity Database (NDD) data, Walnut Spring, which is located within the North Fork of the San Gabriel River (upstream of Lake Georgetown), is documented habitat for the federally listed Georgetown Salamander species (Eurycea naufragia) (NDD, 2014).

Geologic features at the subject site are described below. A map detailing site geology and the location of the geologic features is provided in Appendix B. Further information pertaining to the geologic features is provided in the Geologic Assessment Table (Appendix C). Photographs of the geologic features are also provided in Appendix D.

C7 RANCH GEOLOGIC FEATURES

Geologic Feature C-1: Sinkhole measuring approximately 10 feet in diameter x 2.5 feet deep with 2 semi-open drainage portal openings (0.5 and 1 foot in diameter x 1 foot deep) located along its weathered rock/clay floor. No air flow conductivity was noted at the openings. Probing with a steel rod encountered clay soil and cobbles about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature C-2: Sinkhole measuring approximately 8 feet long x 5 feet wide x 1.5 feet deep with an apparent animal burrow opening amongst loose rocks and soil. No air flow conductivity was noted at the opening. Probing with a steel rod encountered loose to firm clay soil and cobbles about 2.5 feet below the feature's floor. This feature has a low infiltration rate and a surface runoff catchment of less than 0.1 acres.

Geologic Feature C-3: Two solution cavities spaced about 15 feet apart within an open, scattered cactus area. The larger cavity measures approximately 1.8 feet long x 1 foot wide x 1.5 feet deep and the smaller (due west/northwest) measures 0.3 feet in diameter x 1 foot deep. Slight air flow conductivity was noted at the openings. Probing with a steel rod encountered loose cobbles and soil about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature C-4: Solution cavity in open area measuring approximately 1.5 feet long x 0.5 feet wide x 1 foot deep with smaller open drainage portal openings amongst loose cobbles and soil. Slight air flow conductivity was noted. Probing with a steel rod encountered a snake skin and loose cobbles about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature C-5: Two small solution cavities spaced about 6 feet apart near a small cedar elm tree. The larger cavity measures approximately 1 foot long x 0.3 feet wide x 1 foot deep and the smaller (due southeast next to the tree trunk) measures 0.3 feet in diameter x 1 foot deep. Slight air flow conductivity was noted at the openings. Probing with a steel rod encountered loose

cobbles and soil about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature C-6: Solution-enlarged fracture (azimuth:N215°W) measuring approximately 2.5 feet long x 0.5 feet wide x 1 foot deep with smaller semi-open drainage portal openings amongst loose cobbles and soil. No air flow conductivity was noted. Probing with a steel rod encountered firm soil and cobbles about 2 feet below the feature's floor. This feature has a low to intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature C-7: Large upland sinkhole with a cedar elm tree near its center that is covered with grape vines. The sinkhole measures approximately 18 feet in diameter x 4 feet deep with 1 open drainage portal (1 foot long x 0.5 feet wide x 1 foot deep) located along its rock/clay floor. Very slight air flow conductivity was noted at the opening. Probing with a steel rod encountered clay soil and cobbles about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature C-8: Next to brush thicket, a solution cavity measuring approximately 1 foot in diameter x 1 feet deep that narrows down to a 0.2 feet x 1 foot deep drainage portal opening. Air flow conductivity was noted. Probing with a steel rod encountered loose cobbles/soil about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

SANTA RITA NORTH GEOLOGIC FEATURES

Geologic Feature G-02: This feature has been previously assessed by J. Jackson Harper, PG, as a closed depression measuring approximately 6 feet long x 6 feet wide x 2.5 feet deep resulting from an apparent animal burrow located beneath roots of adjacent oak trees. At the base of the hole, the burrow continued laterally along a soft, thinly bedded, chalky rock layer for a distance of about 1.5 feet before terminating. The burrow contained loose, dry, clayey soil and leaves over weathered, intact limestone. This feature has a very low infiltration rate and was classified as a non-sensitive feature. No protective measures were proposed for this feature (Harper, 2013).

Geologic Feature SF-11: This feature has been previously assessed by SWCA as an unnamed cave within a sinkhole (SWCA, 2006). It measures approximately 12 feet in diameter x 2.5 feet deep and drops into an open portal about 4 feet long x 3 feet wide x 6 feet deep. Two young vultures were observed nesting inside the entrance, which prevented closer investigation. A few semi-open drainage portals were observed along the entrance drop floor amongst rocks, soil, and cobbles. Slight to moderate air flow conductivity was noted near the entrance drop. 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. This feature has a high infiltration rate and an apparent surface runoff catchment greater than 1.6 acres.

Geologic Feature SF-13: This feature has been previously assessed by SWCA as a sinkhole (SWCA, 2006). It measures approximately 10 feet in diameter x 2.5 feet deep and has an open drainage portal near its center about 1 foot long x 0.5 feet wide x 4 feet deep. Slight air flow conductivity was noted. This feature has an intermediate infiltration rate and an apparent surface runoff catchment less than 0.4 acres.

Geologic Feature SF-14: This feature has been previously assessed by SWCA as a sinkhole (SWCA, 2006). It measures approximately 6 feet in diameter x 1.5 feet deep with a large boulder and several smaller boulders within the feature. Small semi-open drainage portals were observed amongst the rocks and loose soil about 0.5 feet in diameter x 1 foot deep. Slight air flow conductivity was noted. This feature has an intermediate infiltration rate and an apparent surface runoff catchment less than 0.4 acres.

Geologic Feature SF-15: This feature has 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 actually 1 large sinkhole (~50 feet long x 25 feet wide x 3 feet deep) and 1 open solution cavity (~3 feet long x 1.5 feet wide x 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 x 3 feet wide x 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. This feature has a high infiltration rate and an apparent surface runoff catchment greater than 3 acres.

Geologic Feature SF-16: This feature has been previously assessed by SWCA as an unnamed cave within a sinkhole that is rimmed with boulders and cobble debris (SWCA, 2006). The sinkhole measures approximately 120 to 130 feet long x 40 to 60 feet wide x 3 to 6 feet deep and funnels into a large, open vertical shaft about 10 feet in diameter x 5 feet deep. Along the west side of the shaft floor is an opening measuring 5 feet long x 4 to 6 feet deep that connects to an apparent low bedding plane void extending about 20 feet (north to south) x 10 feet wide x 3 to 4 feet high. Several internal open drains were observed along the floor at the lowest points of the void. Moderate to strong air flow conductivity was noted along 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. The sinkhole/cave is located in a broader drainage area that appears to have originally drained in excess of 10 acres. An adjacent stock pond (manmade feature M-15) to the northwest/west appears to have impounded half or more of the original drainage area. This cave has a very high infiltration rate and a surface runoff catchment greater than 6 acres.

Geologic Feature SF-17: This feature has been previously assessed by SWCA as a non-karst closed depression (SWCA, 2006). However, an open drainage portal about 0.3 feet in diameter x 1 foot deep was observed within the loose leaves and soil/rock at its lowest point. This feature is identified a sinkhole about 20 feet in diameter x 3 feet deep with an apparent drainage portal. Slight air flow conductivity was noted at the opening. This feature has an intermediate infiltration rate and an apparent surface runoff catchment less than 0.4 acres.

Geologic Feature SF-18: This feature has been previously assessed by SWCA as a solution cavity (SWCA, 2006). It measures approximately 1.5 feet in diameter x 1 foot deep and is located within an exposed slab of limestone about 4 feet x 4 feet. No drainage portals or air flow conductivity were observed along the firm, clay-filled floor. The feature appears to be epikarstic due to surficial weathering processes. This feature has a very low infiltration rate and an apparent surface runoff catchment less than 0.1 acres.

Geologic Feature SF-19: This feature has been previously assessed by SWCA as a sinkhole that has large boulders slumping into it that may have been the result of past ranching activities, such as land clearing (SWCA, 2006). It measures approximately 15 feet long x 12 feet wide x 3 feet deep with several semi-open drainage portals around apparent in-filled (bladed) rocks and boulders. Slight air flow conductivity was noted. This feature has an intermediate infiltration rate and an apparent surface runoff catchment less than 0.4 acres.

Geologic Feature SF-20: This feature has been previously assessed by SWCA as 2 adjacent sinkholes spaced about 15 feet apart (SWCA, 2006). The larger sinkhole measures approximately 15 feet in diameter x 5 feet deep with several semi-open drainage portals amongst solutioned bedrock and/or boulders. The smaller sinkhole measures approximately 10 feet in diameter x 5 feet deep with semi-open drainage portals amongst loose rock and soil. Slight air flow conductivity was noted at both sinkholes. This feature has an intermediate infiltration rate and an apparent surface runoff catchment less than 1 acre.

Geologic Feature SR-1: Small, upland sinkhole measuring approximately 6.5 feet long x 5 feet wide x 1.5 feet deep, rimmed with large rocks, and with a drainage portal opening along the south side about 1.5 feet long x 0.3 feet wide x 1 foot deep. Slight air flow conductivity was noted at the opening. Probing with a steel rod encountered clay soil and cobbles about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-2: Small, upland sinkhole, located about 20 feet due south of SR-1, measuring approximately 6 feet in diameter x 1.5 feet deep with open drainage portals amongst loose rock and leaves. This feature was lightly excavated, revealing a low bedding plane void about 2 feet long x 0.5 feet high with moderate air flow conductivity noted at the opening. Probing with a steel rod encountered loose clay soil and cobbles about 3 feet down below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-3: Small, upland sinkhole, located between 2 live oak trees, measuring approximately 6 feet in diameter x 1 foot deep with an open drainage portal amongst

loose rocks and soil. This feature was lightly excavated, revealing a portal about 0.5 feet in diameter x 1 foot deep with slight air flow conductivity. Probing with a steel rod encountered loose clay soil and cobbles about 2 feet down below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-4: Solution cavity measuring approximately 0.5 feet in diameter x 1 foot deep, in an open area, that narrows down to a 0.2 feet diameter x 1 foot deep drainage portal opening. Slight air flow conductivity was noted. Probing with a steel rod encountered loose cobbles/soil about 2.5 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-5: Two solution cavities spaced about 8 feet apart in an open area near a cactus patch. Both cavities measure approximately 1 foot in diameter x 1 to 1.5 feet deep. Slight to moderate air flow conductivity was noted at the openings. Probing with a steel rod encountered loose cobbles and soil about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-6: Solution cavity, near a cedar elm tree, measuring approximately 0.5 feet in diameter x 1.5 feet deep. Slight to moderate air flow conductivity was noted. Probing with a steel rod encountered loose soil and rocks about 2.5 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-7: Small, upland sinkhole measuring approximately 5 feet in diameter x 1 foot deep, located under a cluster of live oak trees, with a semi-open drainage portal about 0.5 feet in diameter x 1.5 feet deep. Very slight air flow conductivity was noted. Probing with a steel rod encountered loose leaves, cobbles, and soil about 2.5 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-8: Two solution cavities spaced about 3 feet apart next to a cedar elm tree. The larger cavity measures approximately 0.5 feet in diameter x 1 foot deep and the smaller cavity measures 0.2 feet in diameter x 0.5 feet deep. Slight air flow conductivity was noted at the openings. Probing with a steel rod encountered loose cobbles and soil about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-9: Small, upland sinkhole measuring approximately 6 feet long x 4 feet wide x 1 foot deep with an open solution cavity drainage portal near the center about 1.5 feet long x 1 foot wide x 2.5 feet deep. Slight air flow conductivity was noted. Probing with a steel rod encountered loose leaves, cobbles, and soil about 3.5 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-10: Large, upland sinkhole located near a persimmon tree thicket that measures approximately 18 feet long x 15 feet wide x 3 feet deep with 1 open drainage portal (0.5 feet in diameter x 1 foot deep) located along its rock/clay floor. Slight to moderate air flow conductivity was noted at the opening. Probing with a steel rod encountered loose soil and cobbles

about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.5 acres.

Geologic Feature SR-11: Solution cavity located near live oak trees and cactus patch. A large rock covering the cavity was removed to facilitate inspection. This feature measures approximately 2 feet long x 1.5 feet wide x 2.5 feet deep with slight to moderate air flow conductivity. Probing with a steel rod encountered loose soil and rocks about 4 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-12: Upland sinkhole measuring approximately 10 feet long x 7 feet wide x 2 feet deep with open drainage portals near the center amongst loose cobbles and soil. Slight to moderate air flow conductivity was noted. Probing with a steel rod encountered loose cobbles and soil about 3.5 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-13: Large, upland sinkhole located amongst scattered mesquite and cedar elm trees. It measures approximately 20 feet long x 10 feet wide x 2.5 feet deep with 2 open drainage portals (1.9 feet long x 0.9 feet wide x 3 feet deep and 0.5 feet in diameter x 1 foot deep) located along its rock/clay floor. Slight air flow conductivity was noted at both openings. Probing with a steel rod encountered firm to loose soil and cobbles about 4 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.5 acres.

Geologic Feature SR-14: Small, upland sinkhole measuring approximately 6 feet long x 4 feet wide x 2.5 feet deep with a semi-open drainage portal near the center about 0.5 feet in diameter x 1 foot deep. No air flow conductivity was noted. Probing with a steel rod encountered firm soil and cobbles about 3 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-15: Solution cavity, located near the bases of mesquite and persimmon trees, measuring approximately 2.5 feet long x 0.5 feet wide x 1.5 feet deep, with semi-open drainage portals amongst vuggy rock and loose soil. No 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. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-16: Solution cavity measuring approximately 1.3 feet long x 0.8 feet wide x 4.5 feet deep within a very small rock sink (3 feet in diameter x 1 foot deep). Slight air flow conductivity was noted. Probing with a steel rod encountered loose soil and rocks about 5 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-17: Solution cavity about 35 feet due southwest of SR-16. It measures approximately 1.5 feet long x 1 foot wide x 3.5 feet deep within a very small rock sink (3 feet in diameter x 1 foot deep). Slight to moderate air flow conductivity was noted. Probing with a

steel rod encountered loose soil and rocks about 4.5 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-18: Solution cavity measuring approximately 1 foot long x 0.5 feet wide x 1 foot deep with semi-open drainage portals amongst loose rocks and soil. Slight air flow conductivity was noted. Probing with a steel rod encountered loose soil and rocks about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-19: Solution cavity measuring approximately 3 feet long x 1.5 feet wide x 1.5 feet deep with semi-open drainage portals amongst loose clay soil and rocks. Slight air flow conductivity was noted. Probing with a steel rod encountered loose soil and rocks about 2 feet below the feature's floor. This feature has an intermediate infiltration rate and a surface runoff catchment of less than 0.4 acres.

Geologic Feature SR-20: Mapped normal fault located in Santa Rita North within the contributing zone of the Edwards Aquifer. This feature has an apparent low infiltration rate and is not located in the recharge zone of the Edwards Aquifer. Therefore, it is a non-sensitive feature that would require no protective measures.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Thirty-eight natural geologic features and 25 manmade features were identified at the subject site. All of the features were evaluated for their potential to be significant pathways for fluid movement into the Edwards Aquifer. The Geologic Assessment Table (Appendix C) summarizes this evaluation and assigns each feature's sensitivity a total point value. Those with a point value of 40 or higher are deemed to be sensitive groundwater recharge features and should be protected during site development pursuant to TCEQ rules for protection of the Edwards Aquifer (30 TAC 213).

Thirty-four geologic features (C-1, C-3 to C-8, SF-11, SF-13 to SF-17, SF-19, SF-20, and SR-1 to SR-19) have been evaluated as sensitive for groundwater recharge capability and would therefore 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 3 of these (cave) features (SF-11, SF-15, and SF-16) is recommended to meet the TCEQ guidance for a setback for each cave with an undetermined subsurface footprint. The cave footprint is assumed to extend 150 feet in all directions from the surface opening(s) and then a protective buffer zone extending an additional 50 feet in all directions from the footprint is applied, plus each cave's watershed catchment up to 200 feet from the footprint. 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 each cave's watershed catchment up to 200 feet from the footprint.

Four geologic features (C-2, G-02, SF-18, and SR-20) 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 geologic features.

All of the manmade features (G-01 and M-1 to M-24) 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 manmade features.

Additionally, no springs were identified within the recharge zone of the subject site that would require protection or mitigation pursuant to the City of Georgetown Edwards Aquifer Recharge Zone Water Quality Ordinance No. 2013-59. However, several streams were identified within the recharge zone of the subject site that would require protection per the City of Georgetown's ordinance.

The site appears generally well-suited to development prospectus. 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 site construction activities.

Because part of the subject site is located over the Edwards Aquifer Recharge Zone, it is possible that subsurface voids underlie the site. The nature of the sub-grade is fault-influenced, which can result with variable-sized voids in materials that may otherwise not be noted as void- or cave-forming. If any subsurface voids are encountered during the proposed development, construction should halt immediately so that a geologist may assess the potential for the void(s) to provide meaningful recharge to the Edwards Aquifer.

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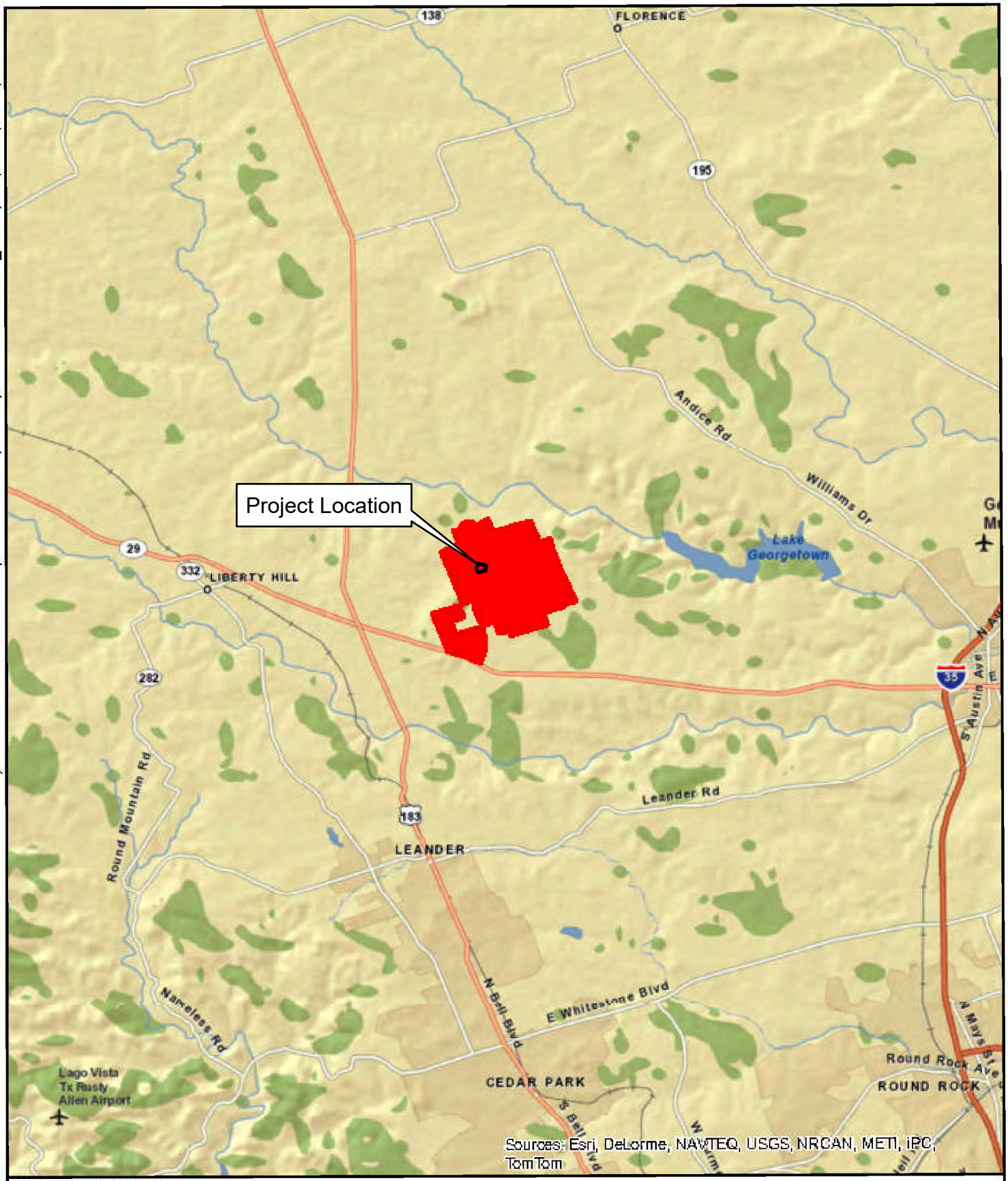
APPENDIX A

PROJECT FIGURES

R:\Proj.2013\130065 - C7 Ranch\Graphics\GA\GA Report Graphics\130065A01GA_Vicinity Map.mxd | CEC | 8-14-2014



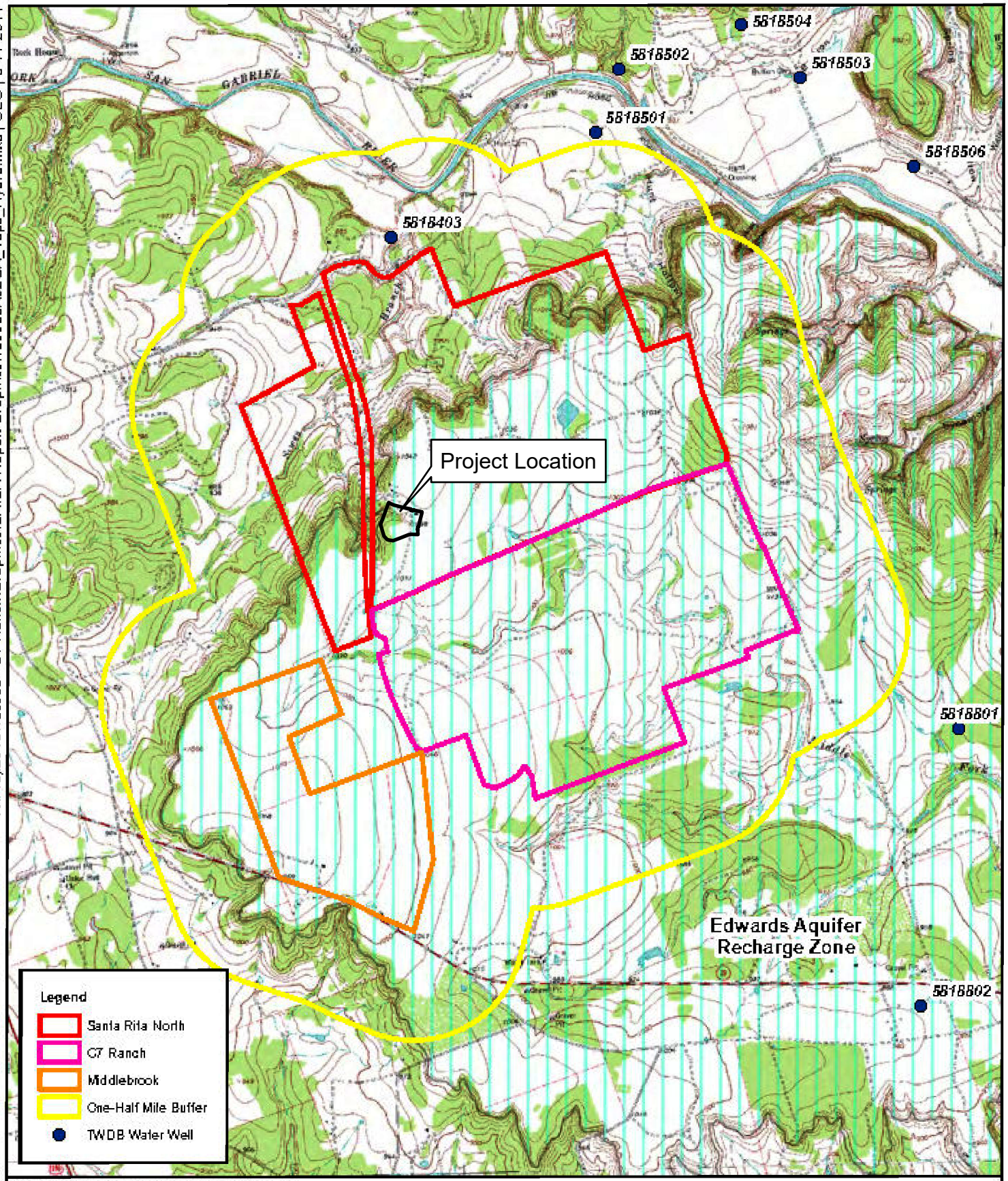
MAP SOURCE: ESRI, 2012.

0 1.5 3
Miles

Horizon Environmental Services, Inc.

APPENDIX A, FIGURE 1

VICINITY MAP
SANTA RITA NORTH, MIDDLEBROOK, AND C7 RANCH
LIBERTY HILL,
WILLIAMSON COUNTY, TEXAS



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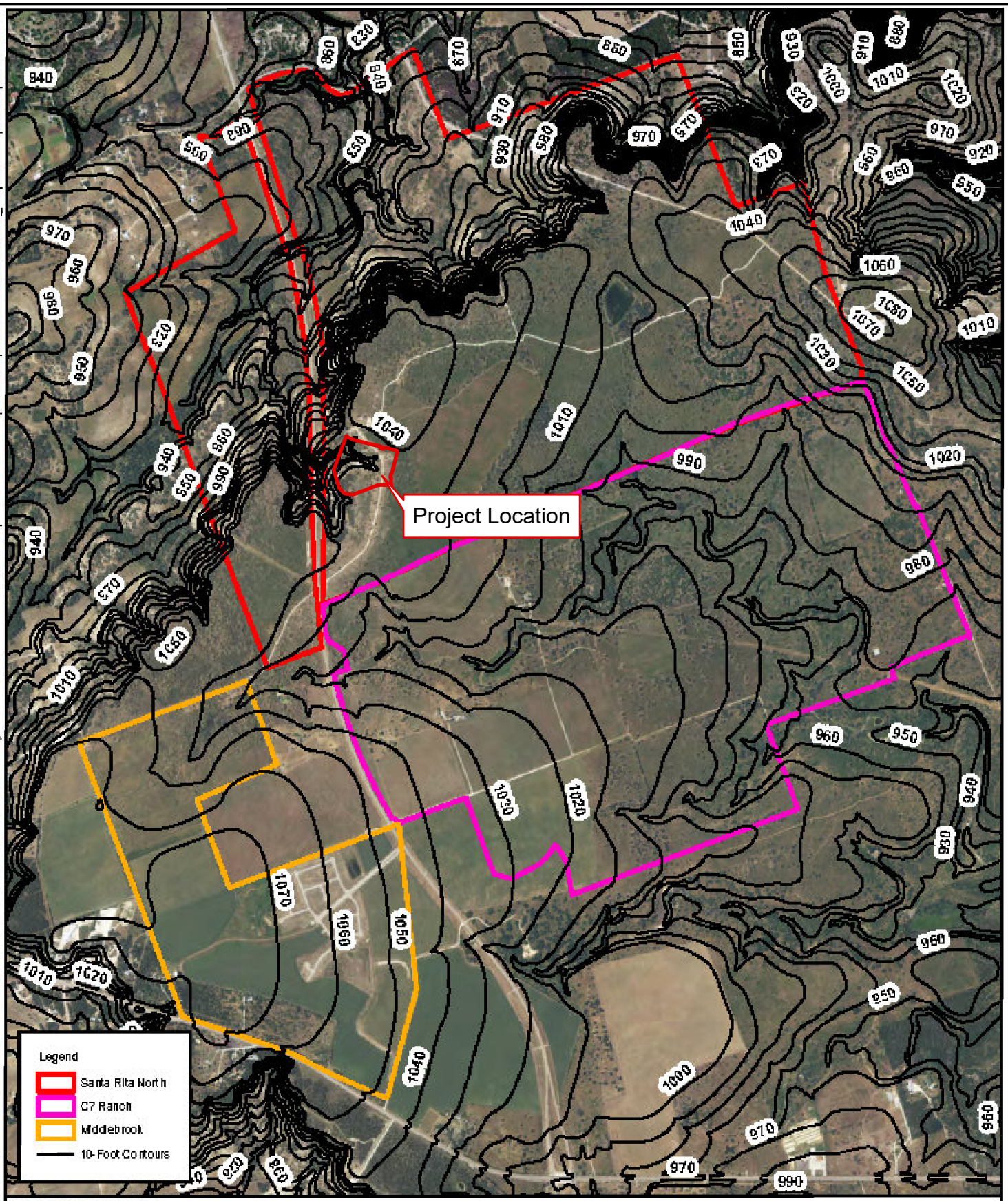
MAP SOURCE: USGS, 1987; TCEQ, 2014; TWDB, 2014.

0 1,675 3,350
Feet

Horizon Environmental Services, Inc.

APPENDIX A, FIGURE 2

TOPOGRAPHY AND
HYDROGEOLOGY MAP
SANTA RITA NORTH, MIDDLEBROOK,
AND C7 RANCH
LIBERTY HILL,
WILLIAMSON COUNTY, TEXAS



MAP SOURCE: USDA, 2012.

