

CONTRIBUTING ZONE PLAN

for

SADDLEBACK AT SANTA RITA RANCH PHASE 2 SECTION 1 WILLIAMSON COUNTY, TEXAS

Prepared For:

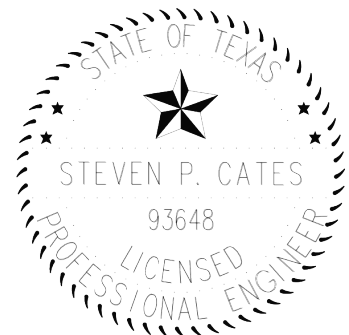
Mr. Stephen Ashlock
Pulte Homes of Texas, LP
9401 Amberglen Blvd., Bldg I, Suite 150
Austin, TX 78729
(512) 532-3355

Prepared By:

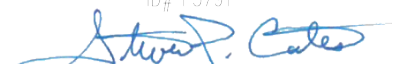
Steven P. Cates, P.E.
CARLSON, BRIGANCE & DOERING, INC.
5501 West William Cannon Drive
Austin, Texas 78749
(512) 280-5160
Firm #F3791



CBD No. 5618/5619
June 2024



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791



7-5-2024

TABLE OF CONTENTS

- I. Edwards Aquifer Application Cover Page (TCEQ-20705)**
- II. Contributing Zone Plan Application (TCEQ-10257)**
 - Attachment A – Road Map
 - Attachment B – USGS Quadrangle Map
 - Attachment C – Project Narrative
 - Attachment D – Factors Affecting Surface Water Quality
 - Attachment E – Volume and Character of Stormwater
 - Attachment J – BMPs for Upgradient Stormwater
 - Attachment K – BMPs for On-site Stormwater
 - Attachment L – BMPs for Surface Streams Contamination
 - Attachment M – Construction Plans
 - Attachment N – Inspection, Maintenance, Repair, and Retrofit Plan
 - Attachment P – Measures for Minimizing Surface Stream Contamination
- III. Temporary Stormwater Section (TCEQ-0602)**
 - Attachment A - Spill Response Actions
 - Attachment B - Potential Sources of Contamination
 - Attachment C - Sequence of Major Activities
 - Attachment D - Temporary Best Management Practices and Measures
 - Attachment F - Structural Practices
 - Attachment G - Drainage Area Map
 - Attachment I - Inspection and Maintenance for BMPs
 - Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices
- IV. Appendices**
 - Appendix A – BMP TSS Removal Worksheets
 - Appendix B – Water Quality Calculation Spreadsheet
 - Appendix C – CZP Approval Letters
- V. Agent Authorization Form (TCEQ-0599), if application submitted by agent**
- VI. Application Fee Form (TCEQ-0574)**
- VII. Check Payable to the “Texas Commission on Environmental Quality”**
- VIII. Core Data Form (TCEQ-10400)**

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: Saddleback at Santa Rita Ranch Phase 2 Section 1					2. Regulated Entity No.:				
3. Customer Name: Pulte Homes of Texas, LP					4. Customer No.: 603410499				
5. Project Type: (Please circle/check one)	<input checked="" type="radio"/> New	<input type="radio"/> Modification			<input type="radio"/> Extension		<input type="radio"/> Exception		
6. Plan Type: (Please circle/check one)	<input checked="" type="radio"/> WPAP	<input checked="" type="radio"/> CZP	<input type="radio"/> SCS	<input type="radio"/> UST	<input type="radio"/> AST	<input type="radio"/> EX P	<input type="radio"/> EXT	<input type="radio"/> Technical Clarification	<input type="radio"/> Optional Enhanced Measures
7. Land Use: (Please circle/check one)	<input checked="" type="radio"/> Residential		<input type="radio"/> Non-residential			8. Site (acres):		17.23	
9. Application Fee:	\$4,000.00		10. Permanent BMP(s):			Batch Detention Pond			
11. SCS (Linear Ft.):	N/A		12. AST/UST (No. Tanks):			N/A			
13. County:	Williamson		14. Watershed:			North Fork San Gabriel River			

Application Distribution

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

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

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

Austin Region			
County:	Hays	Travis	Williamson
Original (1 req.)	—	—	_x_
Region (1 req.)	—	—	_x_
County(ies)	—	—	_x_
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___ Barton Springs/ Edwards Aquifer ___ Hays Trinity ___ Plum Creek	___ Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___ Austin ___ Buda ___ Dripping Springs ___ Kyle ___ Mountain City ___ San Marcos ___ Wimberley ___ Woodcreek	___ Austin ___ Bee Cave ___ Pflugerville ___ Rollingwood ___ Round Rock ___ Sunset Valley ___ West Lake Hills	___ Austin ___ Cedar Park ___ Florence _x_ Georgetown ___ Jerrell ___ Leander _x_ Liberty Hill ___ Pflugerville ___ Round Rock

San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	—	—	—	—	—
Region (1 req.)	—	—	—	—	—
County(ies)	—	—	—	—	—
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___ Trinity-Glen Rose	___ Edwards Aquifer Authority	___ Kinney	___ EAA ___ Medina	___ EAA ___ Uvalde
City(ies) Jurisdiction	___ Castle Hills ___ Fair Oaks Ranch ___ Helotes ___ Hill Country Village ___ Hollywood Park ___ San Antonio (SAWS) ___ Shavano Park	___ Bulverde ___ Fair Oaks Ranch ___ Garden Ridge ___ New Braunfels ___ Schertz	NA	___ San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.

Pulte Homes of Texas, LP / Carlson, Brigance, & Doering, Inc.

Print Name of Customer/Authorized Agent



7-5-2024

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):

Contributing Zone Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), 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 **Contributing Zone Plan Application** 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: 7/5/2024

Signature of Customer/Agent:



Regulated Entity Name: Saddleback at Santa Rita Ranch Phase 2 Section 1

Project Information

1. County: Williamson
2. Stream Basin: North Fork San Gabriel River
3. Groundwater Conservation District (if applicable): N/A
4. Customer (Applicant):

Contact Person: Stephen Ashlock

Entity: Pulte Homes of Texas, LP

Mailing Address: 9401 Amberglen Blvd., Bldg. I, Suite 150

City, State: Austin, TX

Zip: 78729

Telephone: (512) 532-3355

Fax: _____

Email Address: Stephen.Ashlock@PulteGroup.com

5. Agent/Representative (If any):

Contact Person: Steven P. Cates, P.E.

Entity: Carlson, Brigrance & Doering, Inc.

Mailing Address: 5501 West William Cannon

City, State: Austin, TX

Zip: 78749

Telephone: (512) 280-5160

Fax: (512) 280-5165

Email Address: steve@cbdeng.com

6. 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.

7. ☒ The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

East of Ronald Reagan Blvd., south of Tower Rd.

8. ☒ **Attachment A - Road Map.** A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