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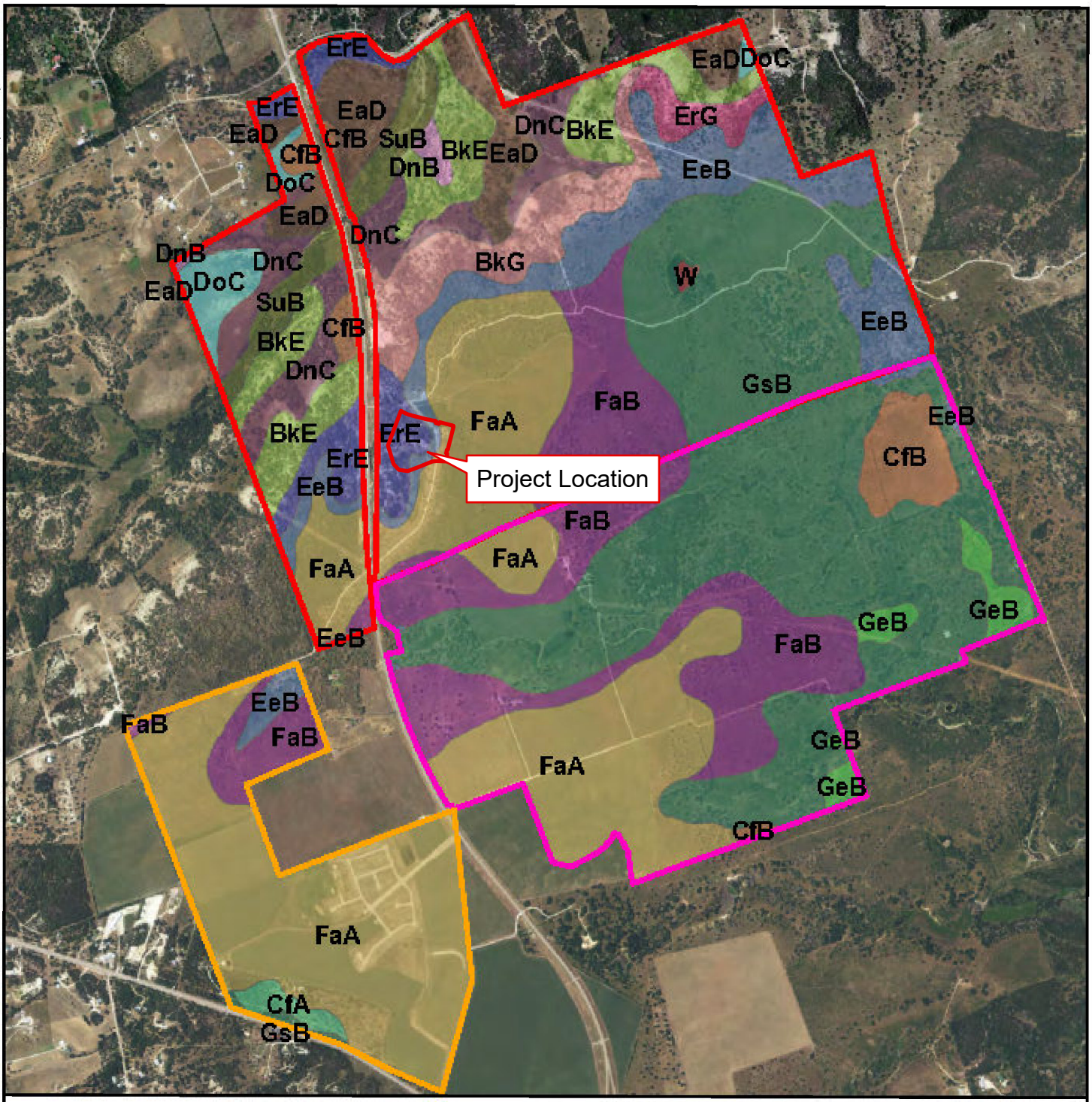
Feet

Horizon Environmental Services, Inc.

APPENDIX A, FIGURE 3

SITE TOPOGRAPHY MAP
SANTA RITA NORTH, MIDDLEBROOK,
AND C7 RANCH
LIBERTY HILL,
WILLIAMSON COUNTY, TEXAS

R:\Proj.2013\130065 - C7 Ranch\Graphics\GA\GA Report Graphics\130065A04GA_Soils.mxd | CEC | 8-14-2014



Legend

- Middlebrook
- C7 Ranch
- Santa Rita North
- Brackett gravelly clay loam, 3-12% slopes (BkE)
- Brackett-Rock outcrop Real complex, 8-30% slopes (BkG)
- Crawford clay, 0-1% slopes (CfA)
- Crawford clay, 1-3% slopes (CfB)
- Denton silty clay, 1-3% slopes (DnB)
- Denton silty clay, 3-5% slopes (DnC)
- Doss silty clay, moist, 1-5% slopes (DoC)
- Eckrant cobbly clay, 1-8% slopes (EaD)
- Eckrant extremely stony clay, 0-3% slopes (EeB)
- Eckrant-Rock outcrop complex, rolling (ErE)
- Eckrant-Rock outcrop complex, hilly (ErG)
- Ferris clay, 0-1% slopes (FaA)
- Ferris clay, 1-2% slopes (FaB)
- Georgetown clay loam, 0-2% slopes (GeB)
- Georgetown stony clay loam, 1-3% slopes (GsB)
- Sunev silty clay loam, 1-3% slopes (SuB)
- Water

MAP SOURCE: USDA, 2012; NRCS, 2014.

0 1,150 2,300

Feet

N

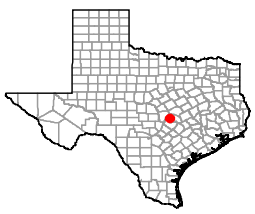
Horizon Environmental Services, Inc.

APPENDIX A, FIGURE 4

SURFACE SOILS MAP
SANTA RITA NORTH, MIDDLEBROOK, AND C7 RANCH
LIBERTY HILL,
WILLIAMSON COUNTY, TEXAS

Geologic Unit	Hydrologic Unit	Approx. Thickness at Project Site (ft)	Elevation (ft msl)	Depth (ft)
			1070	0
Terraces (QTa) and Terraces along streams (Qt)	-	10	1060	10
Edwards Formation (Ked)	Edwards Aquifer	85	975	95
Comanche Peak Formation (Kc)		50	925	145
Keys Valley Marl (KwKv)	Confining Unit	50	875	195
Cedar Park Limestone (Kwcp)		40	835	235
Bee Cave Marl (Kwbc)		35	800	270
Upper Glen Rose Limestone (Kgru)		220	580	490

Note: Unit elevation and thickness given with respect to a ground surface elevation of 1070 ft on the southwestern corner of the project site.



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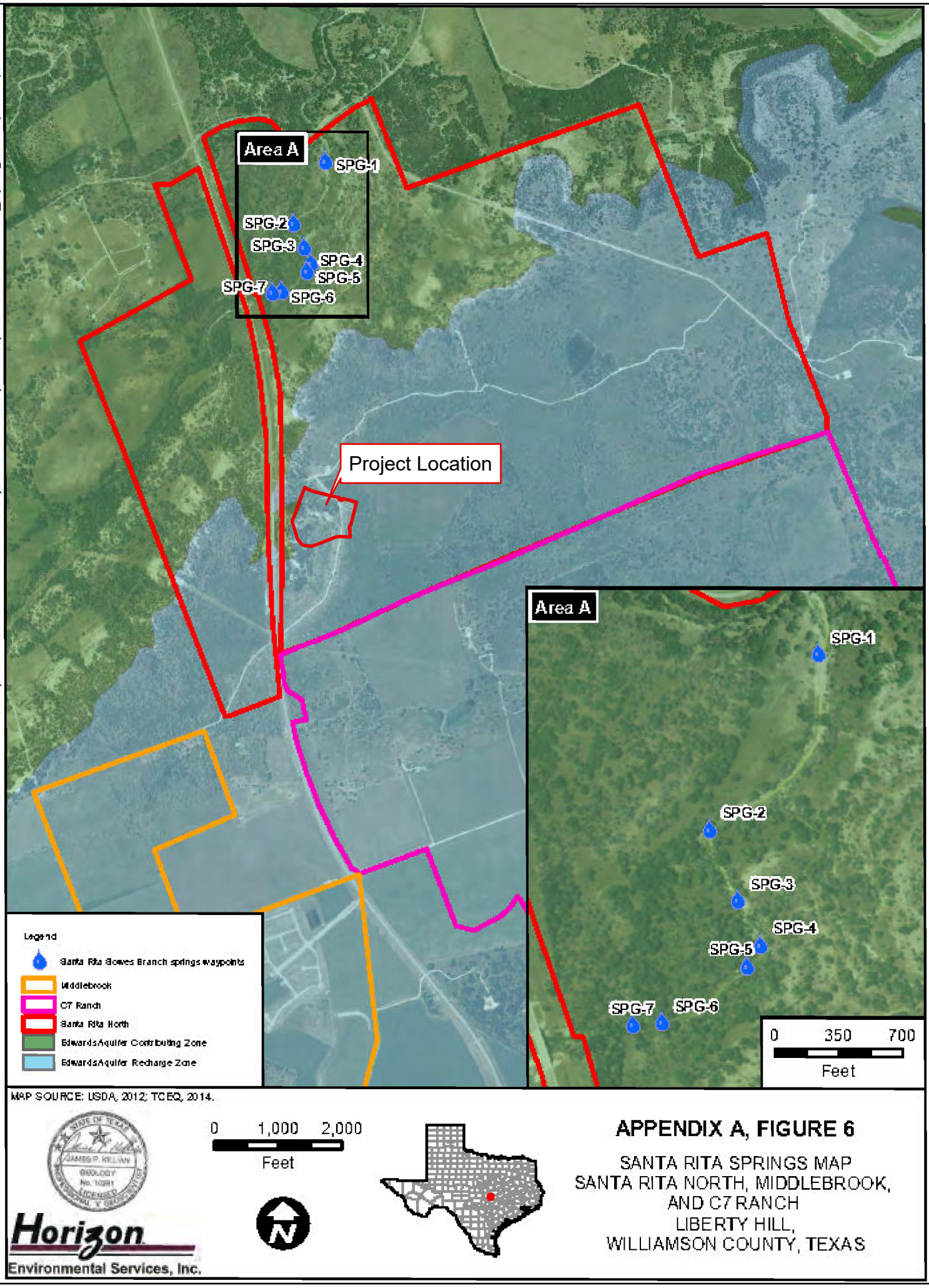
APPENDIX A, FIGURE 5

STRATIGRAPHIC COLUMN
SANTA RITA NORTH, MIDDLEBROOK,
AND C7 RANCH
LIBERTY HILL,
WILLIAMSON COUNTY, TEXAS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Area A
SPG-1
SPG-2
SPG-3
SPG-4
SPG-5
SPG-7
SPG-6
Project Location
Area A
SPG-1
SPG-2
SPG-3
SPG-4
SPG-5
SPG-7
SPG-6
0 350 700
Feet
Legend
Santa Rita Bowes Branch springs waypoints
Middlebrook
C7 Ranch
Santa Rita North
Edwards Aquifer Contributing Zone
Edwards Aquifer Recharge Zone
MAP SOURCE: USDA, 2012; TCEQ, 2014.
0 1,000 2,000
Feet
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Horizon
Environmental Services, Inc.
APPENDIX A, FIGURE 6
SANTA RITA SPRINGS MAP
SANTA RITA NORTH, MIDDLEBROOK,
AND C7 RANCH
LIBERTY HILL,
WILLIAMSON COUNTY, TEXAS

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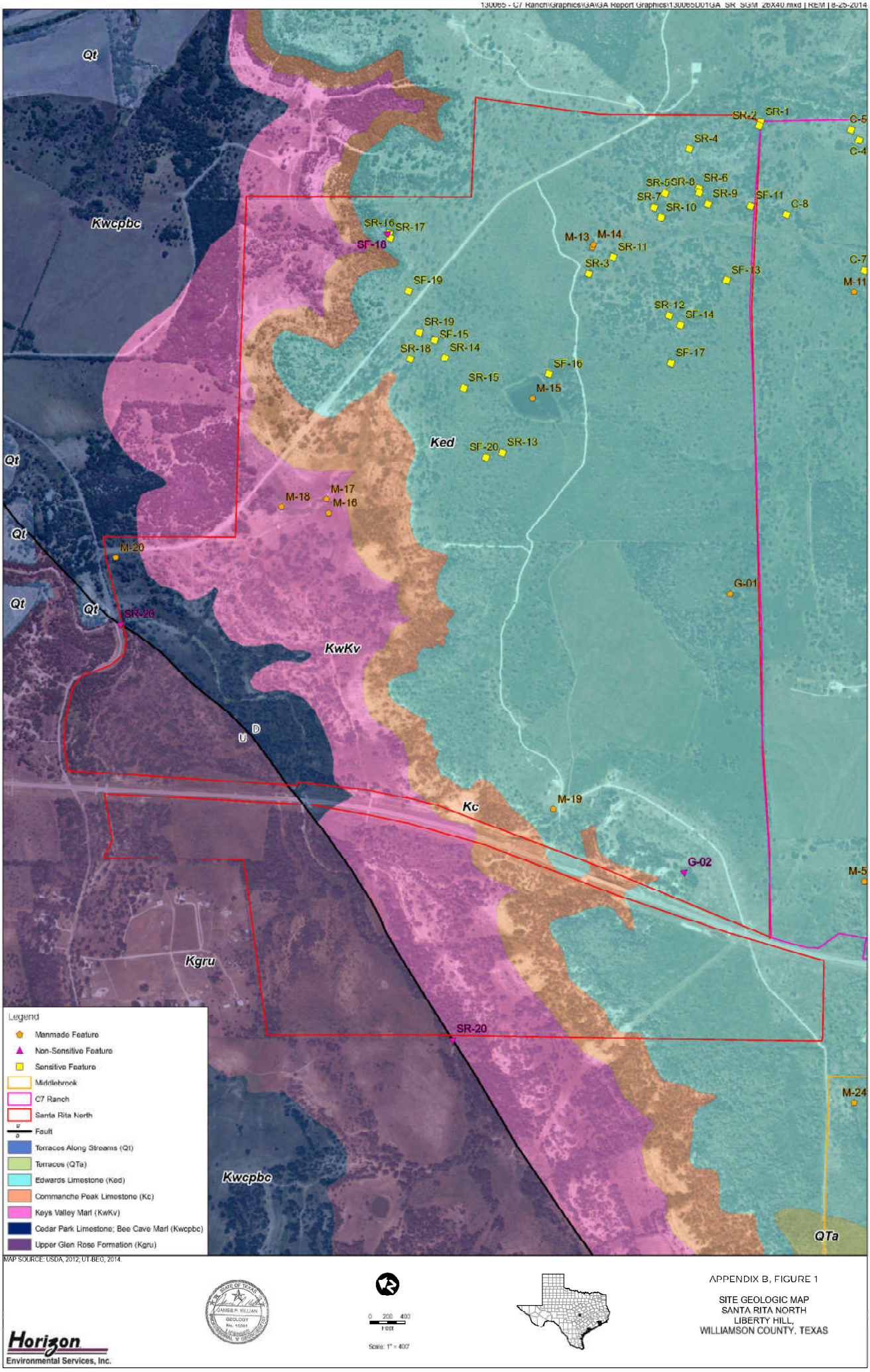
Environmental Services, Inc.

APPENDIX B

SITE GEOLOGIC MAP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Qt
Kwcpbc
Ked
KwKv
Kc
Kgru
QTa
SR-1
SR-2
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SR-6
SR-7
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SR-9
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SR-11
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M-13
M-14
M-15
M-16
M-17
M-18
M-19
M-20
M-24
G-01
G-02
Legend
Manmade Feature
Non-Sensitive Feature
Sensitive Feature
Middlebrook
C7 Ranch
Santa Rita North
Fault
Terraces Along Streams (Qt)
Terraces (QTa)
Edwards Limestone (Ked)
Commanche Peak Limestone (Kc)
Keys Valley Marl (KwKv)
Cedar Park Limestone; Bee Cave Marl (Kwcpbc)
Upper Glen Rose Formation (Kgru)
MAP SOURCE: USDA, 2012; UT-BEG, 2014.
JAMES P. KILLIAN
GEOLOGY
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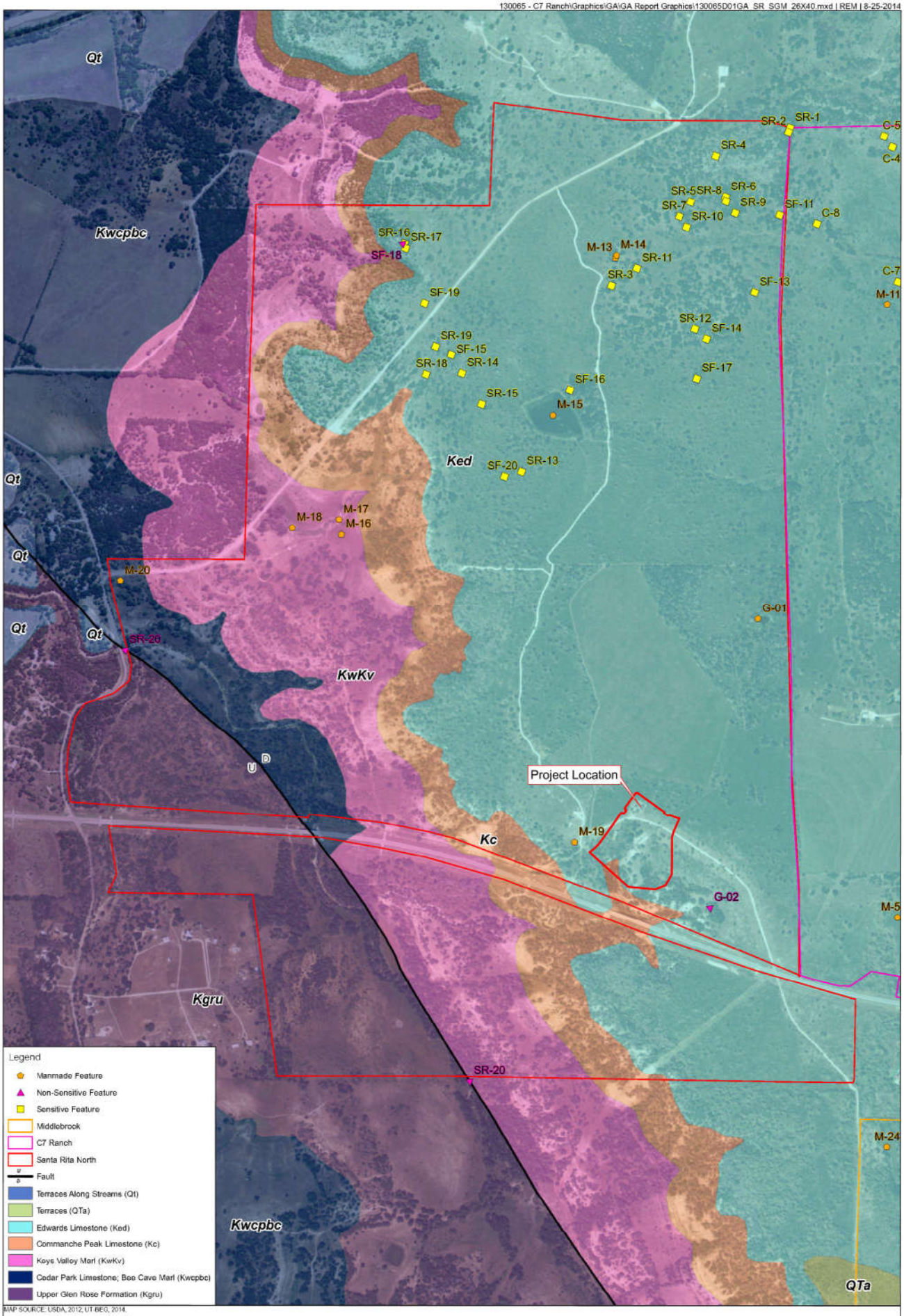
Feet
Scale: 1" = 400'
Horizon
Environmental Services, Inc.
APPENDIX B, FIGURE 1
SITE GEOLOGIC MAP
SANTA RITA NORTH
LIBERTY HILL,
WILLIAMSON COUNTY, TEXAS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Qt
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KwKv
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SR-2
SR-3
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SR-5
SR-6
SR-7
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SR-9
SR-10
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C-7
C-8
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M-13
M-14
M-15
M-16
M-17
M-18
M-19
M-20
M-24
M-5
G-01
G-02
Project Location
U
D
Legend
Manmade Feature
Non-Sensitive Feature
Sensitive Feature
Middlebrook
C7 Ranch
Santa Rita North
Fault
Terraces Along Streams (Qt)
Terraces (QTa)
Edwards Limestone (Ked)
Commanche Peak Limestone (Kc)
Keys Valley Marl (KwKv)
Cedar Park Limestone; Boo Cave Marl (Kwcpbc)
Upper Glen Rose Formation (Kgru)
MAP SOURCE: USDA, 2012; UT-BEG, 2014.
0 200 400
Feet
Scale: 1" = 400'
Horizon
Environmental Services, Inc.
APPENDIX B, FIGURE 1
SITE GEOLOGIC MAP
SANTA RITA NORTH
LIBERTY HILL,
WILLIAMSON COUNTY, TEXAS

Horizon
Environmental Services, Inc.

APPENDIX C

SITE GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: 2976-ac Santa Rita North, C7 Ranch, Middlebrook, Williamson Co., TX

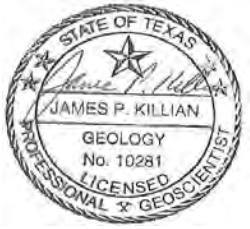
LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	≥40	<1.6	≥1.6	
C-1	30.658391	-97.816697	SH	20	Ked	10	10	2.5	--	0	--		C,F,O	25	45		X	X		Hillside
C-2	30.658554	-97.816288	SH	20	Ked	3	1.5	1.5	--	0	--		C,F,O	18	38	X		X		Hillside
C-3	30.666383	-97.809982	SC	20	Ked	1.8	1	1.5	--	0	--		C,F,O	30	50		X	X		Hillside
C-4	30.66883	-97.811714	SC	20	Ked	1.5	0.5	1	--	0	--		C,F,O	30	50		X	X		Hillside
C-5	30.669181	-97.809834	SC	20	Ked	1	0.3	1	--	0	--		C,F,O	28	48		X	X		Hillside
C-6	30.664682	-97.809834	SF	20	Ked	2.5	0.5	1	--	0	--		C,F,O	20	40		X	X		Hillside
C-7	30.667255	-97.816043	SH	20	Ked	18	18	4	--	0	--		C,F,O	30	50		X	X		Hillside
C-8	30.670156	-97.815144	SC	20	Ked	1	1	1	--	0	--		C,F,O	30	50		X	X		Hillside
G-02	30.666026	-97.838744	CD	5	Ked	6	6	2.5	--	0	--		C,F,O	10	15	X		X		Hillside
SF-11	30.671298	-97.815299	SH/C	30	Ked	12	12	8.5	--	0	--		C,F,O	45	75		X		X	Hillside
SF-13	30.671193	-97.81813	SH	20	Ked	10	10	2.5	--	0	--		C,F,O	30	50		X	X		Hillside

* DATUM: State Plane Texas Central

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	Manmade 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



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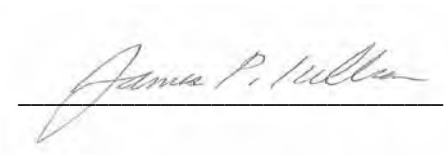

Sheet ___1___ of __6____

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

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: 2976-ac Santa Rita North, C7 Ranch, Middlebrook, Williamson Co., TX

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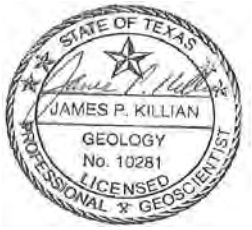
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
SF-14	30.67206	-97.820227	SH	20	Ked	6	6	1.5	--	0	--		C,F,O	30	50		X	X		Hillside
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	130	60	11	--	0	--		C,F,O	65	95		X		X	Hilltop
SF-17	30.671916	-97.821637	SH	20	Ked	20	20	3	--	0	--		C,F,O	28	48		X	X		Hillside
SF-18	30.691678	-97.820842	SC	20	Ked	1.5	1.5	1	--	0	--		C,F,O	10	30	X		X		Hillside
SF-19	30.680412	-97.822505	SC	20	Ked	15	12	3	--	0	--		C,F,O	35	55		X	X		Hillside
SF-20	30.676327	-97.827169	SH	20	Ked	15	15	5	--	0	--		C,F,O	35	55		X	X		Hillside
SR-1	30.671914	-97.812342	SH	20	Ked	6.5	5	1.5	--	0	--		C,F,O	25	45		X	X		Hillside
SR-2	30.67192	-97.812485	SH	20	Ked	6	6	1.5	--	0	--		C,F,O	35	55		X	X		Hillside
SR-3	30.675314	-97.819649	SH	20	Ked	6	6	1	--	0	--		C,F,O	25	45		X	X		Hillside
SR-4	30.673724	-97.814153	SC	20	Ked	0.5	0.5	1	--	0	--		C,F,O	25	45		X	X		Hillside

* DATUM: State Plane Texas Central

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	Manmade 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



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Sheet ___2___ of __6____

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

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1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
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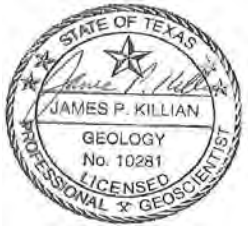
						X	Y	Z		10						<40	>40	<1.6	>1.6	
SR-5	30.673941	-97.815961	SC	20	Ked	1	1	1.5	--	0	--		C,F,O	30	50		X	X		Hillside
SR-6	30.673001	-97.815382	SC	20	Ked	0.5	0.5	1.5	--	0	--		C,F,O	30	50		X	X		Hillside
SR-7	30.674121	-97.816575	SH	20	Ked	5	5	1	--	0	--		C,F,O	22	42		X	X		Hillside
SR-8	30.672952	-97.815509	SC	20	Ked	0.5	0.5	1	--	0	--		C,F,O	25	45		X	X		Hillside
SR-9	30.672567	-97.81578	SH	20	Ked	6	4	1	--	0	--		C,F,O	30	50		X	X		Hillside
SR-10	30.673796	-97.816829	SH	20	Ked	18	15	3	--	0	--		C,F,O	35	55		X	X		Hillside
SR-11	30.674772	-97.818781	SC	20	Ked	2	1.5	2.5	--	0	--		C,F,O	40	60		X	X		Hillside
SR-12	30.672494	-97.820046	SH	20	Ked	10	7	2	--	0	--		C,F,O	30	50		X	X		Hillside
SR-13	30.675893	-97.826807	SH	20	Ked	20	10	2.5	--	0	--		C,F,O	28	48		X	X		Hillside
SR-14	30.678613	-97.824318	SH	20	Ked	6	4	2.5	--	0	--		C,F,O	25	45		X	X		Hilltop
SR-15	30.677735	-97.825099	SC	20	Ked	2.5	0.5	1.5	--	0	--		C,F,O	22	42		X	X		Hilltop

* DATUM: State Plane Texas Central

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	Manmade 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



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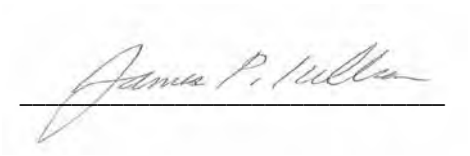

Sheet ___3___ of __6____

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

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: 2976-ac Santa Rita North, C7 Ranch, Middlebrook, Williamson Co., TX

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
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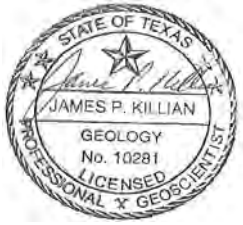
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
SR-16	30.681607	-97.820807	SC	20	Ked	1.3	0.8	4.5	--	0	--		C,F,O	35	55		X	X		Hilltop
SR-17	30.681526	-97.820942	SC	20	Ked	1.5	1	3.5	--	0	--		C,F,O	35	55		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	28	48		X	X		Hilltop
SR-20	30.685264	-97.837461	F	20	Kgru/Kw	5776	75	>100	--	0	--		C,F,O	15	35	X		X		Hilltop
G-01	30.667687	-97.828721	MB	30	Ked	184	180	6	--	0	--		F	5	35	X		X		Drainage
M-1	30.654518	-97.818719	MB	30	Ked	100	75	6	--	0	--		F	5	35	X		X		Drainage
M-2	30.660492	-97.830379	MB	30	Ked	200	100	6	--	0	--		F	5	35	X		X		Drainage
M-3	30.65993	-97.831945	MB	30	Ked	400	60	6	--	0	--		F	5	35	X		X		Drainage
M-4	30.657995	-97.833944	MB	30	Ked	0.3	0.3	--	--	0	--		X	5	35	X		X		Hillside
M-5	30.660606	-97.83676	MB	30	Ked	400	200	6	--	0	--		F	5	35	X		X		Drainage

* DATUM: State Plane Texas Central

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	Manmade 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



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Sheet ___4___ of __6____

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

GEOLOGIC ASSESSMENT TABLE — PROJECT NAME: 2976-ac Santa Rita North, C7 Ranch, Middlebrook, 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	
M-6	30.65973	-97.836782	MB	30	Ked	0.5	0.5	--	--	0	--		X	5	35	X		X		Hillside
M-7	30.659633	-97.836189	MB	30	Ked	0.5	0.5	--	--	0	--		X	5	35	X		X		Hillside
M-8	30.666906	-97.810477	MB	30	Ked	0.5	0.5	--	--	0	--		X	5	35	X		X		Hillside
M-9	30.666978	-97.810644	MB	30	Ked	0.7	0.7	--	--	0	--		X	5	35	X		X		Hillside
M-10	30.663087	-97.808239	MB	30	Ked	0.5	0.5	--	--	0	--		X	5	35	X		X		Hillside
M-11	30.667335	-97.816923	MB	30	Ked	50	50	3	--	0	--		F	5	35	X		X		Drainage
M-12	30.663011	-97.814184	MB	30	Ked	100	70	6	--	0	--		F	5	35	X		X		Drainage
M-13	30.6755	-97.818701	MB	30	Ked	0.5	0.5	--	--	0	--		X	5	35	X		X		Hilltop
M-14	30.675505	-97.818599	MB	30	Ked	0.5	0.5	--	--	0	--		X	5	35	X		X		Hilltop
M-15	30.675615	-97.824592	MB	30	Ked	350	200	6	--	0	--		C,F	5	35	X		X		Drainage
M-16	30.68035	-97.831044	MB	30	Kwkv	0.5	0.5	--	--	0	--		X	5	35	X		X		Hillside

* DATUM: State Plane Texas Central

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	Manmade 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
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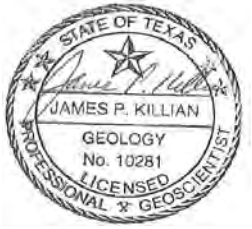

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TCEQ-0585-Table (Rev. 10-01-04)

GEOLOGIC ASSESSMENT TABLE

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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	
M-17	30.680562	-97.830596	MB	30	Kwkv	200	100	6	--	0	--		F	5	35	X		X		Hillside
M-18	30.681799	-97.831428	MB	30	Kwkv	50	50	6	--	0	--		F	5	35	X		X		Hillside
M-19	30.670528	-97.838242	MB	30	Ked	0.5	0.5	--	--	0	--		X	5	35	X		X		Hilltop
M-20	30.686109	-97.835242	MB	30	Kwcpbc	0.5	0.5	--	--	0	--		X	5	35	X		X		Hilltop
M-21	30.643785	-97.840569	MB	30	Qta/Ked	0.5	0.5	--	--	0	--		X	5	35	X		X		Hillside
M-22	30.645662	-97.842722	MB	30	Qta/Ked	0.5	0.5	--	--	0	--		X	5	35	X		X		Hilltop
M-23	30.645795	-97.844327	MB	30	Qta/Ked	0.5	0.5	--	--	0	--		X	5	35	X		X		Hilltop
M-24	30.658504	-97.844387	MB	30	Ked	390	160	6	--	0	--		F	5	35	X		X		Drainage

* DATUM: State Plane Texas Central

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	Manmade 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	
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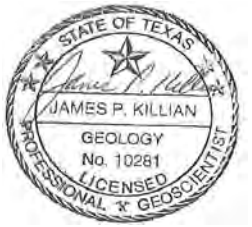

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Sheet ___6___ of __6____

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

Horizon
Environmental Services, Inc.

APPENDIX D

SITE PHOTOGRAPHS

PHOTO 1
View of geologic feature C-1 (sinkhole), facing down

PHOTO 2
View of geologic feature C-2 (sinkhole), facing east

PHOTO 3
View of geologic feature C-3 (2 solution cavities at upper left and lower right), facing southeast

PHOTO 4
View of geologic feature C-4 (solution cavity), facing northwest

Horizon
Environmental Services, Inc.

PHOTO 5
View of geologic feature C-5, facing south
(2 solution cavities by tree and white paper),

PHOTO 6
View of geologic feature C-6, facing northwest
(solution-enlarged fracture)

PHOTO 7
View of geologic feature C-7, facing northwest
(sinkhole under grape arbor)

PHOTO 8
View of geologic feature C-8, facing southeast
(solution cavity in front of brush)

Horizon
Environmental Services, Inc.

PHOTO 9
View of geologic feature SF-11 (sinkhole/cave), facing northeast

PHOTO 10
View of entrance drop of SF-11 (cave) with young vultures inside, facing down

PHOTO 11
View of geologic feature SF-13 (sinkhole), facing southeast

PHOTO 12
View of geologic feature SF-14 (sinkhole), facing north

Horizon
Environmental Services, Inc.

PHOTO 13
View along south side of geologic feature SF-15, facing north (large sinkhole with solution cavity/potential cave)

PHOTO 14
View looking down open solution cavity at SF-15

PHOTO 15
View along north side of SF-15, facing south

PHOTO 16
View along south side of SF-16, facing north (very large sinkhole/cave)

Horizon
Environmental Services, Inc.

PHOTO 17
View along north side of geologic feature SF-16, facing south

PHOTO 18
View open vertical shaft drop near center of SF-16, facing southwest

PHOTO 19
Another view of shaft drop/cave entrance near center of SF-16, facing down

PHOTO 20
View of geologic feature SF-17 (sinkhole), facing north

Horizon
Environmental Services, Inc.

PHOTO 21
View of geologic feature SF-18 (solution cavity), facing south

PHOTO 22
View of geologic feature SF-19 (sinkhole), facing north

PHOTO 23
View of geologic feature SF-20, facing southeast (2 closely spaced sinkholes)

PHOTO 24
View of geologic feature SR-1 (sinkhole), facing south

Horizon
Environmental Services, Inc.

PHOTO 25
View of geologic feature SR-2 (sinkhole), facing down

PHOTO 26
View of geologic feature SR-3, facing north (sinkhole between oak trees)

PHOTO 27
View of geologic feature SR-4 (solution cavity), facing north

PHOTO 28
View of geologic feature SR-5, facing north (2 solution cavities)

Horizon
Environmental Services, Inc.

PHOTO 29
View of geologic feature SR-6 (solution cavity), facing south

PHOTO 30
View of geologic feature SR-7 (sinkhole), facing southeast

PHOTO 31
View of geologic feature SR-8, facing east (2 closely spaced solution cavities)

PHOTO 32
View of geologic feature SR-9 (sinkhole), facing south

PHOTO 33
View of geologic feature SR-10 (large sinkhole), facing southwest

PHOTO 34
View of geologic feature SR-11 (solution cavity), facing northeast

PHOTO 35
View of geologic feature SR-12 (sinkhole), facing southeast

PHOTO 36
View of geologic feature SR-13 (large sinkhole), facing southwest

Horizon
Environmental Services, Inc.

PHOTO 37
View of geologic feature SR-14 (sinkhole), facing northeast

PHOTO 38
View of geologic feature SR-15 (solution cavity), facing west

PHOTO 39
View of geologic feature SR-16 (solution cavity), facing down

PHOTO 40
View of geologic feature SR-17 (solution cavity), facing south

Horizon
Environmental Services, Inc.

PHOTO 41

View of geologic feature SR-18 (solution cavity), facing south

PHOTO 42

View of geologic feature SR-19 (solution cavity), facing east

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(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.

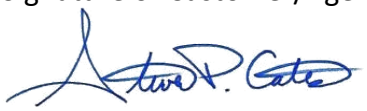
Signature

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 **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

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

Date: 2/19/2024

Signature of Customer/Agent:



Regulated Entity Name: Santa Rita Ranch Maintenance Barn

Regulated Entity Information

1. The type of project is:

   ☐ Residential: Number of Lots:_____
   ☐ Residential: Number of Living Unit Equivalents:_____
   ☐ Commercial
   ☐ Industrial
   ☒ Other:Maintenance Barn

2. Total site acreage (size of property):7.14

3. Estimated projected population:N/A

4. The amount and type of impervious cover expected after construction are shown below:

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	2,400	÷ 43,560 =	0.06
Parking	15,526	÷ 43,560 =	0.36
Other paved surfaces	23,086	÷ 43,560 =	0.53
Total Impervious Cover	41,012	÷ 43,560 =	0.95

Total Impervious Cover 0.95 **÷ Total Acreage** 7.14 **X 100 =** 13.31**% Impervious Cover**

5. ☒ **Attachment A - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.

6. ☐ Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

For Road Projects Only

Complete questions 7 - 12 if this application is exclusively for a road project.

7. Type of project:

   ☐ TXDOT road project.
   ☐ County road or roads built to county specifications.
   ☐ City thoroughfare or roads to be dedicated to a municipality.
   ☐ Street or road providing access to private driveways.

8. Type of pavement or road surface to be used:

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

9. Length of Right of Way (R.O.W.): _____ feet.

   Width of R.O.W.: _____ feet.
   L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.

10. Length of pavement area: _____ feet.

    Width of pavement area: _____ feet.
    L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.
    Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = _____% impervious cover.

11. ☐ A rest stop will be included in this project.

    ☐ A rest stop will not be included in this project.

12. ☐ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

Stormwater to be generated by the Proposed Project

13. ☒ **Attachment B - Volume and Character of Stormwater**. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on the area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Wastewater to be generated by the Proposed Project

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

_____% Domestic	_____Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day
TOTAL gallons/day _____	

15. Wastewater will be disposed of by:

☐ On-Site Sewage Facility (OSSF/Septic Tank):

- ☐ **Attachment C - Suitability Letter from Authorized Agent**. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.
- ☐ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

☒ Sewage Collection System (Sewer Lines):

- ☒ Private service laterals from the wastewater generating facilities will be connected to an existing SCS.
- ☐ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.

- ☒ The SCS was previously submitted on 11/02/2021.
- ☐ The SCS was submitted with this application.
- ☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

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

☒ Existing.
☐ Proposed.

16. ☒ All private service laterals will be inspected as required in 30 TAC §213.5.

Site Plan Requirements

Items 17 – 28 must be included on the Site Plan.

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

Site Plan Scale: 1" = 50'.

18. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☒ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA- FIRM Panel #48491C0275E Williamson County, Texas and incorporated areas: Effective Date: September 26, 2008

19. ☒ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, open space, etc. are shown on the plan.

☐ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, open space, etc. are shown on the site plan.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):

☐ 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 §76.

☒ There are no wells or test holes of any kind known to exist on the project site.

21. Geologic or manmade features which are on the site:

☐ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
☒ No sensitive geologic or manmade features were identified in the Geologic Assessment.

☐ **Attachment D - Exception to the Required Geologic Assessment**. A request and justification for an exception to a portion of the Geologic Assessment is attached.

22. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.
23. ☒ Areas of soil disturbance and areas which will not be disturbed.
24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
25. ☒ Locations where soil stabilization practices are expected to occur.
26. ☒ Surface waters (including wetlands).

    ☐ N/A

27. ☒ Locations where stormwater discharges to surface water or sensitive features are to occur.

    ☐ There will be no discharges to surface water or sensitive features.

28. ☒ Legal boundaries of the site are shown.

Administrative Information

29. ☒ 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.
30. ☒ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

Water Pollution Abatement Plan Application

ATTACHMENT A

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

Factors Affecting Water Quality:

During Construction

Non-Stormwater Discharges: The Following non-stormwater discharges may occur from the site during the construction period:

- Utility water line flushing during the initial line testing must use uncontaminated water that is not hyperchlorinated.
- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred)
- Groundwater (from dewatering of excavation) must be uncontaminated.
- Water used to wash vehicles or control dust must be accomplished using potable water without detergents.

All non-stormwater discharge will be directed to the temporary Erosion and Sedimentation Controls (Best Management Practices) to remove any suspended solids contained therein.
Stormwater during construction will remove loose material and transport it downstream.

Post Construction

Non-stormwater discharges after construction has been completed which can affect water quality include:

- Fertilizers and pesticides
- Household chemicals
- Pet Waste
- Used oil
- Car washing
- Mulching
- Sediment

Post Construction stormwater discharges typically transport sediment in the form of dirt and dust accumulated on the streets and other impervious flatwork, rooftops, and sediment from erosion of grassy areas. That material will be transported through the storm sewer system to the wet basins, where most of the pollutants will be removed.

Water Pollution Abatement Plan Application

ATTACHMENT B

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

Volume and Character of Stormwater:

Existing and developed hydrology models were created in HEC-HMS, v.4.8. A 24-hour frequency storm was applied to the meteorological models for the 2, 10, 25, and 100-year storm events. The model was run over a 24-hour period with a computational time interval of 1 minute. Subbasins utilized an SCS Curve Number Loss Method and SCS Unit Hydrograph Transform Method. Reaches utilized either a Muskingum-Cunge or Lag Routing Method. See below for specific model input data.

Meteorological Model

Frequency storms with the following parameters were used to model storm events:

HEC-HMS Meteorological Model Parameters

Probability	2-yr = 50%, 10-yr = 10%, 25-100-yr = Other
Input Type	Partial Duration
Output Type	Annual Duration (only applicable for 2-10-yr)
Intensity Duration	5 Minutes
Storm Duration	1 Day
Intensity Position	50%
Storm Area	(Blank if less than 10 mi²)
Curve	Uniform for all subbasins

Partial-duration precipitation depths are per the Depth-Duration-Frequency Estimates for the San Gabriel River Zone in Williamson County, Texas, according to NOAA Atlas 14, Volume 11, Version 2. See the table below:

Precipitation Depths (in) per Recurrence Interval

Duration	2-YR	10-YR	25-YR	100-YR
5-min	0.51	0.757	0.921	1.19
15-min	1.02	1.51	1.84	2.37
60-min	1.88	2.79	3.4	4.39
2-hr	2.3	3.55	4.43	5.98
3-hr	2.55	4.02	5.09	7.06
6-hr	2.98	4.81	6.18	8.75
12-hr	3.44	5.54	7.12	10.1
24-hr	3.94	6.3	8.04	11.2

Land Use & Curve Numbers

In existing conditions, the soils are primarily hydrologic soil group D, as per the USDA Web Soil Survey. The soils map and data have been included in Appendix B. The curve numbers were selected from Urban

Hydrology for Small Watersheds[1] based on hydrologic soil groups and aerial maps. See table below. Curve numbers were assessed independently from impervious cover.

Runoff Curve Numbers

Cover Type	Hydrologic Condition	Hydrologic Soil Group	Curve Number
Pasture	Good	D	80
Woods-grass combination	Good	D	79
Meadow	Good	D	78

Existing impervious cover was determined from aerial imagery. Proposed impervious cover was estimated from the proposed and anticipated future layout using TCEQ assumptions for residential tracts. Impervious cover was calculated as a percent of the total drainage basin. Curve number and impervious cover percents were loss inputs for subbasins in the model.

Time of Concentration

All time of concentration calculations were generated using SCS methodology provided in Urban Hydrology for Small Watersheds[2] for sheet, shallow concentrated, and channel flow. A maximum of 100 feet was used for sheet flow calculations. Lag times were calculated as 60 percent of the time of concentration. Lag times were transform inputs for subbasins and reaches in the model. Times of concentration for future developed drainage areas were approximated based on assumed basin size.

Reaches

Reaches representing the Middle Fork San Gabriel River were modeled using the Muskingum-Cunge routing method with 8-point cross-sections. In developed conditions, reaches contributing to the Middle Fork were modeled with the Lag method.

Reservoirs

All reservoirs were modeled using outflow structures with an elevation-storage method. Initial conditions were elevations set to the bottom of pond elevation for batch detention facilities. The model assumed no tailwater condition. Future batch detention ponds were modeled with a generic stage-storage and outflow spillways assigned to the assumed water quality volume elevation.

[1] Natural Resources Conservation Service, Conservation Engineering Division. 1986. Urban Hydrology for Small Watersheds. Technical Release 55. U.S. Department of Agriculture. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044171.pdf
[2] Ibid.

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

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

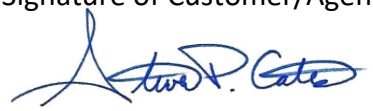
Signature

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: 2/19/2024

Signature of Customer/Agent:



Regulated Entity Name: Santa Rita Ranch Maintenance Barn

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: Middle 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 APPLICATION

Santa Rita Ranch Maintenance Barn

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 APPLICATION

Santa Rita Ranch Maintenance Barn

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 APPLICATION

Santa Rita Ranch Maintenance Barn

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. Rough grade roadway.
   (Estimate of disturbed area = 0.0 ac)

5. Begin installation of storm sewer. Upon completion, restore as much disturbed areas as possible, particularly channels and large open areas.

6. Regrade streets to subgrade (Estimate of disturbed area = 0.0 ac)

7. Ensure that all underground utility crossings are completed. Lay first course base material on all streets. (0.086 ac)

8. Install curb and gutter. (Estimate of disturbed area = 0.01 ac)

9. Place concrete for common area 4’ sidewalk. (Estimate of disturbed area = 0.02 ac)

10. Lay final base course on all streets. (0.0 ac)

11. Lot grading. (Estimate of disturbed area = 0 ac)

12. Lay asphalt. (0.29 ac)

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

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

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

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

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

18. 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 APPLICATION

Santa Rita Ranch Maintenance Barn

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 and rock berms will be placed along down gradient areas of the site to prevent any sediment from entering storm sewers or surface streams. No geological features are located on this site.

The upgradient water from the north will be captured by silt fence, temporary diversion berms, and interceptor swales and guided into the temporary and existing stormwater system. Onsite waters will also be directed by silt fence, temporary diversion berms, and interceptor swales and guided into the temporary and existing stormwater system. Flow released from the site is designed to return to its natural state and characteristics.

Temporary Stormwater Section
ATTACHMENT F

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

Structural Practices:

Construction shall be phased so that there are no areas 10 acres or greater being disturbed at one time, therefore no temporary practices will be used.

Temporary Stormwater Section
ATTACHMENT G

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

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 I

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

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 APPLICATION

Santa Rita Ranch Maintenance Barn

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 Chisholm Trail Subdivision 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):

<table>
<tr><td colspan="4">Planting Mixture</td></tr>
<tr><td rowspan="2">Hulled Bermuda Seed (PLS=0.83)</td><td colspan="2">Fiber Mulch</td><td rowspan="2">Soil Tackifier</td></tr>
<tr><td>Cellulose</td><td>Wood</td></tr>
<tr><td rowspan="4">1 lbs/1000 ft2
(0.5 kgs/100 m2)</td><td rowspan="2">45.9 Lbs/1000 ft2
(22.5 kgs/100m2)</td><td></td><td rowspan="2">1.4 lbs/1000 ft2
(0.7 kgs/100 m2)</td></tr>
<tr><td></td></tr>
<tr><td></td><td rowspan="2">57.4 lbs/1000 ft2
(28.01 kgs/100 m2)</td><td rowspan="2">1.5 lbs/1000 ft2
(0.75 kgs/100 m2)</td></tr>
<tr><td></td></tr>
</table>

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>
<tr><td colspan="4">Table 1 : Cool Season Cover Crop</td></tr>
<tr><td rowspan="2">Common Name</td><td rowspan="2">Botanical Name</td><td colspan="2">Application rates</td></tr>
<tr><td>Lbs/1000 feet^2</td><td>Kg/ 100 meter^2</td></tr>
<tr><td>Wheat</td><td>Triticum aestivum</td><td>0.5</td><td>0.25</td></tr>
<tr><td>Oats</td><td>Avena sativa</td><td>0.5</td><td>0.25</td></tr>
<tr><td>Cereal Rye Grain</td><td>Secale cereal</td><td>0.5</td><td>0.25</td></tr>
<tr><td>Total Cool Season Cover Crop Seeding Rate</td><td></td><td>1.5</td><td>0.75</td></tr>
<tr><td>Total Cool Season Seeding Rate (Grass Wildflowers, & Cover Crop)</td><td></td><td>4.5</td><td>2.25</td></tr>
</table>

Permanent 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)(C), (D)(Ii), (E), and (5), 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 **Permanent 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: 2/19/2024

Signature of Customer/Agent

Regulated Entity Name: Santa Rita Ranch Maintenance Barn

Permanent Best Management Practices (BMPs)

Permanent best management practices and measures that will be used during and after construction is completed.

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

   ☐ N/A

2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

   ☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

☐ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: _____

☐ N/A

3. ☒ Owners must insure that permanent BMPs and measures are constructed and function as designed. 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 appropriate regional office within 30 days of site completion.

   ☐ N/A

4. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

   ☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
   ☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.
   ☒ The site will not be used for low density single-family residential development.

5. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

   ☐ **Attachment A - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
   ☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
   ☒ The site will not be used for multi-family residential developments, schools, or small business sites.

6. ☒ **Attachment B - BMPs for Upgradient Stormwater**.

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

☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

7. ☒ **Attachment C - BMPs for On-site Stormwater**.

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

☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

8. ☒ **Attachment D - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

☐ N/A

9. ☒ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.

☐ **Attachment E - Request to Seal Features**. A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. ☒ **Attachment F - Construction Plans**. All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

☒ Design calculations (TSS removal calculations)

☒ TCEQ construction notes

☒ All geologic features

☒ All proposed structural BMP(s) plans and specifications

☐ N/A

11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan**. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

    ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☒ Signed by the owner or responsible party
    ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    ☐ A discussion of record keeping procedures

    ☐ N/A

12. ☐ **Attachment H - Pilot-Scale Field Testing Plan**. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

    ☒ N/A

13. ☒ **Attachment I -Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

Responsibility for maintenance of best management practices and measures after construction is complete.

14. ☒ The applicant is 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.

    ☐ N/A

15. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

    ☐ N/A

Permanent Stormwater Section
ATTACHMENT B

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

Best Management Practices for Upgradient Stormwater:

Upgradient stormwater flows will either be intercepted by a proposed diversion channel and conveyed through the proposed storm sewer system to the existing Wet Basins, Pond 8, or diverted around the site by a temporary diversion berm and allowed to return to their current condition.

Permanent Stormwater Section
ATTACHMENT C

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

Best Management Practices for On-site Stormwater:

Stormwater runoff from the Maintenance Barn will sheet flow across roofs, parking lots and lawns to be captured in gutters and channels and conveyed into existing Wet Pond 8. The existing water quality Wet Pond 8 shall provide TSS removal for the proposed section. Existing Wet Basin, Pond 8 (approved under EAPP #11000770), currently provides TSS removal for built Phase 1 Section 8, 9, 1A and 1E and currently being constructed Phase 1 Section 7. The water quality volume provided in pond 8 is sufficient to accommodate TSS removal for Santa Rita Ranch Maintenance Barn.

TCEQ project and drainage area maps are provided in the included construction plans. TCEQ TSS removal calculations are provided in Appendix A of this application. TCEQ WPAP approval letters are provided in Appendix B.

Permanent Stormwater Section
ATTACHMENT D

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

Best Management Practices for Surface Stream Stormwater:

Stormwater runoff from Maintenance Barn will sheet flow across the roof of the barn, across the parking lot and lawn into existing Wet Pond 8 (approved under EAPP # 11000770). The existing wet basin discharges through rip-rap and rock berms which deter heavy floods from entering streams and aid in collection sediment.

There are no geologic features located onsite. There are no sensitive features located on site per the Geologic Assessment.

Permanent Stormwater Section
ATTACHMENT F

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

Construction Plans:

Construction Plans for the erosion and sedimentation control measures proposed with this development are included at the end of this report.

Permanent Stormwater Section
ATTACHMENT G

TCEQ WPAP & SCS APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

Inspection, Maintenance, Repair and Retrofit Plan:

Maintenance Guidelines for Batch Detention Basins

Batch detention basins may have somewhat higher maintenance requirements than an extended detention basin since they are active stormwater controls. The maintenance activities are identical to those of extended detention basins with the addition of maintenance and inspections of the automatic controller and the valve at the outlet.

- ***Inspections***. Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.

- ***Mowing.*** The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

- ***Litter and Debris Removal***. Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.

- ***Erosion control.*** The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.

- ***Nuisance Control.*** Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

- ***Structural Repairs and Replacement.*** With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

- ***Sediment Removal***. A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

- ***Logic Controller.*** The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

Ultimately, these facilities will be owned, operated and maintained by the proposed Williamson County MUD No. 19F. Until the ownership of facilities is transferred to the MUD, Santa Rita KC, LLC. will be responsible for maintenance of these facilities in accordance with the above stated requirements.

Acknowledged by: _____

James Edward Horne
Santa Rita KC, LLC.

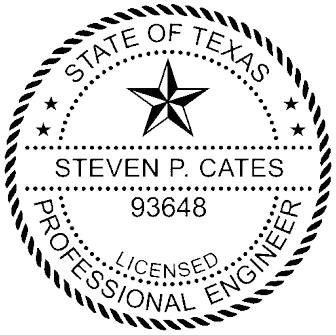
BMP DESIGN FIRM INFORMATION

Carlson, Brigance & Doering, Inc.
Mr. Steven P. Cates, P.E.
Phone: (512) 280-5160
5501 West William Cannon
Austin, TX 78749

The above Inspection, Maintenance, Repair, and Retrofit Plan has been prepared by the undersigned Engineer, and I hereby certify that the above Plan conforms with the minimum requirements of the TCEQ Technical Guidance on Best Management Practices, RG-348.

_____
Steven P. Cates, P.E.

2-19-2024
Date



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

Permanent Stormwater Section

ATTACHMENT I

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

Measures for Minimizing Surface Stream Contamination:

The development minimizes surface stream contamination by maintaining the naturally occurring sheet flow across the lots. Drainage from this development will be directed towards the existing wet basin which will reduce the developed flow rated to predeveloped flow rates. There are no surface streams within this site.

Appendix A

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

BMP TSS Removal Worksheet

Sites

Wet Basin Pond 8

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SANTA RITA RANCH PHASE 1 Pond 8 Sites
Date Prepared: 1/10/2024

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 1 MAINTENANCE BARN

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* =	0.95	acres
Total post-development impervious cover fraction * =	0.23	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	827	lbs.

EXISTING BATCH DETENTION POND #5155

SANTA RITA RANCH MAINTENANCE BARN

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* =	0.95	acres
Total post-development impervious cover fraction * =	0.23	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	827	lbs.

SANTA RITA RANCH PHASE 1A

Total project area included in plan * =	0.32	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	0.30	acres
Total post-development impervious cover fraction * =	0.94	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	261	lbs.

SANTA RITA RANCH PHASE 1E

Total project area included in plan * =	0.82	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	0.34	acres
Total post-development impervious cover fraction * =	0.41	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	296	lbs.

SANTA RITA RANCH PHASE 1 SECTION 7 (EXISTING)

Total project area included in plan * =	5.40	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	2.72	acres
Total post-development impervious cover fraction * =	0.50	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	2367	lbs.

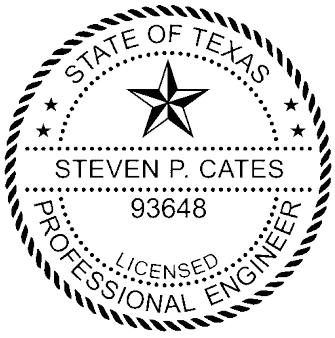
SANTA RITA RANCH PHASE 1 SECTION 8

Total project area included in plan * =	10.88	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	7.79	acres
Total post-development impervious cover fraction * =	0.72	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	6780	lbs.

SANTA RITA RANCH PHASE 1 SECTION 9

Total project area included in plan * =	0.30	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	0.16	acres
Total post-development impervious cover fraction * =	0.53	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	139	lbs.

$L_{M\ TOTAL}$ = **10671** lbs.



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

2-19-2024

Appendix A

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

BMP TSS Removal Worksheet

Maintenance Barn

Wet Basin Pond 8

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: SANTA RITA RANCH MAINTENANCE BARN
Date Prepared: 1/10/2024

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 * =	7.14	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	0.95	acres
Total post-development impervious cover fraction * =	0.13	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	827	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

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 =	0.95	acres
Post-development impervious fraction within drainage basin/outfall area =	0.23	
$L_{M\ THIS\ BASIN}$ =	827	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Wet Basin
Removal efficiency = 93 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

A_C =	4.08	acres
A_I =	0.95	acres
A_P =	3.13	acres
L_R =	1029	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 827 lbs.

F = 0.80

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 =	1.08	inches
Post Development Runoff Coefficient =	0.22	
On-site Water Quality Volume =	3540	cubic feet

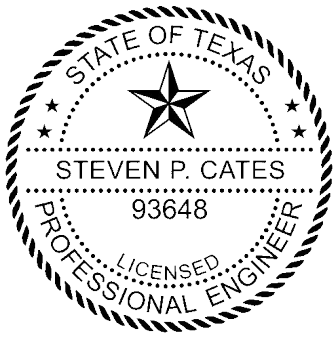
Calculations from RG-348 Pages 3-36 to 3-37

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 =	708	
Total Capture Volume (required water quality volume(s) x 1.20) =	4248	cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	4248	cubic feet
Required capacity at WQV Elevation =	7788	cubic feet

Permanent Pool Capacity is 1.20 times the WQV
Total Capacity should be the Permanent Pool Capacity plus a second WQV.



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

2-19-2024

Appendix A

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

BMP TSS Removal Worksheet

Phase 1 Section 7

Wet Basin Pond 8

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Santa Rita Ranch, Phase 1 Section 7
Date Prepared: 1/10/2024

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.
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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 * =	7.35	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	3.31	acres
Total post-development impervious cover fraction * =	0.45	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	2881	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	5.40	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	2.72	acres
Post-development impervious fraction within drainage basin/outfall area =	0.50	
$L_{M\ THIS\ BASIN}$ =	2367	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Wet Basin
Removal efficiency = 93 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

A_C =	5.40	acres
A_I =	2.72	acres
A_P =	2.68	acres
L_R =	2844	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 2881 lbs.

F = 1.01

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 =	4.00	inches
Post Development Runoff Coefficient =	0.36	
On-site Water Quality Volume =	28191	cubic feet

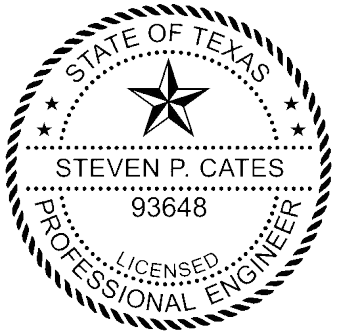
Calculations from RG-348 Pages 3-36 to 3-37

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 =	5638	
Total Capture Volume (required water quality volume(s) x 1.20) =	33829	cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	33829	cubic feet
Required capacity at WQV Elevation =	62021	cubic feet

Permanent Pool Capacity is 1.20 times the WQV
Total Capacity should be the Permanent Pool Capacity plus a second WQV.



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

2-19-2024

Appendix A

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

BMP TSS Removal Worksheet

Phase 1 Section 8

Wet Basin Pond 8

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Santa Rita Ranch, Phase 1 Section 8
Date Prepared: 1/10/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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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 * =	16.70	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	8.09	acres
Total post-development impervious cover fraction * =	0.48	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	7042	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	10.88	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	7.79	acres
Post-development impervious fraction within drainage basin/outfall area =	0.72	
$L_{M\ THIS\ BASIN}$ =	6780	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Wet Basin
Removal efficiency = 93 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

A_C =	10.88	acres
A_I =	7.79	acres
A_P =	3.09	acres
L_R =	8071	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 7042 lbs.

F = 0.87

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 =	1.44	inches
Post Development Runoff Coefficient =	0.52	
On-site Water Quality Volume =	29692	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 =	5938	
Total Capture Volume (required water quality volume(s) x 1.20) =	35630	cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	35630	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	65322	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

2-19-2024

Appendix A

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

BMP TSS Removal Worksheet

Wet Basin Pond 8

(Overall)

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Santa Rita Ranch, Pond 8
Date Prepared: 1/10/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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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 * =	32.63	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	13.15	acres
Total post-development impervious cover fraction * =	0.40	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	11446	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	21.80	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	12.26	acres
Post-development impervious fraction within drainage basin/outfall area =	0.56	
$L_{M\ THIS\ BASIN}$ =	10671	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Wet Basin
Removal efficiency = 93 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

A_C =	21.80	acres
A_I =	12.26	acres
A_P =	9.54	acres
L_R =	12777	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 11446 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 =	0.39	
On-site Water Quality Volume =	53085	cubic feet

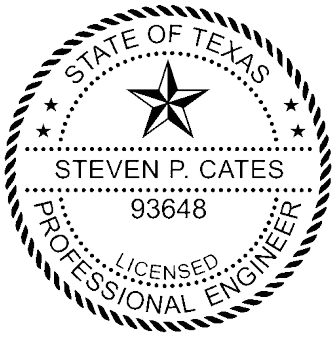
Calculations from RG-348 Pages 3-36 to 3-37

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 =	10617	
Total Capture Volume (required water quality volume(s) x 1.20) =	63702	cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	63702	cubic feet
Required capacity at WQV Elevation =	116787	cubic feet

Permanent Pool Capacity is 1.20 times the WQV
Total Capacity should be the Permanent Pool Capacity plus a second WQV.



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

2-19-2024

Appendix B

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

WPAP Approval Letters

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 19, 2023

Mr. James Edward Horne
Santa Rita KC, 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 7B Section 1; Located Northwest of Cross Creek Ln. and Cross Creek Rd.; Liberty Hill (ETJ), Williamson County, Texas
Edwards Aquifer Protection Program IDs: 11003563 (WPAP) and 11003564 (SCS);
Regulated Entity No. 111722625

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, Santa Rita KC, LLC, on April 20, 2023. Final review of the applications was completed after additional material was received on July 13 and July 17, 2023.

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 7A WPAP, approved by letter dated March 10, 2023 (EAPP ID No. 11003393), included the development of 177 single-family residential lots, roads and drives, utilities, and a batch detention basin (Pond 7-1). Batch detention basin Pond 7-1 was sized for future development, with a provided water quality volume of 296,649 cubic feet.

PROJECT DESCRIPTION

WPAP DESCRIPTION

The proposed residential project will have an area of approximately 22.55 acres. The project will include the development of 43 single-family residential lots, roads and drives, utilities, and a new batch detention basin (Pond 7-2). The impervious cover will be 8.07 acres (35.8 percent).

SCS DESCRIPTION

The proposed 3,699 linear feet SCS will provide disposal service for the residential development. The system includes gravity lines and other appurtenance necessary for conveying wastewater to a treatment plant. A segment of a force main pipe to serve future phases of development is also included in the application.

The proposed SCS will consist of 520 linear feet of 6-inch diameter and 2,591 linear feet of 8-inch diameter SDR 26 PVC ASTM D3034 pipe, and of 80 linear feet of 8-inch diameter AWWA C900 PVC pipe with associated manholes and stub-outs to serve Phase 7B Section 1, as well as approximately 508 linear feet of 6-inch diameter AWWA C900 DR-18 PVC pipe force main to serve future developments.

TREATMENT FACILITY

The system will be connected to an existing City of Liberty wastewater line for conveyance to the existing Liberty Hill Wastewater Treatment Plant for treatment and disposal, via the existing Santa Rita Ranch Phase 1 and Phase 4 Lift Stations. **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, a previously approved batch detention basin (Pond 7-1, EAPP ID No. 11003393), and a new batch detention basin (Pond 7-2)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 7,024 pounds of TSS generated from the 8.07 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 proposed water quality basin Pond 7-2 is sized for future development and is designed to treat stormwater runoff from 33.45 acres of impervious cover and will have a provided water quality volume of 159,752 cubic feet.

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 Geologic Assessment (GA) included with the application, the surficial units of the site are the Edwards Limestone (Ked) in the Edwards Aquifer Recharge Zone. One sensitive geologic feature, C-7 sinkhole, was identified in the GA. A natural buffer setback is proposed for the sensitive feature and is 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 site assessment conducted on June 6, 2023, by TCEQ staff, determined 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 of the Edwards Aquifer Protection Program at 512-239-6175 or the regional office at 512-339-2929.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/mec

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

Appendix C

TCEQ WPAP APPLICATION

Santa Rita Ranch Maintenance Barn

Williamson County, Texas

Water Quality Calculation

Spreadsheet

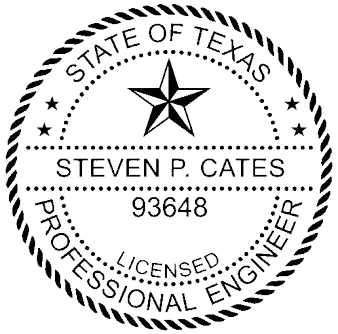
SANTA RITA RANCH MAINTENANCE BARN

Table 1 - Impervious Cover per Section

Sections	TCEQ Project Area Per Section						Onsite Drainage Basin to BMP Per Section						TSS Removal Required (lbs)
Contributing Sections	Project Area (ac)	# Lots	Impervious Areas (ac)				Drainage Basin (ac)	# Lots	Impervious Areas (ac)				
			Lots	ROW	Misc.	Total			Lots	ROW	Misc.	Total	
WET POND 8 - EAPP # 11000770													
1A	0.32	3	0.30	0.00	0.00	0.30	0.32	3	0.30	0.00	0.00	0.30	261
1E	0.82	3	0.34	0.00	0.00	0.34	0.82	3	0.34	0.00	0.00	0.34	296
Maintenance Barn 7.1	7.14	0	0.00	0.53	0.42	0.95	4.08	0	0.00	0.53	0.42	0.95	827
7	7.35	18	1.42	1.89	0.00	3.31	5.40	15	1.36	1.36	0.00	2.72	2,367
8	16.70	67	5.77	2.32	0.00	8.09	10.88	67	5.48	2.32	0.00	7.79	6,780
9	0.30	2	0.16	0.00	0.00	0.16	0.30	2	0.16	0.00	0.00	0.16	139

Table 2 - BMP Treatment Requirements

Project Area			Drainage Basin						BMP Treatment Provided			
			Onsite		Offsite		Total		Permanent Pool (cf)		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	Required	Provided
WET POND 8 - EAPP # 11000770												
32.63	13.15	11,446	21.80	12.26	0.00	0.00	21.80	12.26	63,702	118,650	116,787	196,902



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

2-19-2024

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 Santa Rita KC, 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:

Applicant's Signature

2-13-2024
Date

THE STATE OF TEXAS §

County of TRAVIS §

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, 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 13th day of FEBRUARY, 2024

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 Maintenance Barn
Regulated Entity Location: North of Highway 29, just east of Ronald Reagan Blvd.
Name of Customer: Santa Rita KC, LLC.
Contact Person: James Edward Horne Phone: 512-280-5160
Customer Reference Number (if issued):CN 604360008
Regulated Entity Reference Number (if issued):RN _____

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	7.14 Acres	$ 5,000.00
Sewage Collection System	L.F.	$
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: 2/19/2024

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 604360008		RN

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:*

Santa Rita KC, 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 Maintenance Barn

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:	North of Highway 29, just east of Ronald Reagan Blvd.

26. Nearest City	**State**	**Nearest ZIP Code**

27. Latitude (N) In Decimal:	30.669508		**28. Longitude (W) In Decimal:**	-97.837917	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	40	10.23	97	50	16.50

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
		11002962 (WPAP)		
☐ 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:**	2/19/2024

SANTA RITA RANCH
MAINTENANCE BARN
(200 AUGUSTINE WAY)
GRADING, DRAINAGE, AND UTILITIES

WILLIAMSON COUNTY, TEXAS
CONSTRUCTION PLANS

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

THESE WATER SYSTEM 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 CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.

SUBMITTED BY:

1-8-2024

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

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

WILLIAMSON COUNTY CERTIFICATE OF COMPLIANCE PERMIT NUMBER *DATE*

WILLIAMSON COUNTY DRIVEWAY PERMIT NUMBER *DATE*

1/8/2024

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

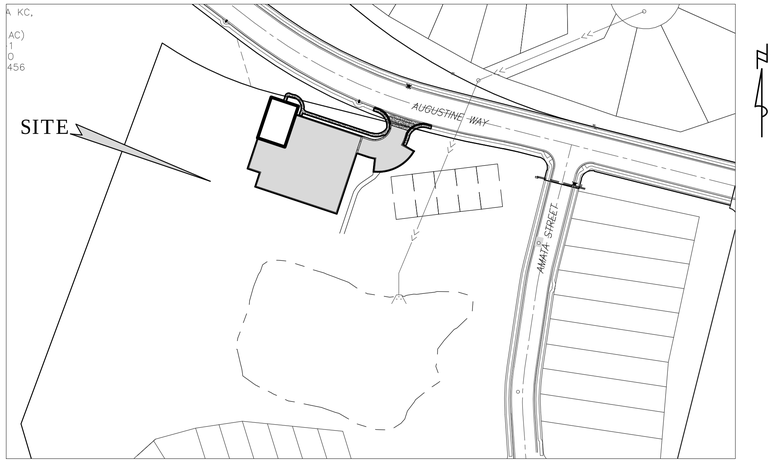
ACCEPTED FOR CONSTRUCTION:

CITY OF GEORGETOWN (WATER SYSTEM ONLY) *DATE*

DAVID THOMISON, PUBLIC WORKS DIRECTOR (WASTEWATER SYSTEM PLAN) *DATE*

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

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.



LOCATION MAP
SCALE: 1" = 100'

OWNER:

SANTA RITA KC, LLC
1700 CROSS CREEK LANE, 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

200 AUGUSTINE WAY
LIBERTY HILL, TX, 78642
TOTAL ACREAGE: 7.137 ac.
SANTA RITA RANCH PHASE 1 SECTION 7, LOT 34, BLOCK A

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

THE CONTRACTOR SHALL OBTAIN A "NOTICE OF PROPOSED INSTALLATION OF UTILITY LINE" PERMIT FROM WILLIAMSON COUNTY FOR ANY WORK PERFORMED IN THE EXISTING COUNTY RIGHT-OF-WAY (DRIVEWAY APRON, WATER MAIN TIE-IN, ETC.) THIS PERMIT APPLICATION WILL REQUIRE A LIABILITY AGREEMENT, A CONSTRUCTION COST ESTIMATE FOR WORK WITHIN THE RIGHT-OF-WAY INCLUDING PAVEMENT REPAIR (IF NEEDED), A PERFORMANCE BOND, CONSTRUCTION PLANS AND, IF NECESSARY, A TRAFFIC CONTROL PLAN. AN INSPECTION FEE, AND A PRE-CONSTRUCTION MEETING MAY ALSO BE REQUIRED, DEPENDING ON THE SCOPE OF WORK. THE PERMIT WILL BE REVIEWED AND APPROVED BY THE COUNTY ENGINEER, AND MUST ALSO BE APPROVED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT IF ANY ROAD CLOSURE IS INVOLVED.

Sheet List Table

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

DESIGNED BY: SPC | DRAFTED BY: JDS

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: COVER
JOB NAME: SANTA RITA RANCH MAINTENANCE BARN
PROJECT: GRADING, DRAINAGE, AND UTILITIES

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F-3791
1-8-2024

DATE: JANUARY 2024
JOB NUMBER: 5605
SHEET: 1 OF 17
SHEET NO.: 1

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CONSTRUCTION SEQUENCING

1. GENERAL CONTRACTOR TO INSTALL AND MAINTAIN EROSION CONTROLS PER APPROVED PLANS.
2. INSTALL ALL UTILITIES TO BE LOCATED UNDER THE PROPOSED PAVEMENT.
3. BEGIN INSTALLATION OF DRAINAGE CHANNELS. UPON COMPLETION, RESTORE AS MUCH DISTURBED AREA AS MUCH AS POSSIBLE.
4. INSURE THAT ALL UNDERGROUND UTILITY CROSSINGS ARE COMPLETED. LAY FIRST COURSE BASE MATERIAL ON ALL PARKING LOTS.
5. INSTALL CURB AND GUTTER.
6. LAY FINAL BASE COURSE ON ALL PARKING LOTS.
7. LAY ASPHALT.
8. COMPLETE PERMANENT EROSION CONTROL AND RESTORATION OF SITE VEGETATION.
9. 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.
10. COMPLETE ANY NECESSARY FINAL DRESS UP OF DISTURBED AREAS.

PARKING LOT AND DRAINAGE NOTES:

1. PARKING LOT 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. 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 . 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	8	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 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 ETTL ENGINEERS & CONSULTANTS

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.

6. 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.
7. CONTRACTOR IS TO AVOID INSTALLATION OF IRRIGATION, PLANTINGS, SILT FENCE, ETC. IN THE SUBGRADE IMPROVEMENT EXTENDED BEHIND THE CURB.

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. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
7. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
8. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH WILLIAMSON COUNTY, CITY OF LIBERTY HILL (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 HIS 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.
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. REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION.
8. THE LIBERTY HILL CITY COUNCIL SHALL NOT BE PETITIONED FOR ACCEPTANCE UNTIL ALL NECESSARY EASEMENT DOCUMENTS HAVE BEEN SIGNED AND RECORDED.
9. 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 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 COUNTY ENGINEER.
10. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.
11. AVAILABLE BENCHMARKS THAT MAY BE UTILIZED FOR THE CONSTRUCTION OF THIS PROJECT ARE DESCRIBED AS FOLLOWS:

BENCHMARKS:

MAG. NAIL SET W/ SHINER ON THE EASTERN SIDE OF THE RONALD REAGAN BLVD. BRIDGE.
N: 10215464.0782'
E: 3080367.3270'
ELEV.: 1016.355'

MAG. NAIL W/ SHINER AT TRANSFORMER PAD POSTED 80009 5' FROM PROPERTY CORNER
N: 10215224.3342'
E: 3081479.7530'
ELEV.: 1038.385'

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.

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)

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 1 OF 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 TYPE 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: JDS
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
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Phone No. (512) 280-5160
Fax No. (512) 280-5165

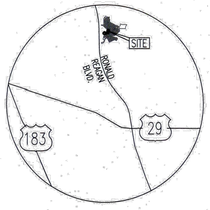
SHEET NAME: GENERAL NOTES
JOB NAME: SANTA RITA RANCH MAINTENANCE BARN
PROJECT: GRADING, DRAINAGE, AND UTILITIES

STEVEN P. CATES
93648
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
1-8-2024

DATE: JANUARY 2024
JOB NUMBER: 5605
SHEET 2 OF 17
SHEET NO. 2

SANTA RITA RANCH PHASE 1, SECTION 7

FINAL PLAT



LEGEND

- BENCHMARK
- CAPPED 1/2" IRON ROD SET
- CAPPED 1/2" IRON ROD FOUND
- 1 LOT NUMBER
- (A) BLOCK DESIGNATION
- B.S.L. BUILDING SETBACK LINE
- P.U.E. PUBLIC UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- W.Q.E. WATER QUALITY EASEMENT
- L.S.E. LANDSCAPE EASEMENT
- MIN FFE XXX.X MINIMUM FINISHED FLOOR ELEVATION

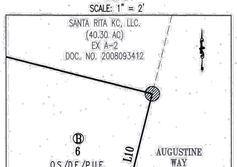
SCALE: 1" = 100'

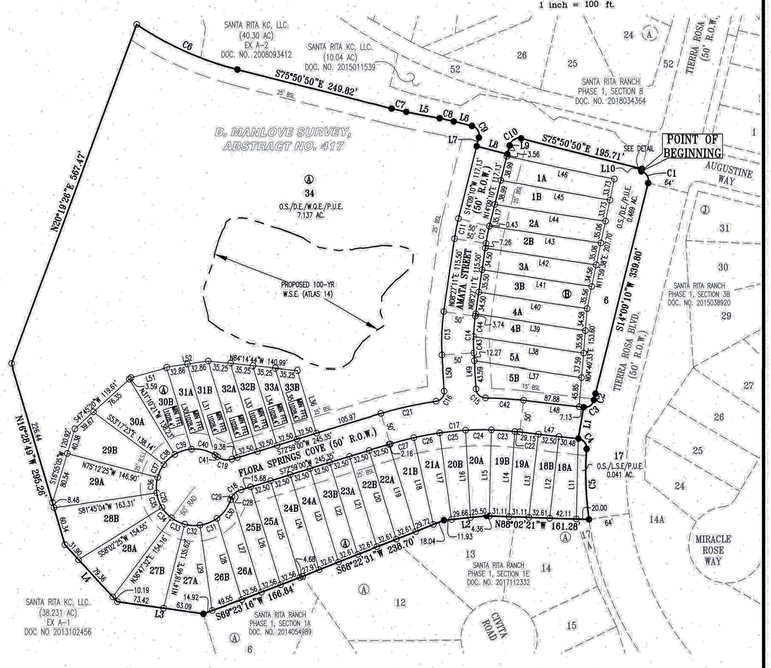
GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

DETAIL
SCALE: 1" = 2'





DATE: MAY 16, 2022

OWNER:
SANTA RITA KC, LLC.
1700 CROSS CREEK LANE, STE. 100
LIBERTY HILL, TX 78642

DEVELOPER:
SANTA RITA KC, LLC.
1700 CROSS CREEK LANE, 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: 14.487 ACRES
SURVEY: B. MANLOVE SURVEY,
ABSTRACT NO. 417

TOTAL OF LOTS:	45
NO. OF SINGLE FAMILY LOTS:	42
NO. OF OPEN SPACE, D.E. AND P.U.E. LOTS:	2
NO. OF OPEN SPACE, L.S.E. AND P.U.E. LOTS:	1

ROAD TABLE

STREET NAMES	LINEAR FOOTAGE	R.O.W. WIDTH	PAVEMENT WIDTH	DESIGN SPEED	DESIGNATION	CLASSIFICATION
AMATA STREET	420'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
FLORA SPRINGS COVE	624'	50' R.O.W.	33' FOC-FOC	25 M.P.H.	PUBLIC	LOCAL
TOTAL	1,044'					

SHEET NO. 1 OF 3

Doc # 2022064359

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PATH-J:\AC3D\5148\SURVEY\PLAT - SANTA RITA PHASE 1 SECTION 7.dwg

SANTA RITA RANCH PHASE 1, SECTION 7

FINAL PLAT

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. 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 LOT 30B-33B, BLOCK A. 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 CALRSON, BRIGANCE & DOERING, INC., DATED DECEMBER 9, 2021. 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 REQURED BY WILLIAMSON COUNTY SUBDIVISION REGULATIONS, SECTION B11.1, 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.

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 19A/ GEORGETOWN UTILITY SYSTEMS
4. WASTEWATER SERVICE IS PROVIDED BY: WILLIAMSON COUNTY MUD 19A/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.

FIELD NOTES

BEING ALL OF THAT CERTAIN 14.487 ACRE TRACT OF LAND SITUATED IN THE B. MANLOVE SURVEY, ABSTRACT NUMBER 417, SITUATED IN WILLIAMSON COUNTY, TEXAS, BEING MORE PARTICULARLY DESCRIBED AS BEING A PORTION OF A CALLED 40.30 ACRE TRACT OF LAND (EXHIBIT A-2) CONVEYED TO SANTA RITA KC, LLC., IN DOCUMENT NUMBER 2008093412 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS (O.P.R.W.C.TX.), A PORTION OF A CALLED 38.231 ACRE TRACT OF LAND CONVEYED TO SANTA RITA KC, LLC., IN DOCUMENT NUMBER 2013102456 (O.P.R.W.C.TX.), AND BEING ALSO A PORTION OF A CALLED 8.814 ACRE TRACT (TRACT TWO) OF LAND CONVEYED TO SANTA RITA KC, LLC., IN DOCUMENT NUMBER 2013102457 (O.P.R.W.C.TX.), SAID 14.487 ACRE TRACT OF LAND BEING MORE FULLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, AT A CAPPED 1/2 INCH IRON ROD FOUND, AT A POINT OF CURVATURE, FOR A CURVE TO THE RIGHT, BEING A POINT ON A WESTERN RIGHT-OF-WAY LINE OF TIERRA ROSA BOULEVARD (50' R.O.W.), AND BEING ALSO A POINT ON A SOUTHERN RIGHT-OF-WAY LINE OF AUGUSTINE WAY (64' R.O.W.), FOR THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT,

THENCE, CROSSING SAID 40.30 ACRE TRACT AND WITH THE WESTERN RIGHT-OF-WAY LINE OF SAID TIERRA ROSA BOULEVARD, THE FOLLOWING SEVEN (7) COURSES AND DISTANCES, NUMBERED 1 THROUGH 7,

1) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.56 FEET, AND WHOSE CHORD BEARS S30°50'50"E, A DISTANCE OF 21.21 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND,
2) S14°09'10"W, A DISTANCE OF 339.80 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND, AT A POINT OF CURVATURE, FOR A CURVE TO THE LEFT,
3) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 510.00 FEET, AN ARC LENGTH OF 10.20 FEET, AND WHOSE CHORD BEARS S13°34'48"W, A DISTANCE OF 10.20 FEET, AT A POINT OF CURVATURE, FOR A CURVE TO THE RIGHT,
4) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 21.88 FEET, AND WHOSE CHORD BEARS S54°47'24"W, A DISTANCE OF 19.99 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND,
5) S30°52'10"W, A DISTANCE OF 50.08 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND, AT A POINT OF CURVATURE, FOR A CURVE TO THE RIGHT,
6) ALONG SAID CURVE TO THE RIGHT, 15.00 FEET, AN ARC LENGTH OF 22.96 FEET, AND WHOSE CHORD BEARS S39°34'57"E, A DISTANCE OF 20.78 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND, AT A POINT OF CURVATURE, FOR A CURVE TO THE LEFT, AND
7) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 510.00 FEET, AN ARC LENGTH OF 110.80 FEET, AND WHOSE CHORD BEARS S01°58'02"E, A DISTANCE OF 110.88 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND, BEING A POINT ON A WESTERN RIGHT-OF-WAY LINE OF SAID TIERRA ROSA BOULEVARD AND BEING ALSO A NORTHEASTERN CORNER OF LOT 17A, BLOCK A OF SANTA RITA RANCH, PHASE 1, SECTION 1E, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2017112332 (O.P.R.W.C.TX.), FOR THE SOUTHEASTERN CORNER OF THE HEREIN DESCRIBED TRACT,

THENCE, CONTINUING ACROSS SAID 10.30 ACRE TRACT, WITH THE NORTHERN BOUNDARY LINE OF SAID SANTA RITA PHASE 1, SECTION 1E, AND CROSSING SAID 8.814 ACRE TRACT, THE FOLLOWING THREE (3) COURSES AND DISTANCES, NUMBERED 1 THROUGH 3,

1) N88°02'21"W, A DISTANCE OF 161.28 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND,
2) S84°14'41"W, A DISTANCE OF 67.09 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND, AND
3) S68°22'31"W, A DISTANCE OF 238.70 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND, BEING A NORTHWESTERN CORNER OF LOT 12, BLOCK A OF SAID SANTA RITA RANCH, PHASE 1, SECTION 1E AND BEING ALSO THE NORTHERNMOST CORNER OF LOT 6, BLOCK A, SANTA RITA RANCH, PHASE 1, SECTION 1A, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2014054989 (O.P.R.W.C.TX.),

THENCE, CONTINUING ACROSS SAID 8.814 ACRE TRACT AND WITH THE NORTHERN BOUNDARY LINE OF SAID SANTA RITA RANCH, PHASE 1, SECTION 1A, S69°23'16"W, A DISTANCE OF 166.84 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND, BEING A WESTERN CORNER OF SAID 8.814 ACRE TRACT, SAME BEING A NORTHWESTERN CORNER OF SAID LOT 6, BLOCK A, AND BEING ALSO AN EASTERN CORNER OF SAID 38.231 ACRE TRACT,

THENCE, WITH THE COMMON BOUNDARY LINE OF SAID 8.814 ACRE TRACT AND SAID 38.231 ACRE TRACT, AND CROSSING SAID 40.30 ACRE TRACT, THE FOLLOWING FOUR (4) COURSES AND DISTANCES, NUMBERED 1 THROUGH 4,

1) N81°47'19"W, A DISTANCE OF 136.50 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED 'CBD SETSTONE',
2) N42°49'05"W, A DISTANCE OF 121.45 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED 'CBD SETSTONE',
3) N16°28'49"W, A DISTANCE OF 295.26 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED 'CBD SETSTONE', AND
4) N20°19'26"E, A DISTANCE OF 567.47 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED 'CBD SETSTONE' FOR THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND, BEING IN THE SOUTH LINE OF SAID AUGUSTINE WAY, AND BEING AT THE BEGINNING OF A CURVE TO THE LEFT,

THENCE, CONTINUING ACROSS SAID 40.30 ACRE TRACT, AND THE SOUTH LINE OF SAID AUGUSTINE WAY, THE FOLLOWING SIX (6) COURSES AND DISTANCES, NUMBERED 1 THROUGH 6,

1) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 502.00 FEET, AN ARC LENGTH OF 174.36 FEET, AND A CHORD THAT BEARS S65°53'49"E, A DISTANCE OF 173.49 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER,
2) S75°50'50"E, A DISTANCE OF 249.82 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER AT THE BEGINNING OF A CURVE TO THE LEFT,
3) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 449.00 FEET, AN ARC LENGTH OF 23.51 FEET, AND A CHORD THAT BEARS S77°20'51"E, A DISTANCE OF 23.51 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER,
4) S78°50'52"E, A DISTANCE OF 53.42 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER AT THE BEGINNING OF A CURVE TO THE RIGHT,
5) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 429.00 FEET, AN ARC LENGTH OF 22.47 FEET, AND A CHORD THAT BEARS S77°20'51"E, A DISTANCE OF 22.46 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER, AND
6) S75°50'50"E, A DISTANCE OF 29.45 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER AT THE BEGINNING OF A CURVE TO THE RIGHT, BEING AT THE INTERSECTION OF THE SOUTH LINE OF SAID AUGUSTINE WAY AND THE WEST RIGHT-OF-WAY LINE OF AMATA STREET (50' R.O.W.),

THENCE, WITH THE LINE OF SAID AMATA STREET, THE FOLLOWING FIVE (5) COURSES AND DISTANCES, NUMBERED 1 THROUGH 5,

1) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.56 FEET, AND A CHORD THAT BEARS S30°50'50"E, A DISTANCE OF 21.21 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER,
2) S14°09'10"W, A DISTANCE OF 14.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER AT THE WEST TERMINUS OF SAID AMATA STREET,
3) S75°50'50"E, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER AT THE EAST TERMINUS OF SAID AMATA STREET,
4) N14°09'10"E, A DISTANCE OF 14.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER AT THE BEGINNING OF A CURVE TO THE RIGHT, AND
5) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.56 FEET, AND A CHORD THAT BEARS N39°09'10"E, A DISTANCE OF 21.21 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER AT THE INTERSECTION OF SAID AMATA STREET AND SAID AUGUSTINE WAY,

THENCE, S75°50'50"E, A DISTANCE OF 195.71 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND FOR CORNER,

THENCE, S14°09'10"W, A DISTANCE OF 4.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 14.487 ACRES OF LAND.

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C1	23.56	15.00	S30°50'50"E	21.21	15.00	90°00'00"
C2	10.20	510.00	S13°34'48"W	10.20	5.10	1°08'44"
C3	21.88	15.00	S54°47'24"W	19.99	13.40	83°33'57"
C4	22.96	15.00	S39°34'57"E	20.78	14.41	87°41'21"
C5	110.90	510.00	S01°58'02"E	110.68	55.67	12°27'31"
C6	174.36	502.00	S65°53'49"E	173.49	88.07	19°54'03"
C7	23.51	449.00	S77°20'51"E	23.51	11.76	3°00'02"
C8	22.47	429.00	S77°20'51"E	22.46	11.24	3°00'02"
C9	23.56	15.00	S30°50'50"E	21.21	15.00	89°59'59"
C10	23.56	15.00	N59°09'10"E	21.21	15.00	90°00'00"
C11	32.33	325.00	S11°18'10"W	32.32	16.18	5°41'59"
C12	27.36	275.00	S11°18'10"W	27.34	13.69	5°41'59"
C13	68.28	325.00	S02°26'03"W	68.16	34.27	12°02'16"
C14	57.71	275.00	S02°26'31"W	57.61	28.96	12°01'29"
C15	22.50	15.00	S46°43'19"E	20.45	13.97	85°56'25"
C16	22.50	15.00	N39°13'06"E	20.45	13.97	85°56'25"
C17	205.86	500.00	S84°46'42"W	204.41	104.41	23°35'22"
C18	23.55	25.00	S45°59'58"W	22.69	12.73	53°58'05"
C19	23.55	25.00	S80°01'57"E	22.69	12.73	53°58'05"
C20	301.53	60.00	S17°01'00"E	70.59	43.64	287°56'10"
C21	88.36	550.00	S77°35'10"W	88.27	44.28	9°12'18"
C22	7.98	500.00	N83°53'03"W	7.98	3.99	0°54'51"

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C23	37.10	500.00	N88°28'01"W	37.09	18.56	4°15'04"
C24	40.89	500.00	S89°03'53"W	40.88	20.46	4°41'08"
C25	40.86	500.00	S84°22'51"W	40.85	20.44	4°40'56"
C26	40.89	500.00	S79°41'49"W	40.88	20.46	4°41'08"
C27	38.14	500.00	S75°10'08"W	38.13	19.08	4°22'15"
C28	18.44	25.00	S51°50'58"W	18.03	9.66	42°16'08"
C29	5.10	25.00	S24°51'54"W	5.10	2.56	11°41'57"
C30	36.74	60.00	S36°33'19"W	36.16	18.96	35°04'48"
C31	29.05	60.00	S67°57'51"W	28.76	14.81	27°44'16"
C32	23.86	60.00	N89°46'21"W	23.71	12.09	22°47'19"
C33	23.22	60.00	N64°17'35"W	23.07	11.76	22°10'14"
C34	22.57	60.00	N42°25'45"W	22.44	11.42	21°33'26"
C35	24.51	60.00	N19°56'59"W	24.34	12.43	23°24'06"
C36	24.45	60.00	N03°25'36"E	24.28	12.40	23°21'03"
C37	22.63	60.00	N25°54'22"E	22.49	11.45	21°36'29"
C38	23.48	60.00	N47°55'24"E	23.34	11.89	22°25'35"
C39	27.73	60.00	N72°22'29"E	27.48	14.12	26°28'35"
C40	38.60	60.00	S75°57'21"E	37.94	20.00	36°51'44"
C41	4.69	60.00	S55°17'12"E	4.69	2.35	4°28'35"
C42	60.14	550.00	N85°33'34"W	60.11	30.10	6°15'54"
C43	25.88	275.00	S00°52'28"E	25.87	12.95	5°23'30"
C44	31.84	275.00	S03°08'16"W	31.82	15.94	6°37'59"

Line Table		
Line #	Length	Direction
L1	50.08	S09°52'10"W
L2	67.09	S84°14'41"W
L3	136.50	N81°47'19"W
L4	121.45	N42°49'05"W
L5	53.42	S78°50'52"E
L6	29.45	S75°50'50"E
L7	14.00	S14°09'10"W
L8	50.00	S75°50'50"E
L9	14.00	N14°09'10"E
L10	4.00	S14°09'10"W
L11	125.98	N01°20'27"E
L12	128.84	N06°34'23"E
L13	131.46	N06°34'23"E
L14	134.04	N03°57'22"E
L15	134.98	N01°24'27"E
L16	136.91	N03°16'35"W
L17	136.98	N07°57'37"W
L18	139.58	N12°38'39"W

Line Table		
Line #	Length	Direction
L19	143.01	N17°01'00"W
L20	145.63	N17°01'00"W
L21	148.25	N17°01'00"W
L22	150.87	N17°01'00"W
L23	153.49	N17°01'00"W
L24	156.11	N17°01'00"W
L25	158.65	N17°01'00"W
L26	160.69	N17°01'00"W
L27	156.23	N17°01'00"W
L28	133.00	N17°01'00"W
L29	135.20	N08°10'01"W
L30	133.44	S17°01'00"E
L31	148.17	N17°01'00"W
L32	157.28	S17°01'00"E
L33	143.64	S17°01'00"E
L34	130.00	S17°01'00"E
L35	116.36	N17°01'00"W
L36	102.72	S17°01'00"E

Line Table		
Line #	Length	Direction
L37	170.70	S81°24'50"E
L38	175.01	N81°24'50"W
L39	174.50	N81°24'50"W
L40	172.22	N81°24'50"W
L41	174.42	S81°24'50"E
L42	176.55	N81°24'50"W
L43	177.32	S81°24'50"E
L44	175.99	N81°24'50"W
L45	174.29	S79°43'33"E
L46	172.74	N78°00'22"W
L47	92.13	N83°25'37"W
L48	95.01	S83°25'37"E
L49	55.85	N03°45'01"W
L50	55.93	S03°45'01"E
L51	58.06	S74°46'55"W
L52	65.72	S81°28'41"W

SHEET NO. 2 OF 3

Doc # 2022064359

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

PATH-J:\AC3D\5148\SURVEY\PLAT - SANTA RITA PHASE 1 SECTION 7.dwg

DESIGNED BY:	DRAFTED BY:
SPC	JDS

DATE	REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
CBD
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749
North Office: 1120 RR 620 N., Suite 600 Austin, Texas 78750
Phone No. (512) 280-5160 Fax No. (512) 280-5165

SHEET NAME: PLAT (1 OF 3)

JOB NAME: SANTA RITA RANCH MAINTENANCE BARN

PROJECT: GRADING, DRAINAGE, AND UTILITIES

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

1-8-2024

DATE: JANUARY 2024

JOB NUMBER: 5605

SHEET: 3 OF 17

SHEET NO.: 3

FILE PATH:J:\AC3D\5605\dwg\5605 GENERAL NOTES.dwg - Jan 24, 2024 - 8:43am

SANTA RITA RANCH PHASE 1, SECTION 7

FINAL PLAT

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

I, JAMES EDWARD HORNE, VICE PRESIDENT, SANTA RITA KC, LLC, OWNER OF THE CERTAIN CALLED 40.30 ACRE TRACT OF LAND CONVEYED IN DOCUMENT NUMBER 2008093412, A CALLED 38.231 ACRE TRACT CONVEYED IN DOCUMENT NUMBER 2013102456, AND A CALLED 8.814 ACRE TRACT OF LAND CONVEYED IN DOCUMENT NUMBER 2013102457, ALL OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY TEXAS OUT OF AND A PART OF THE B. MANLOVE SURVEY, ABSTRACT 417, SITUATED IN WILLIAMSON COUNTY, TEXAS AND DO HEREBY STATE THAT THERE ARE NO LIEN HOLDERS OF THE CERTAIN TRACT OF LAND, AND DO HEREBY SUBDIVIDE SAID TRACT 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, AND DO HEREBY STATE THAT ALL PUBLIC ROADWAYS AND EASEMENTS AS SHOWN ON THIS PLAT ARE FREE OF LIENS. THIS SUBDIVISION IS TO BE KNOWN AS:

"SANTA RITA RANCH PHASE 1, SECTION 7"

TO CERTIFY WHICH, WITNESS BY MY HAND THIS 5th DAY OF May, 20 22.

SANTA RITA KC, LLC, A TEXAS LIMITED LIABILITY COMPANY

BY: MREM TEXAS MANAGER, LLC, A DELAWARE LIMITED
LIABILITY COMPANY, ITS MANAGER

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 CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

WITNESS MY HAND AND SEAL OF OFFICE, THIS THE 5th DAY OF May, 2022 A.D.

Susan O. Martin
NOTARY PUBLIC IN AND FOR WILLIAMSON COUNTY, TEXAS

SUSAN O MARTIN
Notary Public, State of Texas
My Commission Expires
November 07, 2023
NOTARY ID 1042593-4

CONSENT OF MORTGAGEE

THE UNDERSIGNED, BEING THE HOLDER OF TWO DEED 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: Dennesha Johnson
TITLE: Assistant Vice President

STATE OF TEXAS
COUNTY OF Travis

BEFORE ME ON THIS DAY PERSONALLY APPEARED Dennesha Johnson, 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 4th DAY OF May, A.D., 2022.

BY: Araceli Hernandez
NOTARY PUBLIC, STATE OF TEXAS
PRINTED NAME: Araceli Hernández
MY COMMISSION EXPIRES 6-2-2024

ARACELI HERNANDEZ
Notary Public, State of Texas
Commission Expires 06-02-2024
Notary ID 126285198

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 WILLIAMSON:

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: Steve P. Cates 5/4/2022
STEVEN P. CATES, P.E. NO. 93648 DATE
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE,
AUSTIN, TEXAS 78749

STEVEN P. CATES
93648

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

STATE OF TEXAS:

COUNTY OF WILLIAMSON:

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.

SURVEYED BY: 04 May 2022
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

AARON V. THOMASON
6214

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

5-5-22
JERRY MILLARD, JR., INTERIM DIRECTOR OF PLANNING DATE
CITY OF LIBERTY HILL, TEXAS

ROAD NAME AND ADDRESS ASSIGNMENTS VERIFIED THIS THE 4 DAY OF May, 2022 A.D.

Cindy Bridges
WILLIAMSON COUNTY ADDRESSING COORDINATOR
WIlIAMSON COUNTY, TEXAS
Cindy Bridges
PRINTED NAME

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 05.24.2022
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 25th DAY OF MAY 2022, A.D., AT 8:20 O'CLOCK, A.M., AND DULY RECORDED THIS THE 25th DAY OF MAY, 2022, A.D., AT 8:42 O'CLOCK, A.M., IN THE OFFICIAL PUBLIC RECORDS OF SAID COUNTY IN INSTRUMENT NO. 2022064359.

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: Brenda McKenzie DEPUTY
Brenda McKenzie

Doc # 2022064359

SHEET NO. 3 OF 3

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

PATH–J:\AC3D\5148\SURVEY\PLAT – SANTA RITA PHASE 1 SECTION 7.dwg

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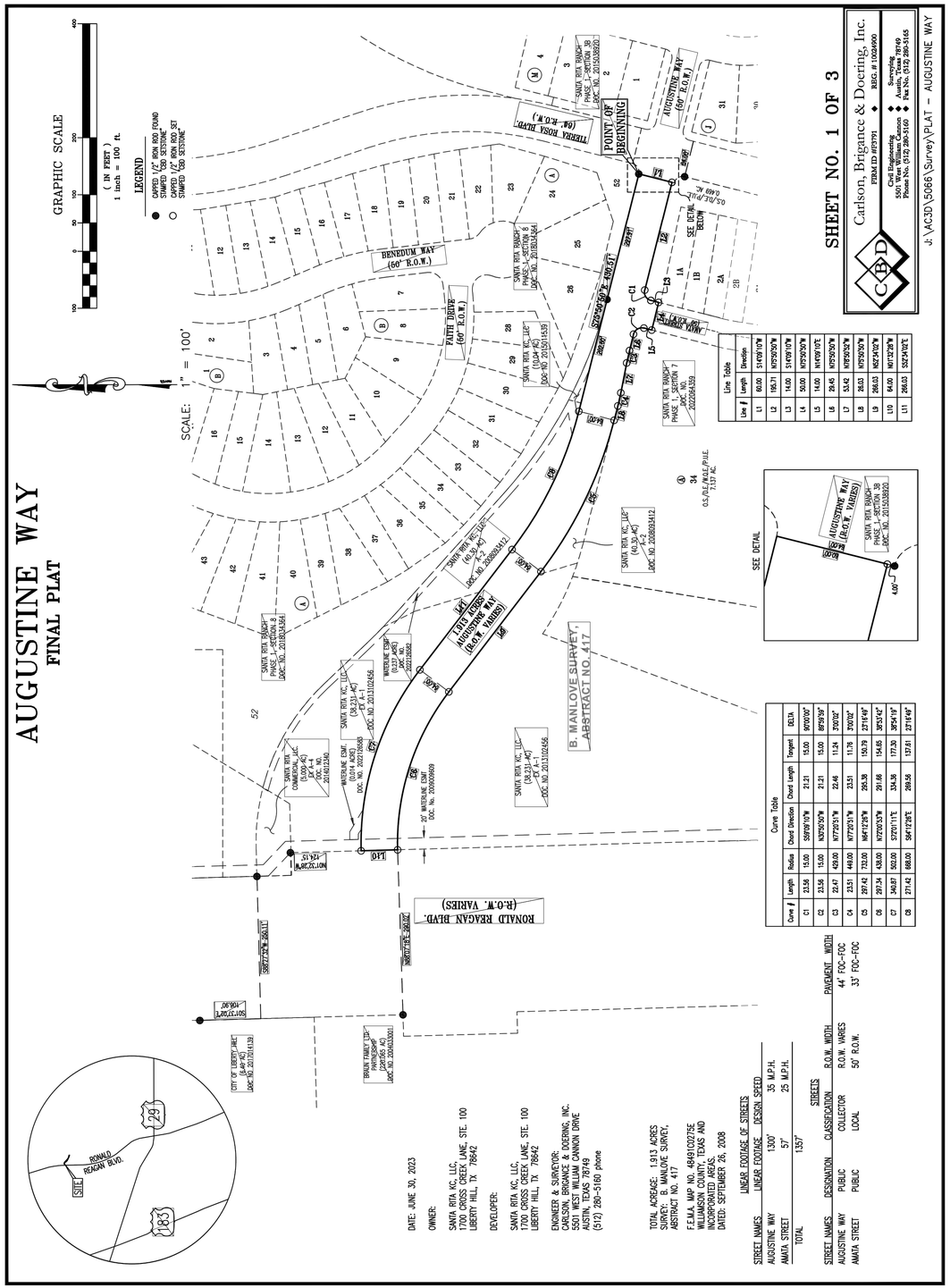


AUGUSTINE WAY

FINAL PLAT

LEGEND
● CAPPED 1/2" IRON ROD FOUND STAMPED "CBD SETSTONE"
○ CAPPED 1/2" IRON ROD SET STAMPED "CBD SETSTONE"

Line Table		
Line #	Length	Direction
L1	60.00	S14°09'10"W
L2	195.71	N75°50'50"W
L3	14.00	S14°09'10"W
L4	50.00	N75°50'50"W
L5	14.00	N14°09'10"E
L6	29.45	N75°50'50"W
L7	53.42	N78°50'52"W
L8	26.03	N75°50'50"W
L9	266.03	N52°34'02"W
L10	64.00	N01°32'28"W
L11	266.03	S52°34'02"E

Curve Table						
Curve #	Length	Radius	Chord Direction	Chord Length	Tangent	DELTA
C1	23.56	15.00	S59°09'10"W	21.21	15.00	90°00'00"
C2	23.56	15.00	N30°50'50"W	21.21	15.00	89°59'59"
C3	22.47	429.00	N77°20'51"W	22.46	11.24	3°00'02"
C4	23.51	449.00	N77°20'51"W	23.51	11.76	3°00'02"
C5	297.42	732.00	N64°12'26"W	295.38	150.79	23°16'49"
C6	297.34	438.00	N72°00'53"W	291.66	154.65	38°53'42"
C7	340.87	502.00	S72°01'11"E	334.36	177.30	38°54'19"
C8	271.42	668.00	S64°12'26"E	269.56	137.61	23°16'49"

DATE: JUNE 30, 2023

OWNER:

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

DEVELOPER:

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

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

TOTAL ACREAGE: 1.913 ACRES
SURVEY: B. MANLOVE SURVEY,
ABSTRACT NO. 417

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

LINEAR FOOTAGE OF STREETS

STREET NAMES	LINEAR FOOTAGE	DESIGN SPEED
AUGUSTINE WAY	1300'	35 M.P.H.
AMATA STREET	57'	25 M.P.H.
TOTAL	1357'	

STREETS

STREET NAMES	DESIGNATION	CLASSIFICATION	R.O.W. WIDTH	PAVEMENT WIDTH
AUGUSTINE WAY	PUBLIC	COLLECTOR	R.O.W. VARIES	44' FOC–FOC
AMATA STREET	PUBLIC	LOCAL	50' R.O.W.	33' FOC–FOC

SHEET NO. 1 OF 3

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\5066\Survey\PLAT – AUGUSTINE WAY

DESIGNED BY: SPC
DRAFTED BY: JDS
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: PLAT (2 OF 3)
JOB NAME: SANTA RITA RANCH MAINTENANCE BARN
PROJECT: GRADING, DRAINAGE, AND UTILITIES

STEVEN P. CATES
93648
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
1-8-2024

DATE
JANUARY 2024
JOB NUMBER
5605
SHEET
4 OF 17
SHEET NO.
4

FILE PATH:J:\AC3D\5605\dwg\5605 GENERAL NOTES.dwg - Jan 24, 2024 - 8:43am

FILE PATH:J:\AC3D\5605\dwg\5605 GENERAL NOTES.dwg - Jan 24, 2024 - 8:43am

AUGUSTINE WAY
FINAL PLAT

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. ALL PROPOSED ROADWAY AND EASEMENTS AS SHOWN ON THIS PLAT ARE FREE OF LIENS.

DRAINAGE AND FLOODPLAIN:

1. THIS SUBDIVISION IS SUBJECT TO STORM-WATER MANAGEMENT CONTROLS AS REQUIRED BY WILLIAMSON COUNTY SUBDIVISION REGULATIONS, SECTION B11.1, ON NEW DEVELOPMENT THAT WOULD EVOKE SUCH CONTROLS BEYOND EXISTING CONDITIONS.
2. 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.
3. A CERTIFICATE OF COMPLIANCE IS HEREBY ISSUED FOR ALL LOTS WITHIN THIS SUBDIVISION. THIS CERTIFICATE OF COMPLIANCE IS VALID UNTIL SUCH TIME AS FEMA OR THE COUNTY REVISES OR NEWLY ADOPTS FLOODPLAIN BOUNDARIES IN THIS VICINITY.

WATER AND WASTEWATER:

1. WATER SERVICE IS PROVIDED BY: WILLIAMSON COUNTY MUD 19A/GEORGETOWN UTILITY SYSTEMS.
2. WASTEWATER SERVICE IS PROVIDED BY: WILLIAMSON COUNTY MUD 19A/CITY OF LIBERTY HILL.
3. 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. 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.
4. 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.
5. 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.
6. A PUBLIC UTILITY EASEMENT 10 FEET WIDE IS HEREBY DEDICATED ADJACENT TO ALL STREET RIGHT-OF-WAY.

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:

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 6/16/2023
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

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.

SURVEYED BY: 16 JUN 2023
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 — AARON V. THOMASON — 6214 — PROFESSIONAL LAND SURVEYOR

METES AND BOUNDS

BEING ALL OF THAT CERTAIN 1.913 ACRE TRACT OF LAND SITUATED IN THE B. MANLOVE SURVEY, ABSTRACT 417, WILLIAMSON COUNTY, TEXAS, BEING MORE PARTICULARLY DESCRIBED AS A PORTION OF A CALLED 38.231 ACRE TRACT OF LAND (EXHIBIT A-1) CONVEYED TO SANTA RITA KC, LLC. IN DOCUMENT NUMBER 2013102456, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, A PORTION OF THAT CALLED 10.04 ACRE TRACT OF LAND CONVEYED TO SANTA RITA KC, LLC. IN DOCUMENT NUMBER 2015011539, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND A PORTION OF A CALLED 40.30 ACRE TRACT OF LAND (EXHIBIT A-2) CONVEYED TO SANTA RITA KC, LLC. IN DOCUMENT NUMBER 2008093412, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, SAID 1.913 ACRE TRACT OF LAND BEING MORE FULLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, AT A 1/2 INCH IRON ROD FOUND AT A SOUTH CORNER OF LOT 52, BLOCK A, SANTA RITA RANCH, PHASE 1, SECTION 8, RECORDED IN DOCUMENT NUMBER 2018034364, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, BEING IN THE WEST LINE OF SANTA RITA RANCH, PHASE 1, SECTION 3B, RECORDED IN DOCUMENT NUMBER 2015038920, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, SAME BEING AT THE INTERSECTION OF TIERRA ROSA BOULEVARD (64' R.O.W.) AND AUGUSTINE WAY (50' R.O.W.), FOR THE NORTHEAST CORNER AND THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT OF LAND,

THENCE, S14°09'10"W, WITH THE WEST TERMINUS LINE OF SAID AUGUSTINE WAY AND THE WEST LINE OF SAID SANTA RITA RANCH PHASE 1, SECTION 3B, A DISTANCE OF 60.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR THE SOUTHERNMOST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND, AND FROM WHICH A 1/2 INCH IRON ROD FOUND AT THE SOUTH TERMINUS OF SAID AUGUSTINE WAY BEARS S14°09'10"W, A DISTANCE OF 4.00 FEET,

THENCE, OVER AND ACROSS SAID 40.30 ACRE TRACT OF LAND AND SAID 38.231 ACRE TRACT, THE FOLLOWING FOURTEEN (14) COURSES AND DISTANCES, NUMBERED 1 THROUGH 14,

1) N75°50'50"W, A DISTANCE OF 195.71 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER AT THE BEGINNING OF A CURVE TO THE LEFT,
2) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.56 FEET, AND A CHORD THAT BEARS S59°09'10"W, A DISTANCE OF 21.21 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
3) S14°09'10"W, A DISTANCE OF 14.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
4) N75°50'51"W, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
5) N14°09'10"E, A DISTANCE OF 14.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER 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 15.00 FEET, AND A CHORD THAT BEARS N30°50'50"W, A DISTANCE OF 21.21 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
7) N75°50'50"W, A DISTANCE OF 29.45 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER AT THE BEGINNING OF A CURVE TO THE LEFT,
8) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 429.00 FEET, AN ARC LENGTH OF 22.47 FEET, AND A CHORD THAT BEARS N77°20'51"W, A DISTANCE OF 22.46 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
9) N78°50'52"W, A DISTANCE OF 53.42 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER AT THE BEGINNING OF A CURVE TO THE RIGHT,
10) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 449.00 FEET, AN ARC LENGTH OF 23.51 FEET, AND A CHORD THAT BEARS N77°20'51"W, A DISTANCE OF 23.51 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
11) N75°50'50"W, A DISTANCE OF 26.03 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER AT THE BEGINNING OF A CURVE TO THE RIGHT,
12) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 732.00 FEET, AN ARC LENGTH OF 297.42 FEET, AND A CHORD THAT BEARS N64°12'26"W, A DISTANCE OF 295.38 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
13) N52°34'02"W, A DISTANCE OF 266.03 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER AT THE BEGINNING OF A CURVE TO THE LEFT, AND
14) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 438.00 FEET, AN ARC LENGTH OF 297.34 FEET, AND A CHORD THAT BEARS N72°00'53"W, A DISTANCE OF 291.66 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR THE SOUTHWEST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND, BEING IN THE WEST LINE OF SAID 38.231 ACRE TRACT, AND BEING IN THE EAST RIGHT-OF-WAY LINE OF RONALD REAGAN BOULEVARD (R.O.W. VARIES)

THENCE, N01°32'28"W WITH THE EAST LINE OF SAID RONALD REAGAN BOULEVARD AND THE WEST LINE OF SAID 38.231 ACRE TRACT, A DISTANCE OF 64.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT, AND FROM WHICH A 1/2 INCH IRON ROD FOUND IN THE EAST LINE OF SAID RONALD REAGAN BOULEVARD, SAME BEING IN THE SOUTH LINE OF A CALLED 5.000 ACRE TRACT OF LAND CONVEYED TO SANTA RITA COMMERCIAL, LLC IN DOCUMENT NUMBER 2014012340, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS BEARS N01°32'28"W, A DISTANCE OF 124.15 FEET,

THENCE, OVER AND ACROSS SAID 38.231 ACRE TRACT, SAID 40.30 ACRE TRACT, SAID 10.04 ACRE TRACT, AND WITH THE SOUTH LINE OF SAID LOT 52, BLOCK A, THE FOLLOWING FOUR (4) COURSES AND DISTANCES, NUMBERED 1 THROUGH 4,

1) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 502.00 FEET, AN ARC LENGTH OF 340.87 FEET, AND A CHORD THAT BEARS S72°01'11"E, A DISTANCE OF 334.36 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
2) S52°34'02"E, A DISTANCE OF 266.03 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER AT THE BEGINNING OF A CURVE TO THE LEFT,
3) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 668.00 FEET, AN ARC LENGTH OF 271.42 FEET, AND A CHORD THAT BEARS S64°12'26"E, A DISTANCE OF 269.56 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, AND
4) S75°50'50"E, PASSING AT A DISTANCE OF 202.60 FEET A SOUTHWEST CORNER OF SAID LOT 52, BLOCK A, AND CONTINUING FOR A TOTAL DISTANCE OF 430.51 FEET TO THE POINT OF BEGINNING AND CONTAINING 1.913 ACRES OF LAND.

SHEET NO. 2 OF 3

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\5066\Survey\PLAT – AUGUSTINE WAY

AUGUSTINE WAY
FINAL PLAT

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

I JAMES EDWARD HORNE, VICE PRESIDENT OF SANTA RITA KC, LLC., BEING THE OWNER OF THAT CALLED 38.231 ACRE TRACT OF LAND RECORDED IN DOCUMENT NUMBER 2013102456, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, THAT CALLED 40.30 ACRE TRACT OF LAND (EXHIBIT A-2) RECORDED IN DOCUMENT NUMBER 2008093412, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND THAT CALLED 10.04 ACRE TRACT OF LAND RECORDED IN DOCUMENT 2015011539, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, BEING A PART OF THE B. MANLOVE SURVEY, ABSTRACT 417, SITUATED IN WILLIAMSON COUNTY, TEXAS, SHOWN HEREON, AND DO HEREBY STATE THAT THERE ARE NO LIEN HOLDERS OF THE CERTAIN TRACT OF LAND, AND DO HEREBY SUBDIVIDE 1.913 ACRES OF LAND 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, AND DO HEREBY STATE THAT ALL PUBLIC ROADWAYS AND EASEMENTS SHOWN ON THIS PLAT ARE FREE OF LIENS. THIS SUBDIVISION IS TO BE KNOWN AS:

"AUGUSTINE WAY FINAL PLAT"

TO CERTIFY WHICH, WITNESS BY MY HAND THIS 16 DAY OF June, 20 22.

SANTA RITA KC, LLC,
A TEXAS LIMITED LIABILITY COMPANY

BY: MREM TEXAS MANAGER, LLC, A DELAWARE LIMITED LIABILITY COMPANY, ITS MANAGER

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

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
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 CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

WITNESS MY HAND AND SEAL OF OFFICE, THIS THE 16th DAY OF June, 2023, A.D.

Ashley Cuellar Sousa
NOTARY PUBLIC IN AND FOR WILLIAMSON COUNTY, TEXAS

ASHLEY CUELLAR SOUSA
Notary Public, State of Texas
My Commission Expires
May 16, 2026
NOTARY ID 13376154-3

CONSENT OF MORTGAGEE

THE UNDERSIGNED, BEING THE SOLE OWNER AND HOLDER OF TWO DEED 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: JASON RANGEL
TITLE: SENIOR VICE PRESIDENT

STATE OF TEXAS
COUNTY OF Travis

BEFORE ME ON THIS DAY PERSONALLY APPEARED Jason Rangel, 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 16 DAY OF June, A.D., 2023.

BY: Araceli Hernandez
NOTARY PUBLIC, STATE OF TEXAS

PRINTED NAME: Araceli Hernández

MY COMMISSION EXPIRES 6-2-2024

ARACELI HERNANDEZ
Notary Public, State of Texas
Commission Expires 06-02-2024
Notary ID 126285198

CITY OF LIBERTY HILL APPROVAL

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

______________________ DATE 7-10-23
JERRY MILLARD, JR., DIRECTOR OF PLANNING
CITY OF LIBERTY HILL, TEXAS

ROAD NAME & 911 ADDRESSING APPROVAL

ROAD NAME AND ADDRESS ASSIGNMENTS VERIFIED THIS THE 20 DAY OF June, 2023 A.D.

Cindy Bridges
WILLIAMSON COUNTY ADDRESSING COORDINATOR
WILLIAMSON COUNTY, TEXAS

PRINTED NAME: Cindy Bridges

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

SHEET NO. 3 OF 3

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\5066\Survey\PLAT – AUGUSTINE WAY

SHEET NAME:	PLAT (3 OF 3)
JOB NAME:	SANTA RITA RANCH MAINTENANCE BARN
PROJECT:	GRADING, DRAINAGE, AND UTILITIES

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

STATE OF TEXAS — STEVEN P. CATES — 93648 — LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC. ID# F3791
1-8-2024

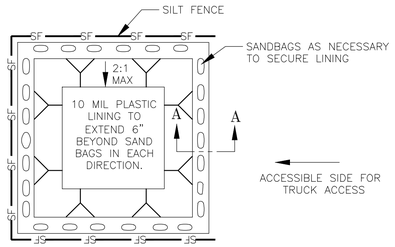
DATE: JANUARY 2024
JOB NUMBER: 5605
SHEET: 5 OF 17
SHEET NO. 5

REVISION	DATE

DESIGNED BY: SPC
DRAFTED BY: JDS

NOTES:

1. 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.
2. 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.
3. 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.
4. ALL DISTURBED AREA SHALL BE SODDED/REVEGETATED.

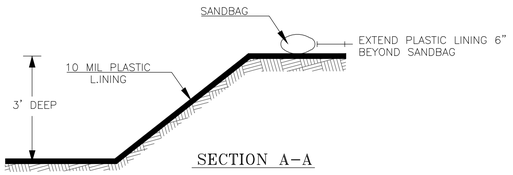


PLAN

NOTE: SIZE VARIES BASED ON ANTICIPATED VOLUME OF CONCRETE TO BE PLACED. MINIMUM SIZE 8'X8' BOTTOM.

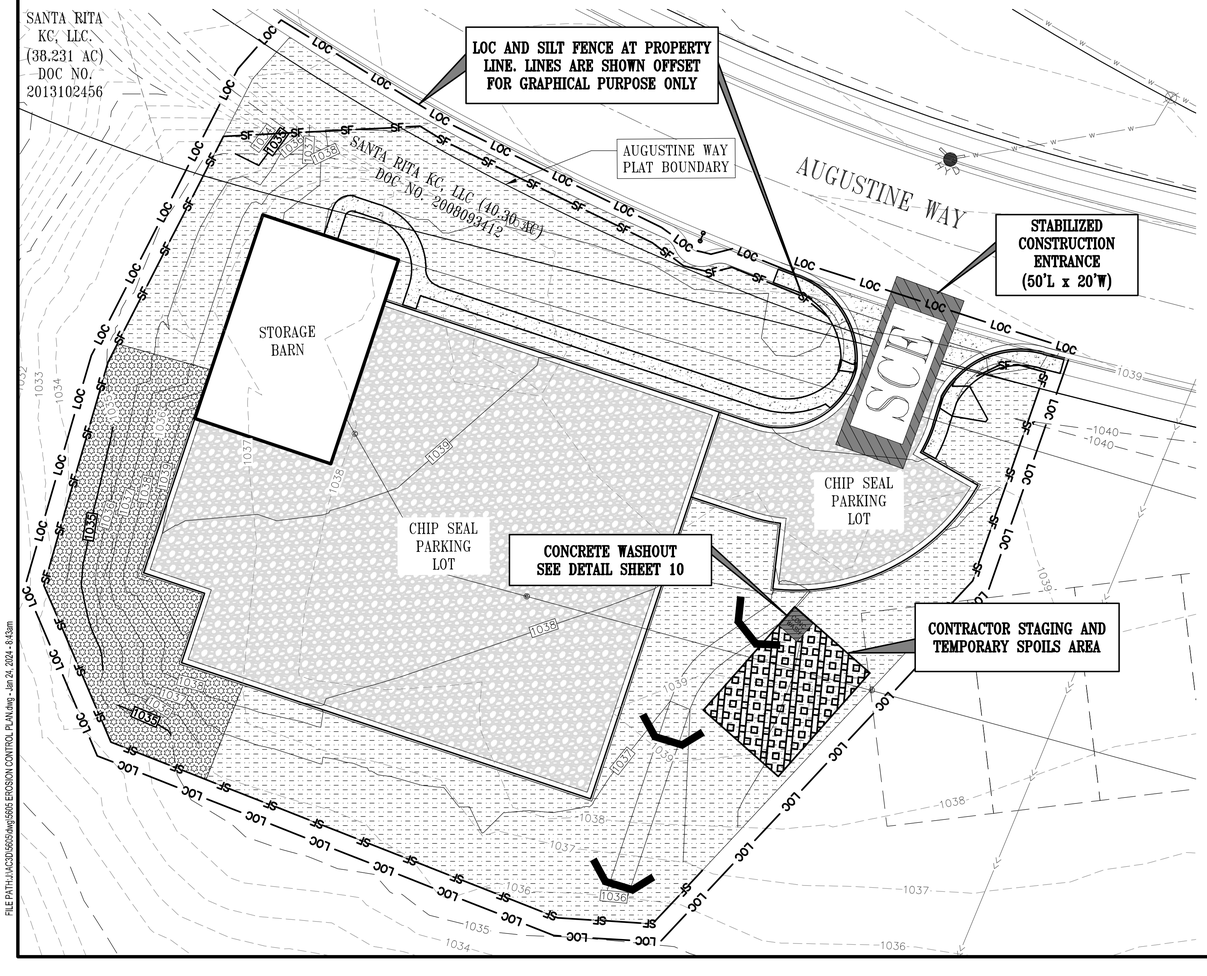
CONCRETE WASHOUT AREA NOTES:

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.



SECTION A-A

CONCRETE WASHOUT DETAIL
N.T.S



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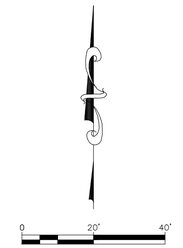
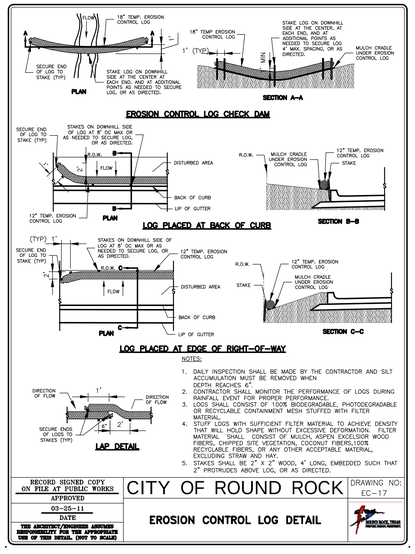
LEGEND

SF	SILT FENCE
LOC	LIMITS OF CONSTRUCTION
	EROSION CONTROL LOG CHECK DAM
SCE	STABILIZED CONSTRUCTION ENTRANCE
	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



SCALE: 1" = 20'



EROSION CONTROL LOG CHECK DAM

LOG PLACED AT BACK OF CURB

LOG PLACED AT EDGE OF RIGHT-OF-WAY

LAP DETAIL

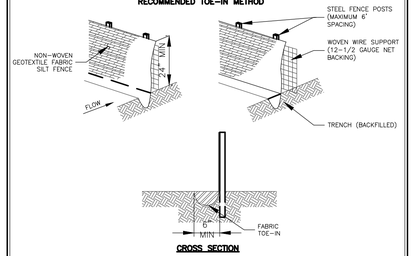
NOTES:
1. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 6".
2. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF LOGS DURING RAINFALL EVENT FOR PROPER PERFORMANCE.
3. LOGS SHALL CONSIST OF 100% BIODEGRADABLE, PHOTODEGRADABLE OR RECYCLABLE CONTAINMENT MESH STUFFED WITH FILTER MATERIAL.
4. STUFF LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE DENSITY THAT WILL HOLD SHAPE WITHOUT EXCESSIVE DEFORMATION. FILTER MATERIAL SHALL CONSIST OF MULCH, ASPEN EXCELSIOR WOOD FIBERS, CHIPPED SITE VEGETATION, COCONUT FIBERS,100% RECYCLABLE FIBERS, OR ANY OTHER ACCEPTABLE MATERIAL, EXCLUDING STRAW AND HAY.
5. STAKES SHALL BE 2" X 2" WOOD, 4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-17
APPROVED 03-25-11 DATE	EROSION CONTROL LOG DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

CROSS SECTION

NOTES:
1. STONE SIZE SHALL BE 3" - 8" OPEN GRADED ROCK.
2. THICKNESS OF CRUSHED STONE PAD TO BE NOT LESS THAN 8".
3. LENGTH SHALL BE A MINIMUM OF 50' FROM ACTUAL ROADWAY, AND WIDTH NOT LESS THAN FULL WIDTH OF INGRESS/EGRESS.
4. ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY BY CONTRACTOR.
6. AS NECESSARY, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-09
APPROVED 03-25-11 DATE	STABILIZED CONSTRUCTION ENTRANCE DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



CROSS SECTION

NOTES:
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MIN. OF ONE (1') FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G. PAVEMENT) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHALL BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS SECURELY FASTENED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. SILT FENCE SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-10
APPROVED 03-25-11 DATE	SILT FENCE DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

DESIGNED BY: SPC | DRAFTED BY: JDS

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: 121 29 RR 620 N. Suite 600 Austin, Texas 78726 Fax No. (512) 280-5165

SHEET NAME: EROSION CONTROL PLAN

JOB NAME: SANTA RITA RANCH MAINTENANCE BARN

PROJECT: GRADING, DRAINAGE, AND UTILITIES

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
1-24-2024

DATE: JANUARY 2024

JOB NUMBER: 5605

SHEET: 6 OF 17

SHEET NO.: 6

LEGEND

- PROPERTY BOUNDARY
- DRAINAGE BOUNDARY LINE
- 940 EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- SHEET FLOW
- SHALLOW CONCENTRATED FLOW
- CHANNEL FLOW
- EX-A1 DRAINAGE AREA LABEL
- A1 JUNCTION LABEL
- EXISTING 100-YR FLOODPLAIN
- KARST FEATURE BUFFER

0 500' 1000'

SCALE: 1" = 500'

HEC-HMS Input Summary						
BASINS	**Area (ac)**	**Area (mi^2)**	**IC Area (ac)**	**% IC**	**CN**	**TL (min)**
EX-A1	22.95	**0.0359**	0.00	**0.0%**	**79.2**	**14.0**
EX-A2	45.60	**0.0712**	1.83	**4.0%**	**79.1**	**15.8**
EX-A3	31.79	**0.0497**	0.00	**0.0%**	**78.8**	**15.8**
EX-A4	1,287.10	**2.0111**	0.00	**0.0%**	**78.9**	**51.1**

EXISTING REACHES						
REACH	**Length (ft)**	**Slope (ft/ft)**	**n**	**Left n**	**Right n**	**X-Section**
A1-->A2	3,755	0.0226	0.035	0.05	0.05	8-Point

HYDROLOGIC ELEMENT	PEAK DISCHARGE PER 24-HOUR STORM EVENT (cfs)			
	2-YR	**10-YR**	**25-YR**	**100-YR**
EX-A1	35.2	83.1	112.2	157.4
EX-A2	67.7	157.1	211.3	295.9
J-A1	102.5	239.5	322.6	451.9
A1->A2	102.3	238.9	321.9	450.8
EX-A3	44.9	107.3	145.3	204.7
EX-A4	888.7	2169.4	2973.6	4279.8
J-A2 (AP)	932.7	2271.4	3113.9	4485.7

DESIGNED BY: SPC
DRAFTED BY: JDS
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., Ste. 600 Austin, Texas 78750 Fax No. (512) 280-5165

SHEET NAME: HYDROLOGY - EXISTING CONDITIONS
JOB NAME: SANTA RITA RANCH MAINTENANCE BARN
PROJECT: GRADING, DRAINAGE, AND UTILITIES

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC. ID# F3791
1-8-2024

DATE: JANUARY 2024
JOB NUMBER: 5605
SHEET 7 OF 17
SHEET NO. 7

FILE PATH: J:\AC3D\5605\dwg\5605 HYDROLOGY - EXISTING CONDITIONS.dwg - Jan 24, 2024 - 8:44am

LEGEND

- PROPERTY BOUNDARY
- DRAINAGE BOUNDARY LINE
- A1 — DEVELOPED DRAINAGE AREA LABEL
- EXISTING & MODIFIED EXISTING DRAINAGE AREA LABEL
- A1 AX1 — JUNCTION & PROPOSED BRIDGE CROSSING JUNCTION LABEL
- SHEET FLOW
- SHALLOW CONCENTRATED FLOW
- CHANNEL FLOW & REACHES
- 940 — EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- DEVELOPED 100-YR FLOODPLAIN
- KARST FEATURE BUFFER
- DETENTION PONDS

HEC-HMS Input Summary

BASINS	Area (ac)	Area (mi^2)	IC Area (ac)	% IC	CN	TL (min)
EX-A1	22.95	**0.0359**	0.00	**0.0%**	**79.2**	**14.0**
8	21.80	**0.0341**	11.99	**55.0%**	**79.5**	**10.1**
A2	21.68	**0.0339**	2.30	**10.6%**	**79.1**	**13.0**
EX-A3	31.79	**0.0497**	0.00	**0.0%**	**78.8**	**15.8**
A4	1,277.97	**1.9968**	0.00	**0.0%**	**78.9**	**51.1**

DEVELOPED REACHES

REACH	Length (ft)	Slope (ft/ft)	n	Left n	Right n	X-Section
P8->A1	822	0.0693	0.035	0.05	0.05	8-Point
A1-->A2	3,755	0.0226	0.035	0.05	0.05	8-Point

HYDROLOGIC ELEMENT	PEAK DISCHARGE PER 24-HOUR STORM EVENT (cfs)			
	2-YR	10-YR	25-YR	100-YR
8	58.6	109.9	140.1	186.8
P8	45.5	105.2	134.8	180.8
P8->A1	45.3	105	134.6	180.8
EX-A1	35.2	83.1	112.2	157.4
A2	37.6	84.2	112.2	156
J-A1	115.4	272	358.9	493.3
A1->A2	114.9	271	357.8	491.9
A4	882.5	2154.1	2952.7	4249.7
EX-A3	44.9	107.3	145.3	204.7
J-A2 (AP)	925.4	2248.9	3082	4440.4

Peak Flows Q (cfs) at Analysis Point

Storm Event	2-YR	10-YR	25-YR	100-YR
J-A2 (AP)	932.7	2271.4	3113.9	4485.7
J-A2 (AP)	925.4	2248.9	3082	4440.4
Δ	**-7.3**	**-22.5**	**-31.9**	**-45.3**

DESIGNED BY: SPC | DRAFTED BY: JDS

DATE | REVISION

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

SHEET NAME: HYDROLOGY - PROPOSED CONDITIONS

JOB NAME: SANTA RITA RANCH MAINTENANCE BARN

PROJECT: GRADING, DRAINAGE, AND UTILITIES

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
1-8-2024

DATE: JANUARY 2024

JOB NUMBER: 5605

SHEET: 8 OF 17

SHEET NO.: 8

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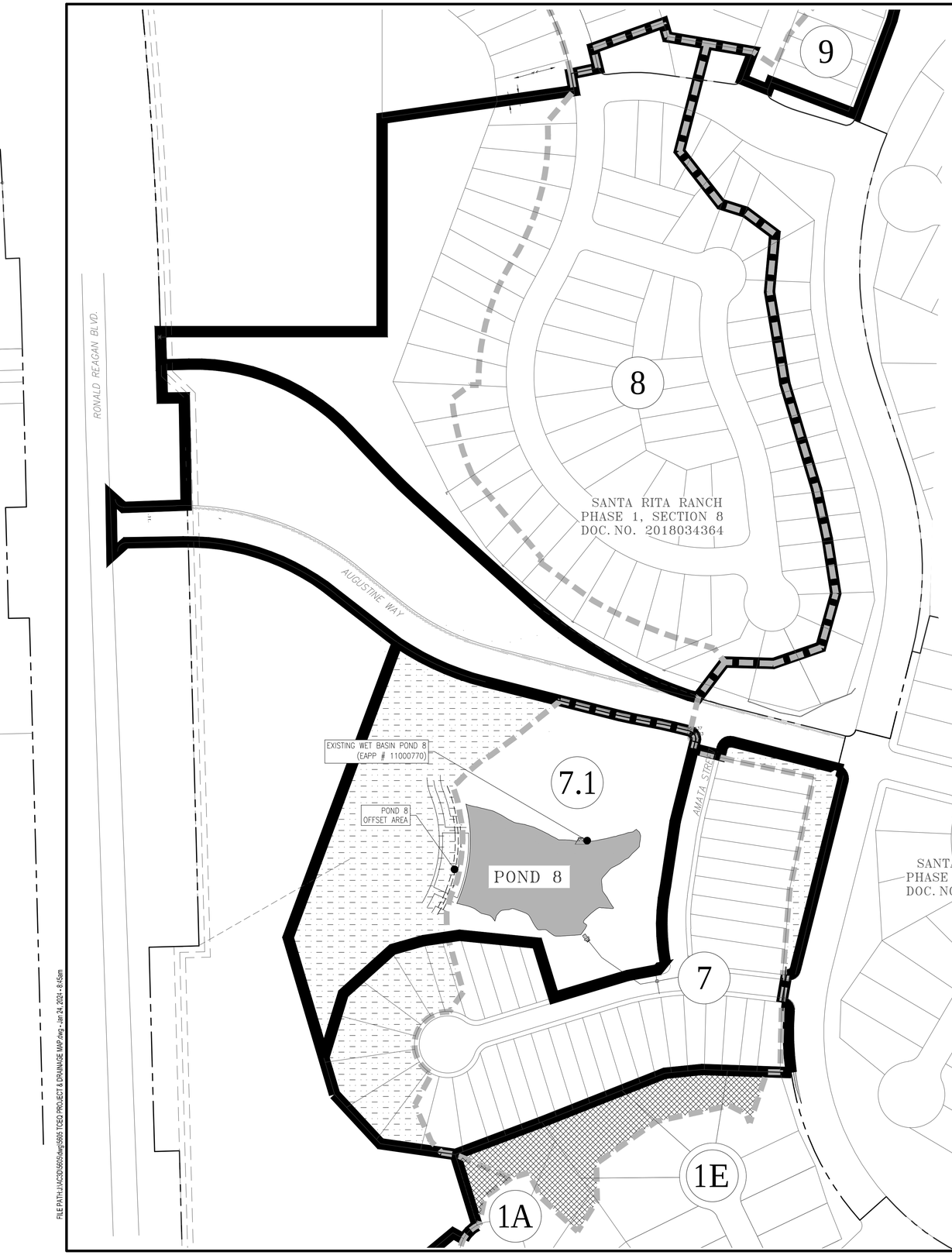

LEGEND

- SECTION BOUNDARIES
- XX — SECTION NUMBER
- TCEQ PROJECT AREA BOUNDARY
- DRAINAGE BOUNDARY LINE
- OFFSET TCEQ PROJECT AREAS (SEE NOTE 1, THIS SHEET)
- TREATED AREAS WITHIN DRAINAGE BASIN (SEE NOTE 2, THIS SHEET)

NOTES:

1. REFERS TO DEVELOPED AREAS THAT DO NOT DRAIN TO A TREATMENT BMP. TREATMENT PONDS HAVE BEEN SIZED TO TREAT DRAINING AREA BEYOND THE REQUIRED 80% TSS REDUCTION TO ACCOUNT FOR TSS REMOVAL FROM OFFSET AREAS.

2. REFERS TO DEVELOPED AREAS THAT ARE ACCOUNTED FOR IN THE PROJECT AREA FOR AN EXISTING BMP, BUT ARE DRAINING TO A PROPOSED BMP. THESE AREAS DO NOT CONTRIBUTE TO PROJECT AREA, BUT ARE INCLUDED IN ONSITE DRAINAGE BASIN OF PROPOSED BMP.

0 100' 200'

SCALE: 1" = 100'

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Santa Rita Ranch, Pond 8
Date Prepared: 1/10/2024

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 * =	32.63	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	13.15	acres
Total post-development impervious cover fraction * =	0.40	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	11446	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	21.80	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	12.26	acres
Post-development impervious fraction within drainage basin/outfall area =	0.56	
$L_{M\ THIS\ BASIN}$ =	10671	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Wet Basin
Removal efficiency = 93 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

A_C =	21.80	acres
A_I =	12.26	acres
A_P =	9.54	acres
L_R =	12777	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 11446 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 =	0.39	
On-site Water Quality Volume =	53085	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 =	10617	
Total Capture Volume (required water quality volume(s) x 1.20) =	63702	cubic feet

11. Wet Basins Designed as Required in RG-348 — Pages 3-66 to 3-71

Required capacity of Permanent Pool =	63702	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	116787	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

SANTA RITA RANCH MAINTENANCE BARN

Table 1 - Impervious Cover per Section

Sections	TCEQ Project Area Per Section						Onsite Drainage Basin to BMP Per Section						TSS Removal Required (lbs)
Contributing Sections	Project Area (ac)	# Lots	Impervious Areas (ac)				Drainage Basin (ac)	# Lots	Impervious Areas (ac)				
			Lots	ROW	Misc.	Total			Lots	ROW	Misc.	Total	
WET POND 8 - EAPP # 11000770													
1A	0.32	3	0.30	0.00	0.00	0.30	0.32	3	0.30	0.00	0.00	0.30	261
1E	0.82	3	0.34	0.00	0.00	0.34	0.82	3	0.34	0.00	0.00	0.34	296
Maintenance Barn 7.1	7.14	0	0.00	0.53	0.42	0.95	4.08	0	0.00	0.53	0.42	0.95	827
7	7.35	18	1.42	1.89	0.00	3.31	5.40	15	1.36	1.36	0.00	2.72	2,367
8	16.70	67	5.77	2.32	0.00	8.09	10.88	67	5.48	2.32	0.00	7.79	6,780
9	0.30	2	0.16	0.00	0.00	0.16	0.30	2	0.16	0.00	0.00	0.16	139

Table 2 - BMP Treatment Requirements

Project Area			Drainage Basin						BMP Treatment Provided			
			Onsite		Offsite		Total		Permanent Pool (cf)		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	Required	Provided
WET POND 8 - EAPP # 11000770												
32.63	13.15	11,446	21.80	12.26	0.00	0.00	21.80	12.26	63,702	118,650	116,787	196,902

Carlson, Brigance & Doering, Inc.
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DESIGNED BY: SPC | DRAFTED BY: JDS

DATE | REVISION

SHEET NAME: TCEQ PROJECT AND DRAINAGE MAP
JOB NAME: SANTA RITA RANCH MAINTENANCE BARN
PROJECT: GRADING, DRAINAGE, AND UTILITIES

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
1-8-2024

DATE: JANUARY 2024
JOB NUMBER: 5605
SHEET: 9 OF 17
SHEET NO.: 9

FILE PATH:J:\AC3D\5605\dwg\5605 TCEQ PROJECT & DRAINAGE MAP.dwg - Jan 24, 2024 - 8:45am

NOTES:

1. APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING AND FIRE CODE APPROVAL NOR BUILDING PERMIT APPROVAL.
2. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE STATED.
3. ALL WASTE RECEPTACLES MUST BE SCREENED.
4. A KNOX BOX SHALL BE INSTALLED A THE MAIN ENTRY GATE TO THIS MAINTENANCE FACILITY FOR EMERGENCY ACCESS. ALL OTHER ENTRANCES WILL ALSO HAVE KNOX BOX ENTRY.
5. FOR DRIVEWAY CONSTRUCTION: THE OWNER IS RESPONSIBLE FOR ALL COSTS FOR RELOCATION OF, OR DAMAGE TO UTILITIES.
6. REFER TO PLANS BY OTHERS FOR DETAILED SITE AMENITY PLANS. SITE AMENITIES ARE REFLECTED GRAPHICALLY ONLY AND SHOULD NOT BE USED FOR CONSTRUCTION LAYOUT.
7. REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS AND LOCATIONS OF DOORS, STOOPS, RAMPS AND OTHER FEATURES. BUILDINGS ON THIS SHEET ARE REPRESENTED ILLUSTRATIVELY ONLY.
8. ALL SITE UTILITY LINES ARE PROPOSED TO BE LOCATED UNDERGROUND.
9. EXTERIOR LIGHTING SHALL BE SHIELDED SUCH THAT THE LIGHT SOURCE IS NOT DIRECTLY VISIBLE FROM THE PUBLIC ROW OR ADJACENT RESIDENTIAL DISTRICTS OR USES AT THE PROPERTY LINE. UNSHIELDED "WALL PACK" LIGHTING IS NOT PROPOSED.
10. AIR CONDITIONING UNITS ARE NOT PROPOSED FORWARD THE FRONT WALL OF THE BUILDING.
11. THE DEVELOPER AND SUBSEQUENT OWNERS OF THE LANDSCAPED PROPERTY, OR THE MANAGER OR AGENT OF THE OWNER, SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPE AREAS. SAID AREAS SHALL BE MAINTAINED SO AS TO PRESENT A HEALTHY, NEAT AND ORDERLY APPEARANCE AT ALL TIMES AND SHALL BE KEPT FREE OF REFUSE AND DEBRIS. ALL PLANTED AREAS SHALL BE PROVIDED WITH AN AUTOMATIC IRRIGATION SYSTEM AND WATERED AS NECESSARY TO ENSURE CONTINUOUS HEALTHY GROWTH AND DEVELOPMENT. MAINTENANCE SHALL INCLUDE THE REPLACEMENT OF ALL DEAD PLANT MATERIAL IF THAT MATERIAL WAS USED TO MEET THE REQUIREMENTS OF THE LANDSCAPE ORDINANCE.
12. ALL DISTURBED AREAS AND ROW WILL BE RE-VEGETATED BY THE DEVELOPER
13. ALL INVASIVE SPECIES SHALL BE REMOVED FROM THE PROPERTY.
14. NO MORE THAN 50% OF THE SAME SPECIES MAY BE PLANTED TO MEET THE TREE PLANTING REQUIREMENTS

SITE PLAN LEGEND

- EXISTING STREET LIGHT
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED CHIP SEAL

SYMBOLS MAY BE EXAGGERATED FOR CLARIFICATION PURPOSES

0 20' 40'

SCALE: 1" = 20'

SANTA RITA KC, LLC. (38.231 AC)
DOC NO. 2013102456

SANTA RITA KC, LLC (40.30 AC)
DOC NO. 2008093412

AUGUSTINE WAY PLAT BOUNDARY

AUGUSTINE WAY PLAT BOUNDARY

SANTA RITA RANCH PHASE 1 SECTION 7 BOUNDARY

SANTA RITA RANCH PHASE 1 SECTION 8 BOUNDARY

AUGUSTINE WAY PLAT
DOC NO. TBD

SANTA RITA KC, LLC (40.30 AC)
DOC NO. 2008093412

SANTA RITA RANCH PHASE 1 SECTION 8
DOC NO. 2018034364

AUGUSTINE WAY

4' CONC WALK

4' CONC WALK

4' CONC WALK

CONCRETE DRIVEWAY

STORAGE BARN

CHIP SEAL PARKING LOT

CHIP SEAL PARKING LOT

210.4' F-F

FUTURE PICKLEBALL COURTS

AMATA STREET

SANTA RITA RANCH PHASE 1 SECTION 7
DOC NO. 2022064359

EXISTING WET BASIN 100-YR HWL

31 30 29 28 27 26 25 52 34 Ⓐ 6 1A 1B Ⓑ 2A

FILE PATH:J:\AC3D\5605\dwg\5605-SITE PLAN.dwg - Jan 24, 2024 - 8:52am

DESIGNED BY: SPC
DRAFTED BY: JDS

DATE
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SHEET NAME: OVERALL SITE PLAN

JOB NAME: SANTA RITA RANCH MAINTENANCE BARN

PROJECT: GRADING, DRAINAGE, AND UTILITIES

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

1-24-2024

DATE: JANUARY 2024

JOB NUMBER: 5605

SHEET: 10 OF 17

SHEET NO.: 10

EXISTING CONCRETE CATCH CURB

EXISTING CONCRETE SIDEWALK

STREET LIGHT

AUGUSTINE WAY

63.1' END RAD – END RAD

L=3.1'
R=2.0'

L=7.9'
R=5.0'

7.0'

L=23.8'
R=15.0'

L=23.8'
R=15.0'

L=6.3'
R=5.0'

8.0'

7.0'

6.0'

40.0'

5.5'

4.0'

96.3'

100.1'

98.5'

6.0'

6.0'

L=33.2'
R=20.0'

L=296.7'
R=20.5'

L=33.4'
R=25.0'

L=27.0'
R=20.5'

6.0'

6.0'

25.0' F–F

24" CONCRETE CATCH CURB

L=20.2'
R=18.0'

L=18.7'
R=24.0'

L=12.0'
R=21.5'

1.6'

7.9'

L=8.0'
R=44.5'

24" CONCRETE SPILL CURB

STORAGE BARN

60.0'

60.0'

CHIP SEAL PARKING LOT

25.0'

21.5'

4.0'

114.0'

63.5'

CHIP SEAL PARKING LOT

24" CONCRETE CATCH CURB

24" CONCRETE CATCH CURB

24" CONCRETE CATCH CURB

4' TAPER

24" CONCRETE CATCH CURB

4' TAPER

10' CURB DROPDOWN (DRAIN TO CHANNEL)

CHANNEL

30.0'

60.0'

30.0'

40.0'

45.5'

24" CONCRETE CATCH CURB

24" CONCRETE CATCH CURB

24" CONCRETE CATCH CURB

18.0'

20.5'

41.0'

4.0'

75.5'

120.5'

24" CONCRETE CATCH CURB

4' TAPER

24" CONCRETE RIBBON CURB

24" CONCRETE RIBBON CURB

SITE PLAN LEGEND

- EXISTING STREET LIGHT
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED CHIP SEAL

SYMBOLS MAY BE EXAGGERATED FOR CLARIFICATION PURPOSES

0 10' 20'

SCALE: 1" = 10'

DESIGNED BY:	DRAFTED BY:
SPC	JDS

DATE

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SHEET NAME: SITE DIMENSION PLAN

JOB NAME: SANTA RITA RANCH MAINTENANCE BARN

PROJECT: GRADING, DRAINAGE, AND UTILITIES

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

1-24-2024

DATE: JANUARY 2024

JOB NUMBER: 5605

SHEET: 11 OF 17

SHEET NO.: 11

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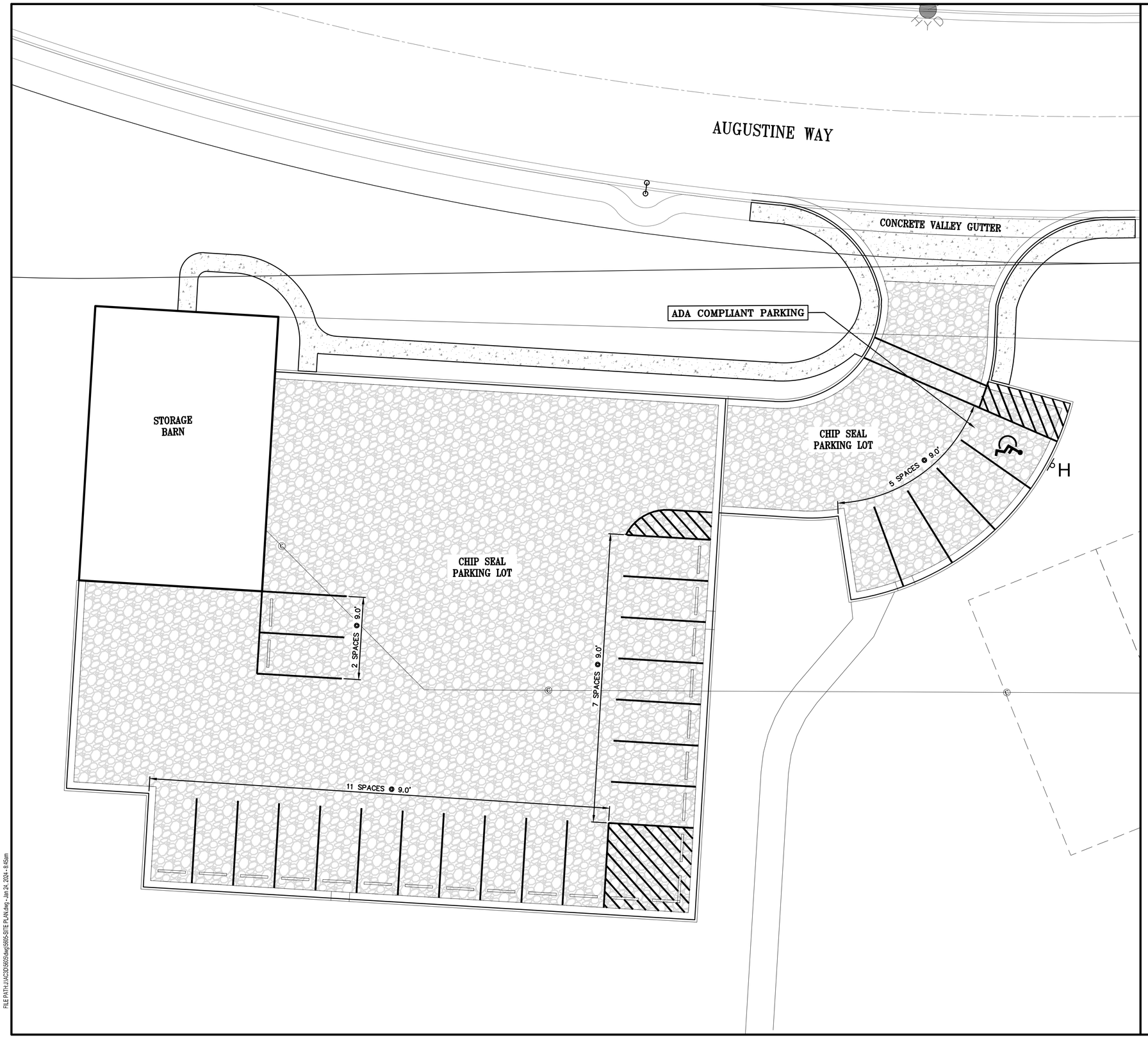

0 10' 20'

SCALE: 1" = 10'

SITE PLAN LEGEND

- 4" WHITE STRIPING
- HANDICAPPED PARKING SIGN
- CONCRETE WALK
- CONCRETE PARKING STOP

SYMBOLS MAY BE EXAGGERATED FOR CLARIFICATION PURPOSES

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.

DESIGNED BY: SPC
DRAFTED BY: JDS

DATE
REVISION

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SHEET NAME: SIGNAGE AND STRIPING PLAN
JOB NAME: SANTA RITA RANCH MAINTENANCE BARN
PROJECT: GRADING, DRAINAGE, AND UTILITIES

STATE OF TEXAS
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CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
1-24-2024

DATE: JANUARY 2024
JOB NUMBER: 5605
SHEET: 12 OF 17
SHEET NO.: 12

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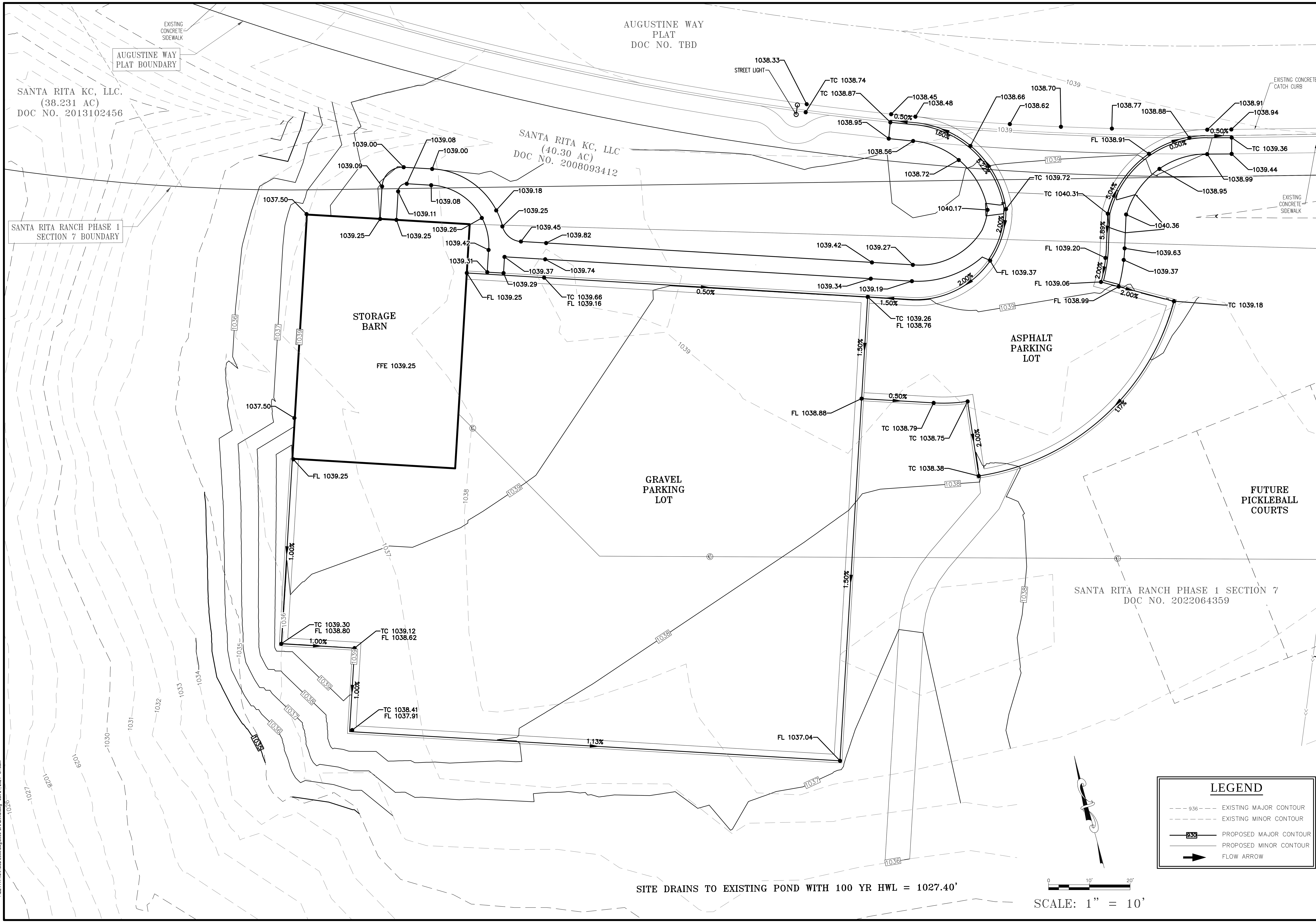

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DRAFTED BY: JDS

DATE	REVISION

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SHEET NAME: OVERALL GRADING PLAN

JOB NAME: SANTA RITA RANCH MAINTENANCE BARN

PROJECT: GRADING, DRAINAGE, AND UTILITIES

STATE OF TEXAS
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CARLSON, BRIGANCE & DOERING, INC. ID# F3791
1-24-2024

DATE: JANUARY 2024

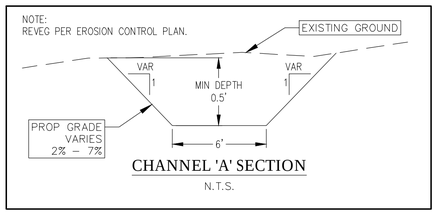
JOB NUMBER: 5605

SHEET: 13 OF 17

SHEET NO. 13

DRAINAGE CALCULATIONS

Area No.	Area (Acre)	T_C (Min.)	Perv. (%)	Imperv. (%)	C 10	C 25	C 100	I_{10} In/Hr	I_{25} In/Hr	I_{100} In/Hr	Q_{10} CFS	Q_{25} CFS	Q_{100} CFS	C10*A	C25*A	C100*A	AREA NO.
A1	0.39	10	34	66	0.62	0.67	0.75	7.26	8.78	11.23	1.8	2.3	3.3	0.24	0.26	0.29	A1
A2	0.19	10	0	100	0.81	0.86	0.95	7.26	8.78	11.23	1.1	1.4	2.0	0.15	0.16	0.18	A2



CHANNEL 'A' SECTION

N.T.S.

Channel Flow Analysis

Analysis Point 1				
Bottom Width [ft]	6			
Slope [%]	2.0%			
Left Slope [%]	2.4%			
Right Slope [%]	2.7%			
Manning n	0.04	10-yr (1.8 cfs)	25-yr (2.3 cfs)	100-yr (3.3 cfs)
Flow Velocity [ft/s]		1.1	1.17	1.29
Flow Depth [ft]		0.14	0.16	0.19
Erosive [Yes/No]		No	No	No

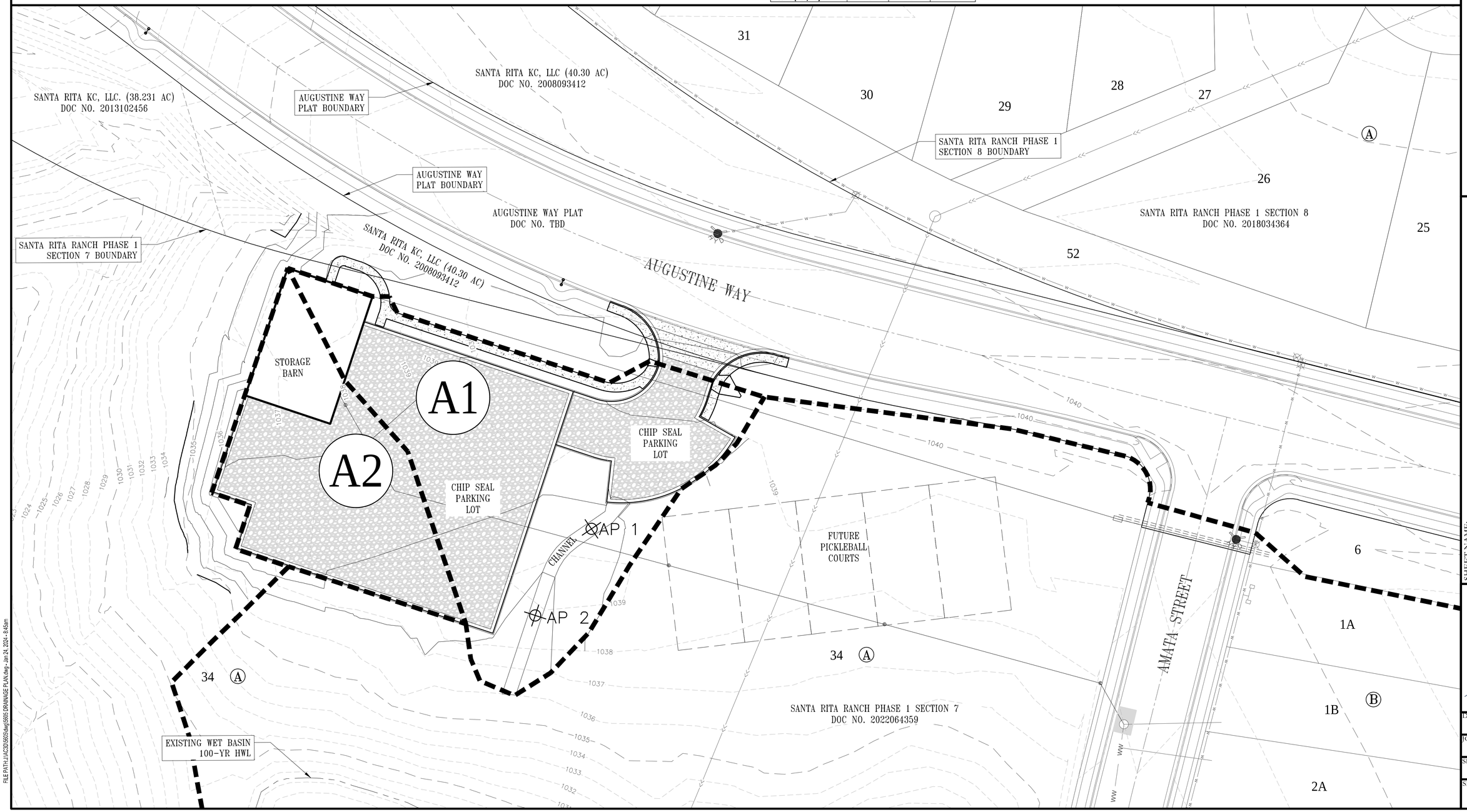
Analysis Point 2				
Bottom Width [ft]	6			
Slope [%]	1.8%			
Left Slope [%]	6.4%			
Right Slope [%]	4.7%			
Manning n	0.04	10-yr (1.8 cfs)	25-yr (2.3 cfs)	100-yr (3.3 cfs)
Flow Velocity [ft/s]		1.23	1.32	1.46
Flow Depth [ft]		0.16	0.19	0.22
Erosive [Yes/No]		No	No	No

0 20' 40'

SCALE: 1" = 20'

LEGEND

- EXISTING MINOR CONTOURS
- 305 EXISTING MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- 305 PROPOSED MAJOR CONTOURS
- DRAINAGE AREA BOUNDARY
- TC TIME OF CONCENTRATION PATH
- A1 DRAINAGE AREA NUMBER
- LP / HP HIGH POINT / LOW POINT
- FLOW ARROW



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DESIGNED BY: SPC
DRAFTED BY: JDS
DATE
REVISION

SHEET NAME: DRAINAGE PLAN
JOB NAME: SANTA RITA RANCH MAINTENANCE BARN
PROJECT: GRADING, DRAINAGE, AND UTILITIES

STATE OF TEXAS
STEVEN P. CATES
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1-24-2024

DATE: JANUARY 2024
JOB NUMBER: 5605
SHEET: 14 OF 17
SHEET NO.: 14

SANTA RITA KC, LLC.
(38.231 AC)
DOC NO. 2013102456

SANTA RITA KC, LLC
(40.30 AC)
DOC NO. 2008093412

SANTA RITA RANCH PHASE 1 SECTION 8
DOC NO. 2018034364

AUGUSTINE WAY
PLAT BOUNDARY

AUGUSTINE WAY
PLAT
DOC NO. TBD

SANTA RITA RANCH PHASE 1
SECTION 8 BOUNDARY

SANTA RITA RANCH PHASE 1
SECTION 7 BOUNDARY

31
30
29

AUGUSTINE WAY

4+10.21 2" WLN A
END LINE

STORAGE
BARN

CHIP SEAL
PARKING
LOT

CHIP SEAL
PARKING
LOT

4+00
3+00
2+00
1+00

RUN 2" WATER LINE
THROUGH EXISTING
6" PVC SLEEVE

62 PSI

0+62.61 2" WLN A
3/4" WATER METER AND
BACKFLOW PREVENTER

FUTURE
PICKLEBALL
COURTS

0+00.00 2" WLN A
WET TAP EXISTING
8" PVC WATER MAIN
CONNECT 2" PVC

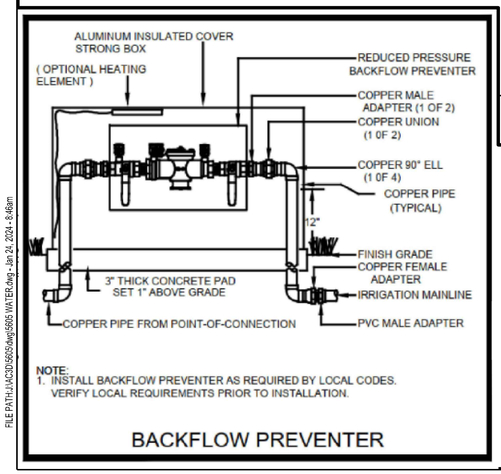
1A
1B
2A
Ⓐ
Ⓑ

AMATA STREET

34 Ⓐ

SANTA RITA RANCH PHASE 1 SECTION 7
DOC NO. 2022064359

SEE DETAILS ON SHEET 17



NOTE:
1. INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.

BACKFLOW PREVENTER

0 20' 40'

SCALE: 1" = 20'

WATER LEGEND

EXISTING FIRE HYDRANT

EXISTING GATE VALVE & BOX

62 PSI PER 1178 PRESSURE PLANE

NOTES:

1. ALL ONSITE UTILITY MATERIALS AND WORK SHALL CONFORM TO THE CURRENT PLUMBING CODE.
2. ALL WATER LINES MUST BE CONSTRUCTED IN COMPLIANCE WITH TCEQ RULE 30 TAC SEC. 290.44 RELATED TO WATER DISTRIBUTION LINES. WATER LINES SHALL HAVE A MINIMUM 9' SEPARATION FROM SEWER MAINS. WHERE 9 FEET SEPARATION CANNOT BE ACHEIVED CONTRACTOR MUS FOLLOW 290.44(e)(4)(A).
3. PRESSURE REDUCING VALVES SHALL BE INSTALLED ON THE PROPERTY OWNERS SIDE OF THE WATER METER WHERE SERVICE PRESSURE IS 80 psi OR GREATER
4. ALL WATER LINES SHALL BE CONSTRUCTED WITH AWWA C-900 DR18 UNLESS OTHERWISE SPECIFIED.

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

DESIGNED BY: SPC | DRAFTED BY: JDS

DATE	REVISION

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SHEET NAME: OVERALL WATER PLAN

JOB NAME: SANTA RITA RANCH MAINTENANCE BARN

PROJECT: GRADING, DRAINAGE, AND UTILITIES

STATE OF TEXAS
STEVEN P. CATES
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LICENSED
PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
1-24-2024

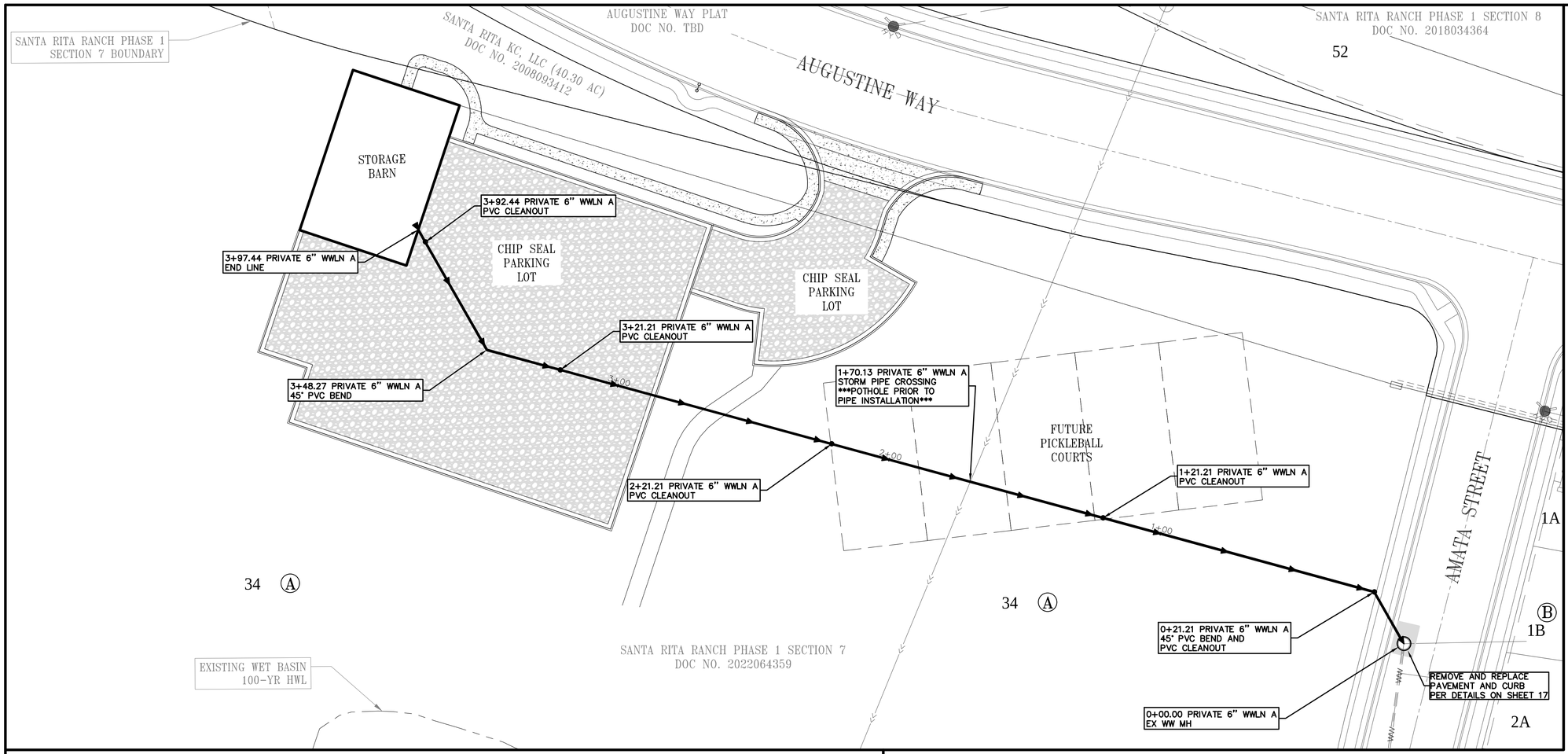
DATE: JANUARY 2024

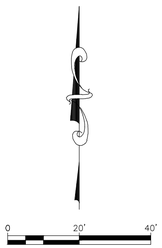
JOB NUMBER: 5605

SHEET: 15 OF 17

SHEET NO.: 15

FILE PATH:J:\AC3D\5605\dwg\5605 WATER.dwg – Jan 24, 2024 - 8:48am





SCALE: 1" = 20'

WASTEWATER LEGEND

- EXISTING MANHOLE
- FLOW DIRECTION ARROW

NOTES:

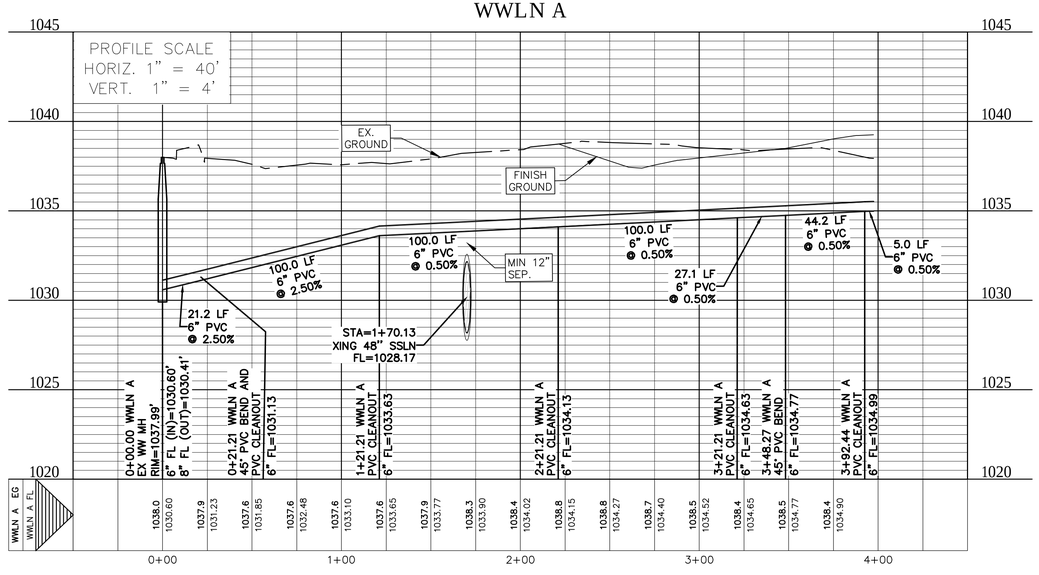
1. ALL STREETS ARE TO BE BUILT TO SUB-GRADE PRIOR TO UTILITY INSTALLATION.
2. ALL GRAVITY WASTEWATER PIPE SHALL BE PVC (ASTM D2241 OR D3034, SDR-26), UNLESS OTHERWISE NOTED. PIPE SHALL BE GREEN IN COLOR AND INSTALLED WITH A MINIMUM OF 42" OF COVER.
3. THE CONTRACTOR SHALL CONTACT THE CITY OF LIBERTY HILL INSPECTOR @ 512-778-5449 TO COORDINATE UTILITY TIE-INS AND NOTIFY HIM AT LEAST 48 HOURS PRIOR TO CONNECTING EXISTING LINES.
4. 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.
5. ALL MANHOLES TO HAVE 0.1' DROP ACROSS MANHOLE.
6. ALL WASTEWATER SERVICES MUST HAVE 2" MINIMUM SEPARATION FROM WATER LINES.
7. 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.
8. 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.
9. CONTACT THE CITY OF LIBERTY HILL WATER & WASTEWATER SUPERINTENDENT @ 512-778-5449 FOR ASSISTANCE IN OBTAINING EXISTING WASTEWATER LOCATIONS.
10. 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	PERCENT RETAINED
BY WEIGHT	
1"	0
3/8"	0-2
#4	40-85
#10	95-100

11. 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.
12. 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.
13. 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.

PROFILE

WWLN A



SEE DETAILS ON SHEET 17

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DESIGNED BY:	DRAFTED BY:
SPC	IDS

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, Suite 600 Austin, Texas 78750 Fax No. (512) 280-5165

SHEET NAME: OVERALL WASTEWATER PLAN

JOB NAME: SANTA RITA RANCH MAINTENANCE BARN

PROJECT: GRADING, DRAINAGE, AND UTILITIES

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

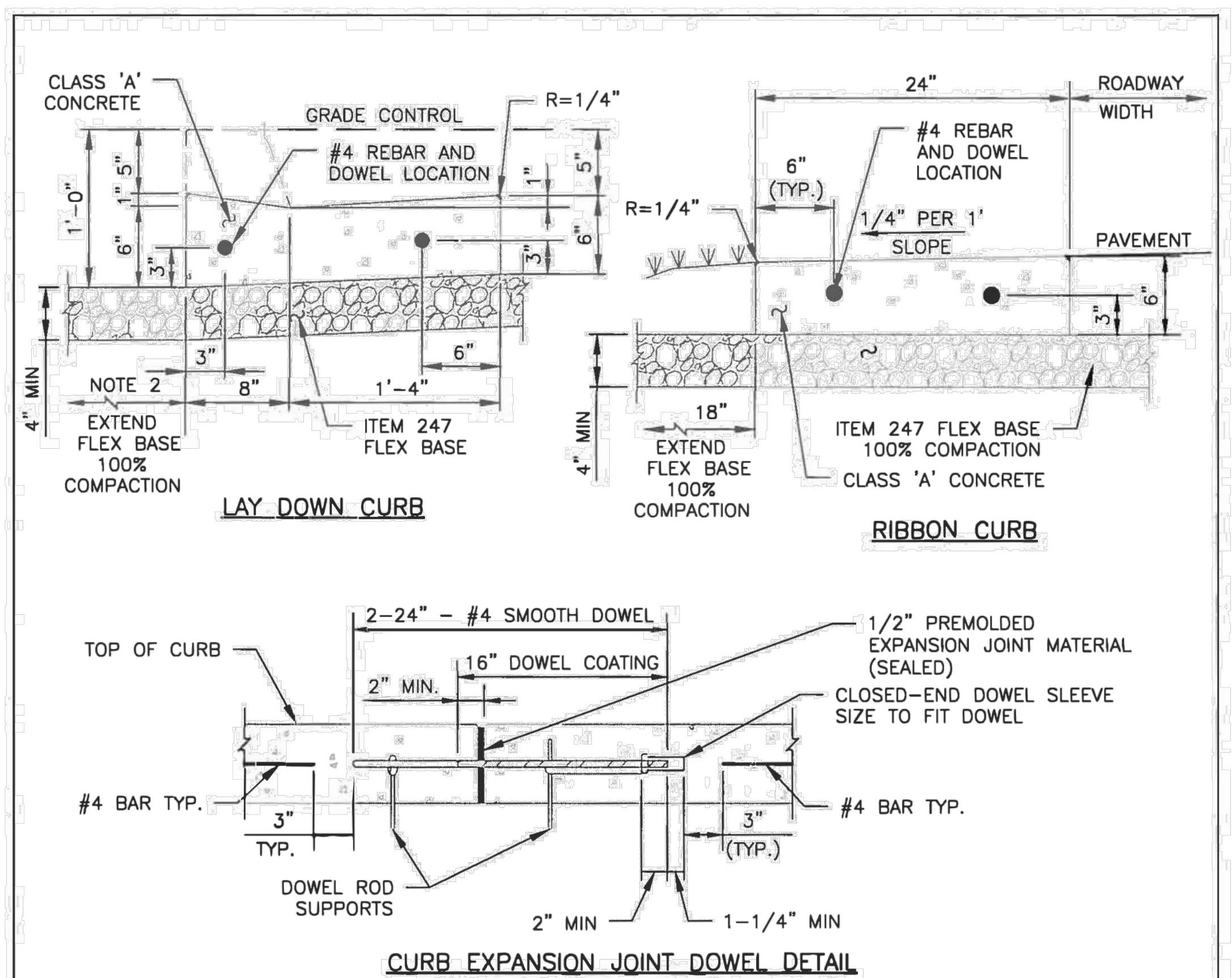
1-24-2024

DATE: JANUARY 2024

JOB NUMBER: 5605

SHEET: 16 OF 17

SHEET NO.: 16

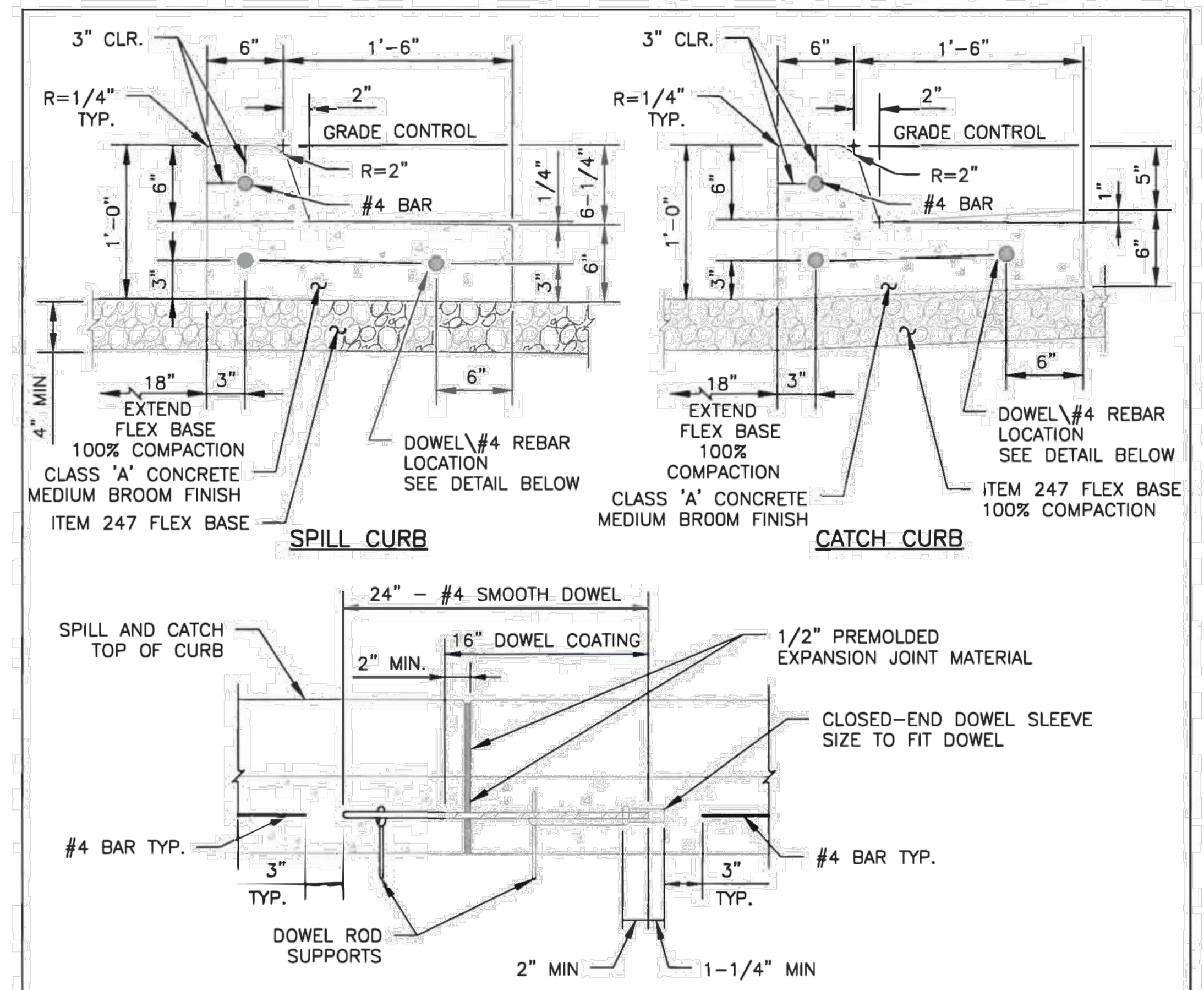


NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO SPECIFICATION ITEM 529, "CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER", AND THESE DETAILS (INDEPENDENT OF THE CONSTRUCTION METHODS USED).
2. ALL CURBS SHALL HAVE A MINIMUM OF 4 INCHES OF COMPACTED FLEXIBLE BASE BETWEEN THE BOTTOM OF THE CURB AND TOP OF SUBGRADE. THE FLEXIBLE BASE MATERIAL, COMPACTED TO 100% DENSITY, SHALL EXTEND 18 INCHES BEHIND BACK OF CURB, OR 36 INCHES IF THE SUBGRADE P.I. IS GREATER THAN 20.
3. CONCRETE IS CLASS 'A' MEDIUM BROOM FINISH.
4. REINFORCING BARS ARE #4 BARS UNLESS OTHERWISE SHOWN.
5. PLACE EXPANSION JOINT AT A MAXIMUM SPACING OF 40 FEET. TERMINATE WORKDAY PRODUCTION AT AN EXPANSION JOINT.
6. PLACE 1/2" WIDE EXPANSION JOINTS AT STRUCTURES, CURB RETURNS AND INCREMENTS NO GREATER THAN 40 FEET.
7. FORM CONTROL JOINTS, 1/4 INCH WIDE AND 3/4 INCH DEEP AT A MAXIMUM SPACING OF 10 FEET. WHEN CURB ABUTS CONCRETE PAVEMENT, MATCH PAVEMENT JOINT SPACING.
8. ROUND EXPOSED EDGES AND JOINTS TO A 1/4 INCH RADIUS.
9. COAT 16 INCHES OF 24 INCH LONG DOWELS WITH GREASE OR APPROVED DEBONDING LUBRICANT, INSTALL DOWEL CAP ON LUBRICATED END OF THE DOWELS.

SCALE: NTS

RECORD SIGNED COPY ON FILE / APPROVED	CITY OF ROUND ROCK	DRAWING NO: ST-05 SHEET 1 of 1
01-28-21 DATE / THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.	LAYDOWN AND RIBBON CURB DETAIL (WITH EXPANSION JOINT DOWEL DETAIL)	ROUND ROCK TEXAS

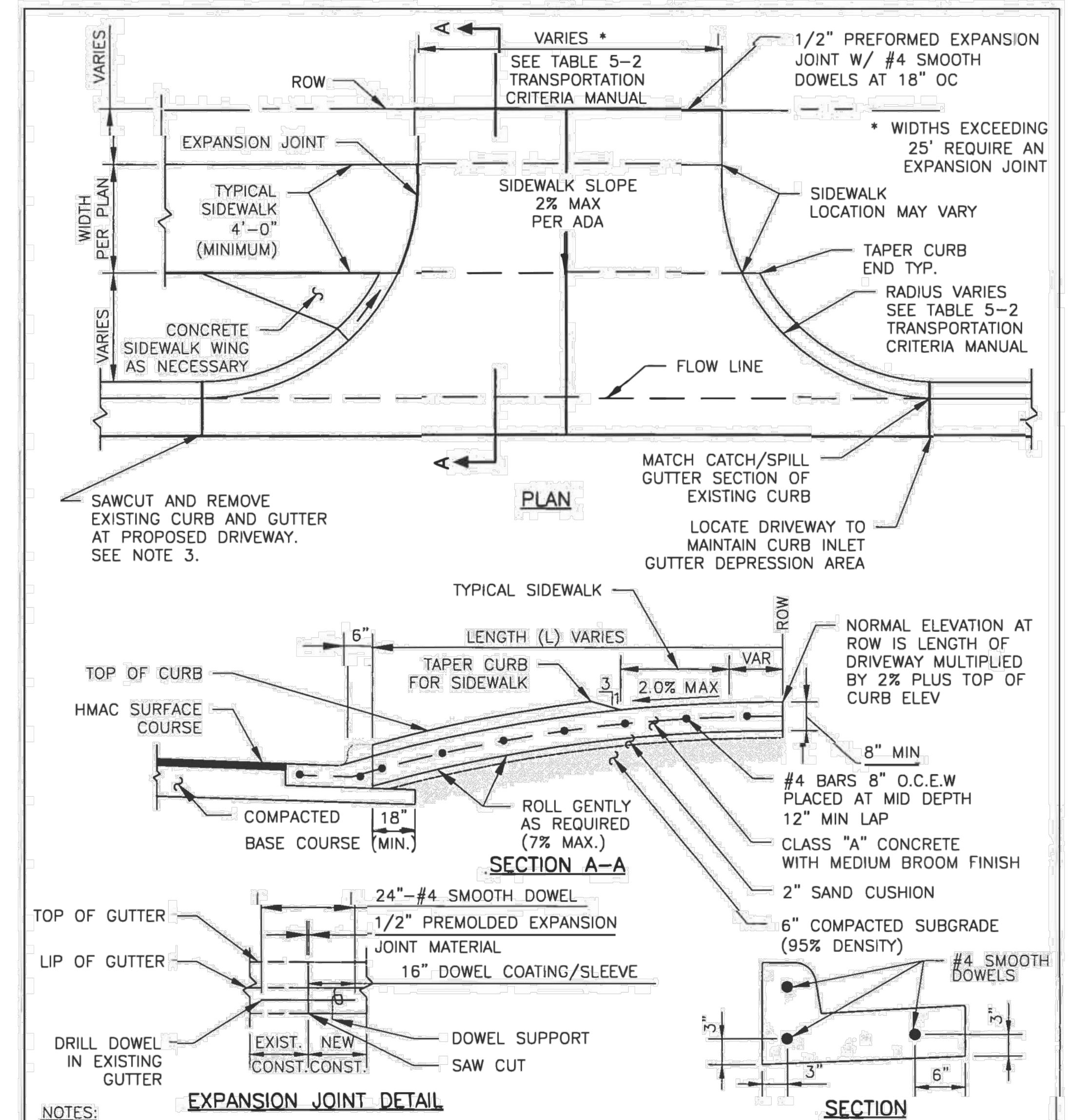


NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO SPECIFICATION ITEM 529, "CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER", AND THESE DETAILS (INDEPENDENT OF THE CONSTRUCTION METHODS USED)
2. ALL CURBS SHALL HAVE A MINIMUM OF 4 INCHES OF COMPACTED FLEXIBLE BASE BETWEEN THE BOTTOM OF THE CURB AND TOP OF SUBGRADE. THE FLEXIBLE BASE MATERIAL, COMPACTED TO 100% DENSITY, SHALL EXTEND 18 INCHES BEHIND BACK OF CURB, OR 36 INCHES IF THE SUBGRADE P.I. IS GREATER THAN 20.
3. CONCRETE IS CLASS "A" MEDIUM BROOM FINISH.
4. REINFORCING BARS ARE #4 BARS UNLESS OTHERWISE SHOWN.
5. PLACE EXPANSION JOINT AT A MAXIMUM SPACING OF 40 FEET. TERMINATE WORKDAY PRODUCTION AT AN EXPANSION JOINT.
6. PLACE 1/2" WIDE EXPANSION JOINTS AT STRUCTURES, CURB RETURNS AND INCREMENTS NO GREATER THAN 40 FEET.
7. FORM CONTROL JOINTS, 1/4 INCH WIDE AND 3/4 INCH DEEP AT A MAXIMUM SPACING OF 10 FEET. WHEN CURB ABUTS CONCRETE PAVEMENT, MATCH PAVEMENT JOINT SPACING.
8. ROUND EXPOSED EDGES AND JOINTS TO A 1/4 INCH RADIUS.
9. COAT 16 INCHES OF 24 INCH LONG DOWELS WITH GREASE OR APPROVED DEBONDING LUBRICANT, INSTALL DOWEL CAP ON LUBRICATED END OF THE DOWELS.

SCALE: NTS

RECORD SIGNED COPY ON FILE / APPROVED	CITY OF ROUND ROCK	DRAWING NO: ST-06 SHEET 1 of 1
01-28-21 DATE / THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.	SPILL AND CATCH CURB DETAIL (WITH CURB EXPANSION JOINT DOWEL DETAIL)	ROUND ROCK TEXAS

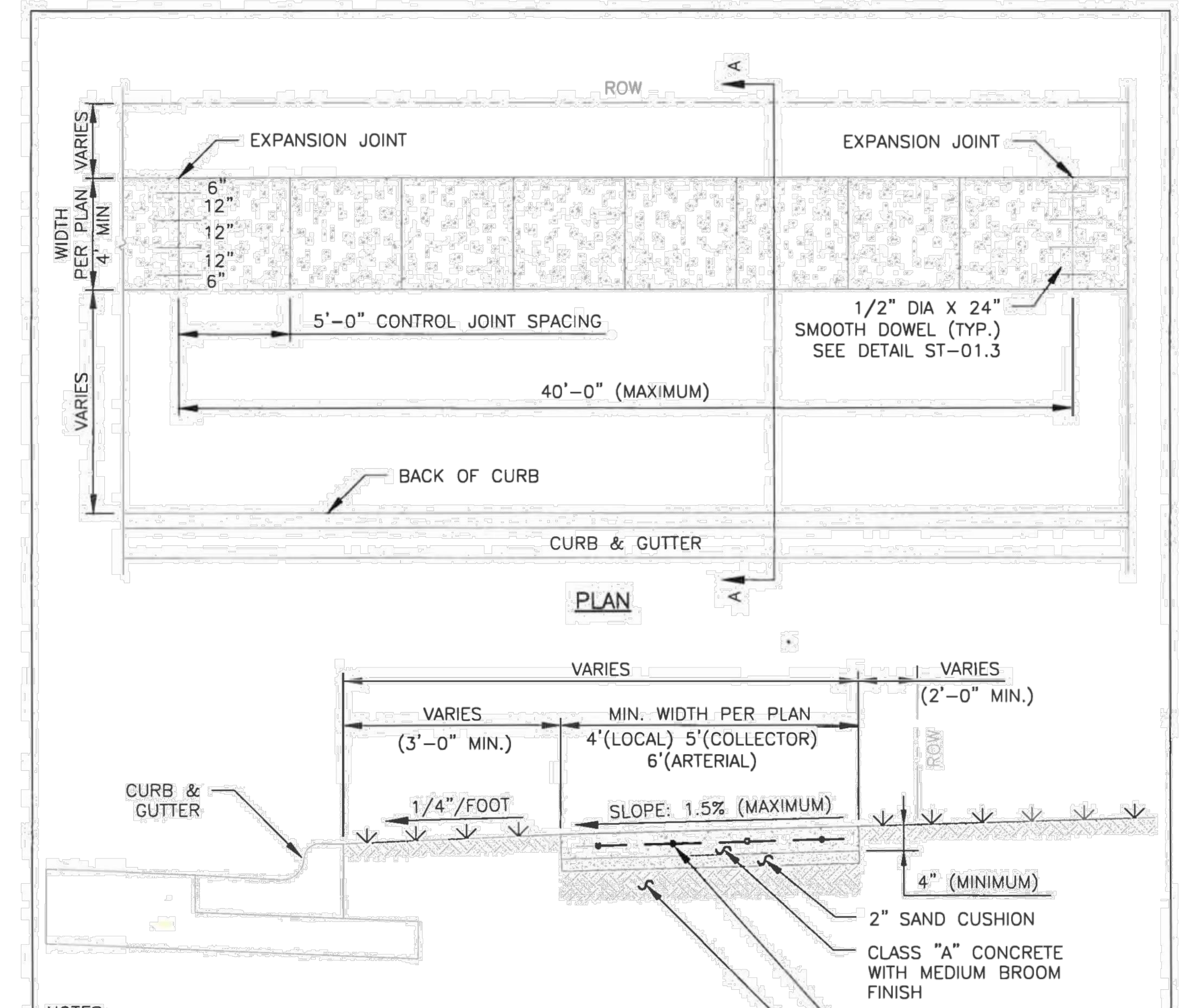


NOTES:

1. PLACE 1/2 INCH EXPANSION JOINTS AT LOCATIONS SHOWN OR AS DIRECTED BY THE ENGINEER.
2. FORM CONTROL JOINTS 1/4 INCH WIDE AND 3/4 INCH DEEP AT A MAXIMUM SPACING OF 10'. ROUND JOINT EDGES TO A MINIMUM 1/4" RADIUS.
3. IF THE NEAREST EXISTING EXPANSION JOINT IS 5 FEET OR LESS FROM THE DRIVEWAY RADIUS, THEN REMOVE AND REPLACE CURB AND GUTTER TO THE NEAREST EXPANSION JOINT. SAWCUT BETWEEN EXISTING CURB/ASPHALT SO THAT NO DAMAGE OCCURS TO EXISTING ROADWAY.
4. PROPER CHAIRS SHALL BE USED TO SUPPORT STEEL REINFORCEMENT.

SCALE: NTS

RECORD SIGNED COPY ON FILE / APPROVED	CITY OF ROUND ROCK	DRAWING NO: ST-03.1 SHEET 1 of 2
01-28-21 DATE / THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.	CONCRETE DRIVEWAY DETAIL TYPE II COMMERCIAL OR MULTIFAMILY	ROUND ROCK TEXAS

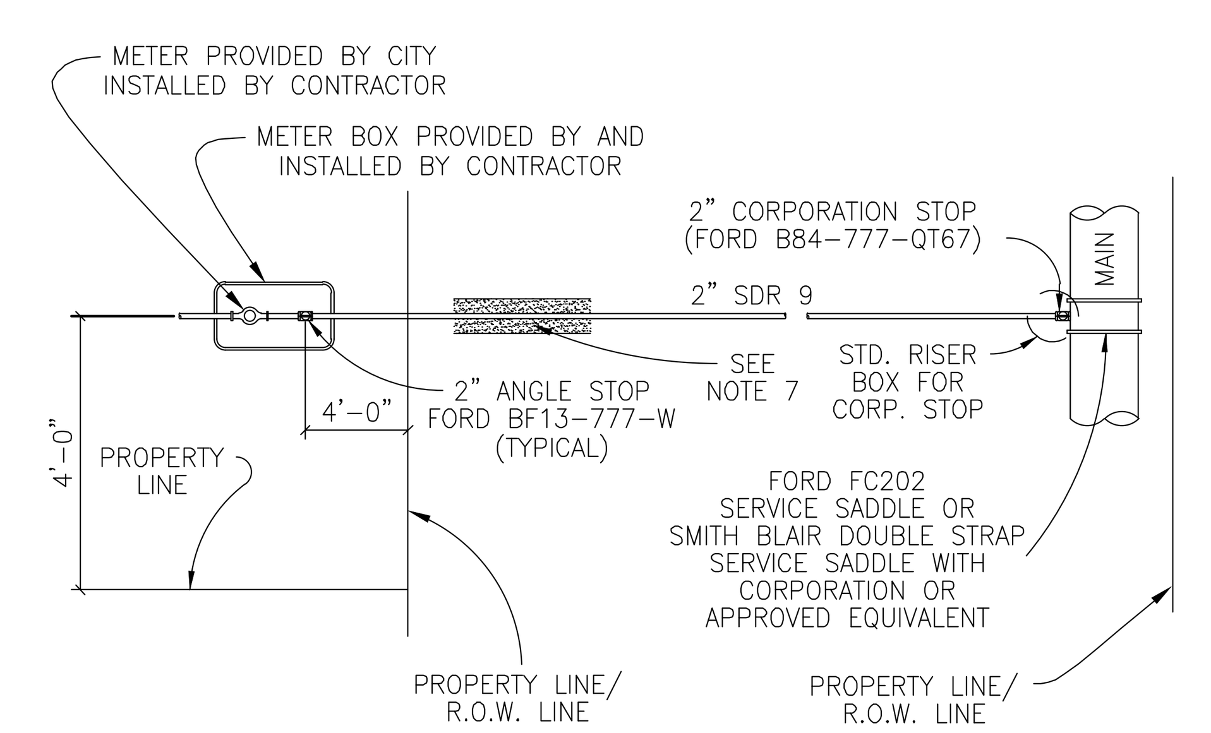


NOTES:

1. CONCRETE IS CLASS "A" BROOM FINISHED. (TXDOT ITEM 421 & 531)
2. REINFORCING IS #4 BARS PLACED AT 12 INCHES O.C.E.W. (SEE DETAIL) DO NOT USE W.W.F (WELDED WIRE FABRIC)
3. PLACE EXPANSION JOINT AT A MAXIMUM SPACING OF 40 FEET. TERMINATE WORKDAY PRODUCTION AT AN EXPANSION JOINT.
4. PLACE 1/2 INCH WIDE EXPANSION MATERIAL WHERE SIDEWALK ABUTS AN EXISTING STRUCTURE, DRIVEWAY, OR OBSTRUCTION PROTRUDING THROUGH THE SIDEWALK.
5. FORM CONTROL JOINTS, 1/4 INCH WIDE AND 3/4 INCH DEEP AT A MAXIMUM SPACING OF 5 FEET. JOINT SPACING SHALL BE PROPORTIONAL TO WIDTH OF SIDEWALK.
6. ROUND OUTER EDGES AND JOINTS TO A 1/4 INCH RADIUS
7. CONSTRUCT CURB RAMPS IN ACCORDANCE WITH TXDOT STANDARD "PEDESTRIAN FACILITIES CURB RAMPS".
8. WHEN SIDEWALK IS A DESIGNATED SHARED USE PATH, CURB RAMP CLEAR WIDTH SHALL MATCH THE WIDTH OF THE SHARED USE PATH.
9. SIDEWALKS SHALL BE CONSTRUCTED PER CURRENT ADA STANDARDS.
10. SIDEWALKS WITHIN 3'-0" OF CURB SHALL BE A MINIMUM OF 5 FEET WIDE.

SCALE: NTS

RECORD SIGNED COPY ON FILE / APPROVED	CITY OF ROUND ROCK	DRAWING NO: ST-01.1 SHEET 1 of 3
01-28-21 DATE / THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.	SIDEWALK DETAIL	ROUND ROCK TEXAS



NOTES:
1. AUTHORIZED SERVICE LINE MATERIAL:
POLYETHYLENE TUBING SHALL BE SDR-9. CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
2. ANGLE STOP SHALL BE 1" MINIMUM.
3. 1" ANGLE STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.
4. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" IN DIAMETER SHALL BE HANDLED ON AN INDIVIDUAL BASIS.
5. ANGLE STOPS 1 1/2" AND 2" IN SIZE SHALL BE PROVIDED WITH BOTH A LOCKING CAP AND METER FLANGE.
6. ANGLE STOPS SHALL BE INSTALLED 8" BELOW FINISHED GRADE AND MARKED WITH A 2" X 2" X 48" TREATED WOOD STAKE, PAINTED BLUE.
7. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
8. CASING REQUIREMENTS FOR SERVICE LINES CROSSING ROADWAYS SEE DETAIL W-03 NOTE #7.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems *Your Community Owned Utility*	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS **SINGLE WATER SERVICE PLAN**	REVISION NOTE: ADOPTED 01/23/2013 DRAWING NAME: W04 SCALE: NTS DATE: 1/2013 DRAWN BY: – APPROVED BY: MH

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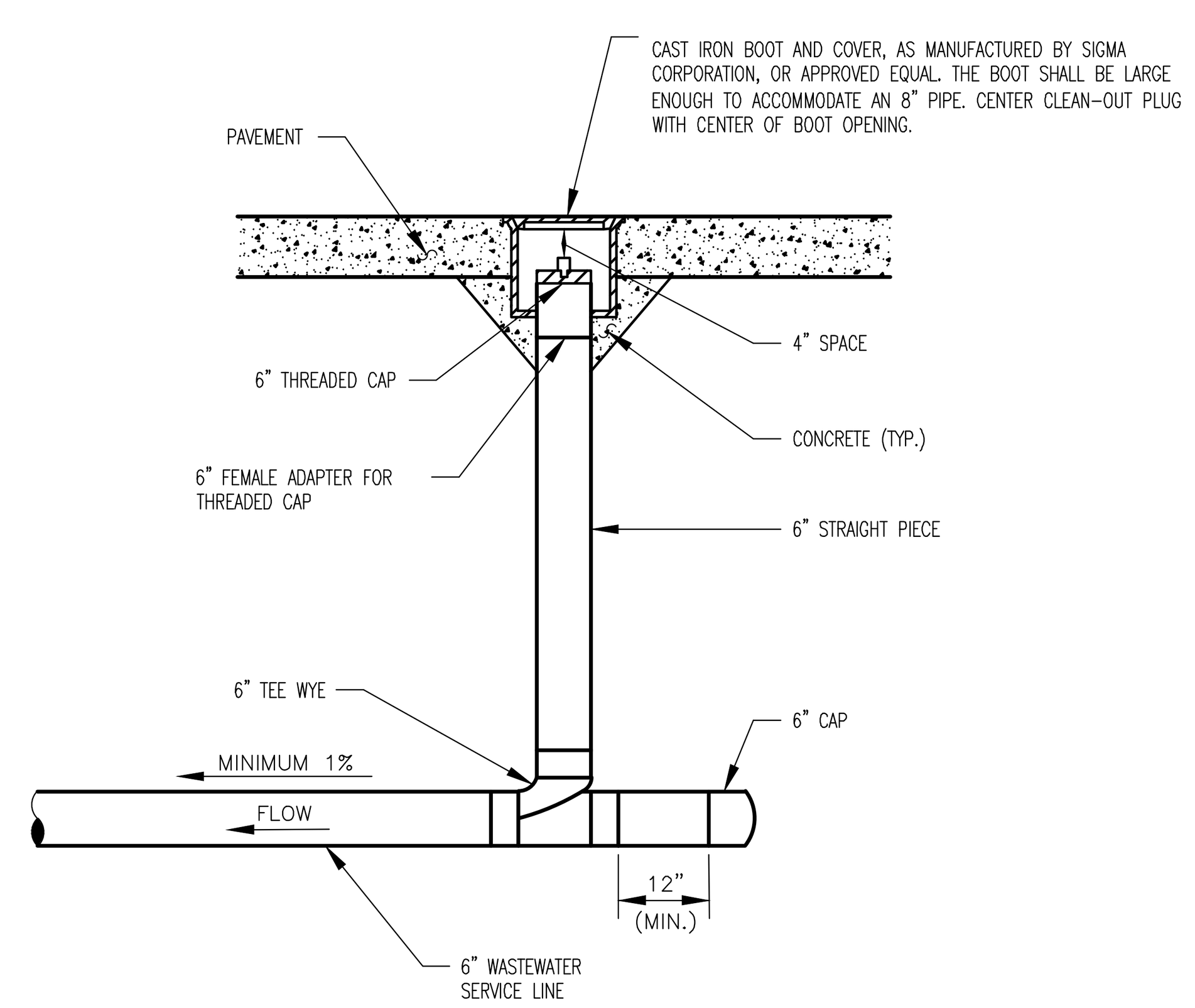
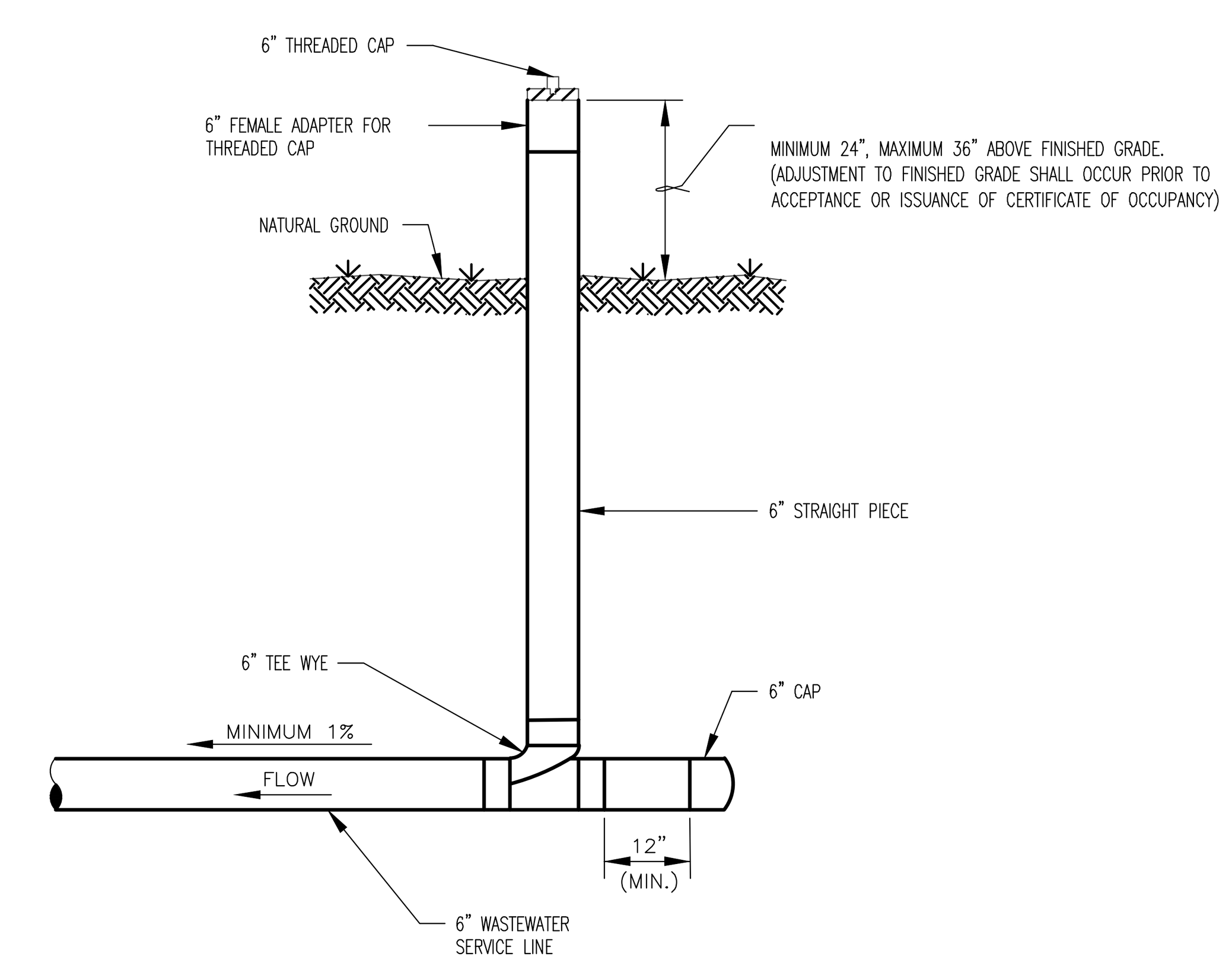


NOTES:

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

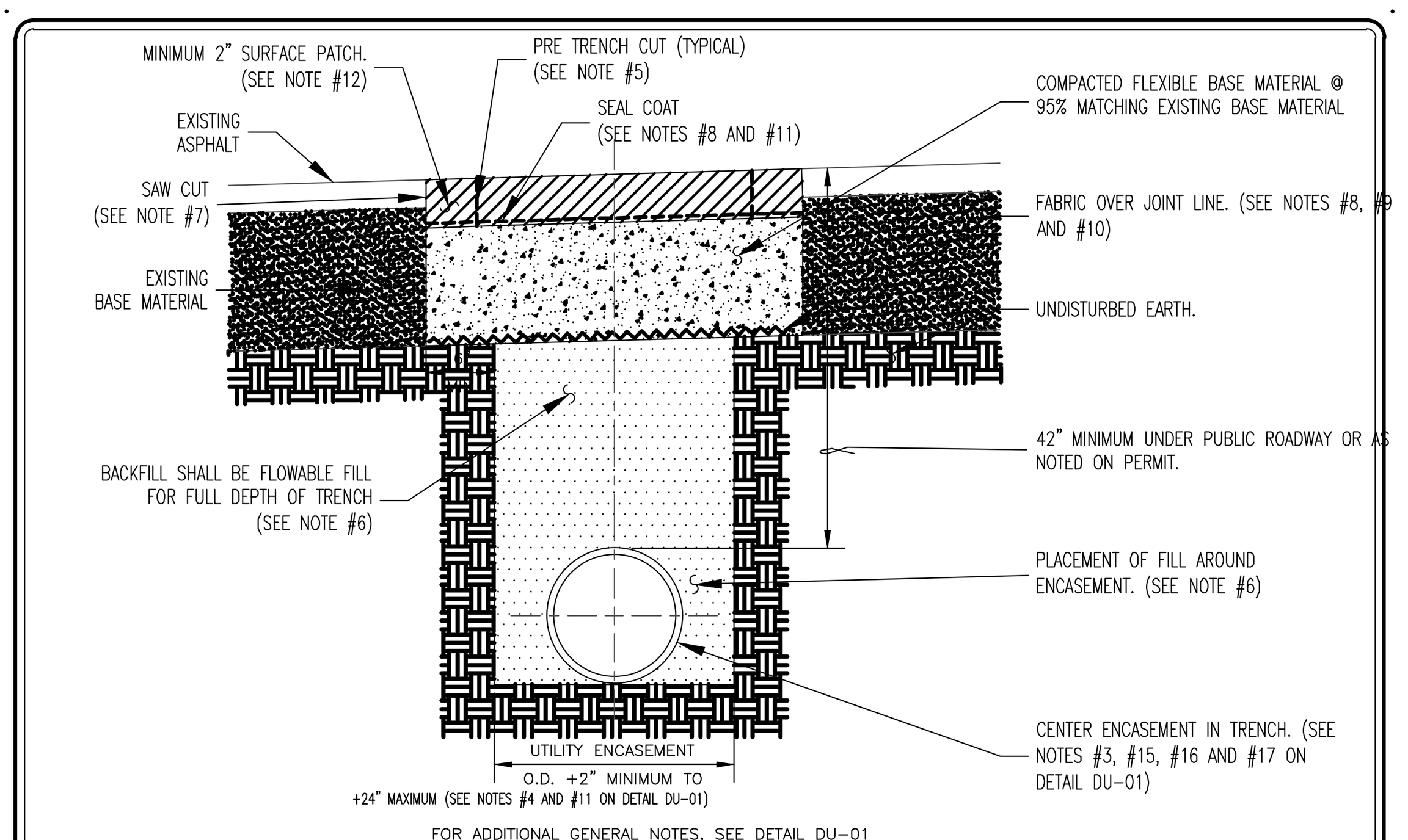
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT / APPROVED	CITY OF ROUND ROCK	DRAWING NO: WW-13
03-01-18 DATE / THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	WASTEWATER SERVICE CLEAN-OUT DETAIL (PAVED SURFACE)	ROUND ROCK TEXAS



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	CITY OF ROUND ROCK	DRAWING NO: WW-14
03-01-18 DATE / THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	WASTEWATER SERVICE CLEAN-OUT DETAIL (NON-PAVED SURFACE)	ROUND ROCK TEXAS



FOR ADDITIONAL GENERAL NOTES, SEE DETAIL DU-01

NOTES:

1. ALL TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
2. STEEL PLATES OF SUITABLE WEIGHT TO SPAN THE TRENCH FOR VEHICLE TRAFFIC, MUST BE AVAILABLE ON SITE BEFORE ANY PAVEMENT IS CUT.
3. STEEL PLATES SHALL BE CONTRACTOR PROVED AND PLACED AS NECESSARY FOR TRENCH SAFETY AND TO ALLOW FOR FLOWABLE FILL CURING TIME.
4. STEEL PLATES SHALL BE ANCHORED IN PLACE WHEN INSTALLED TO ASSURE NO DISPLACEMENT UNDER TRAFFIC.
5. SURFACE SHALL BE SAW CUT PRIOR TO EXCAVATION.
6. FLOWABLE FILL SHALL BE PLACED AROUND THE ENCASEMENT IN A PROCESS TO ASSURE NO DISPLACEMENT FROM BEING CENTERED IN THE TRENCH BOTTOM. FLOWABLE FILL SHALL BE STRUCK OFF AT THE TOP OF THE EXISTING BASE OR 2" BELOW EXISTING FINISHED SURFACE, WHICHEVER IS GREATER.
7. UPON COMPLETION OF THE BACKFILL, MAKE ADDITIONAL SAW CUTS, AS NECESSARY TO REMOVE EXISTING PAVEMENT AT A MINIMUM DEPTH OF 2" TO CREATE A 6" MINIMUM SHOULDER OR TO THE POINT WHERE EXISTING PAVEMENT IS NOT DAMAGED, WHICHEVER IS GREATER. SAW CUTS SHOULD HAVE A MINIMUM NUMBER OF ANGLE POINTS.
8. TACKING MATERIAL SHALL BE AC15PW OR A CORR APPROVED EQUAL.
9. TACK COAT A MINIMUM 12" WIDTH OF NON-WOVEN GEO-TEXTILE FABRIC OVER THE EXISTING BASE AND FLOWABLE FILL JOINT LINE WITH 0.3 GALS/SY, PLACING FABRIC BEFORE TACK SETS.
10. GEO-TEXTILE FABRIC SHALL WITHSTAND 300° FAHRENHEIT (TREVIRA SPUDBOND 011/120, CONTECH C-38NW, OR C.O.R.R. APPROVED EQUAL).
11. SINGLE COURSE SEAL COAT THE AREA TO BE HMAC PATCHED, WITH 0.33 GALS/SY TACK AND 3/8" CRUSHED LIMESTONE COVER AT 21 LBS/SY.
12. VACUUM UP LOOSE GRAVEL BEFORE PLACING SURFACE PATCH WITH HMAC HOT LAID; AT A MINIMUM THICKNESS OF 2".
13. TRENCH PAST THE BACK OF CURB TO MATCH THE AREA (SIDEWALK, TOP SOIL, SOD, ETC.), WITH JOINTS NOT TO ALIGN WITH TRENCH WALL.
14. IF SIDEWALK, CURB, CURB AND GUTTER, OR DRIVEWAY REQUIRES REMOVAL, THIS MUST BE REPLACED IN UNITS THAT ARE FROM SCORE JOINT TO SCORE JOINT. FULL DEPTH SAW CUT ALL JOINTS. DRILL AND EPOXY SET #4 DOWELS INTO THE STRUCTURE TO REMAIN AT MAXIMUM OF 18" ON CENTER.
15. ENCASEMENT MUST EXTEND 10' PAST THE BACK OF CURB, UNLESS OTHERWISE STATED IN THE PERMIT. BEDDING AND BACKFILL FROM THE POINT WHERE THE BASE ENDS TO THE END OF THE ENCASEMENT, SHALL ADHERE TO: PROPOSED PAVEMENT AREA TRENCH (PPAT) (DU-04) DETAIL.

APPROVED	CITY OF ROUND ROCK	DRAWING NO: DU-03
04-01-10 DATE / THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	ASPHALT PAVED AREA TRENCH (APAT) DETAIL	ROUND ROCK, TEXAS

DESIGNED BY: SPC
DRAFTED BY: JDS

DATE	REVISION

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SHEET NAME: DETAILS
JOB NAME: SANTA RITA RANCH MAINTENANCE BARN
PROJECT: GRADING, DRAINAGE, AND UTILITIES

STATE OF TEXAS
STEVEN P. CATES
93648
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791
1-8-2024

DATE: JANUARY 2024
JOB NUMBER: 5605
SHEET: 17 OF 17
SHEET NO. 17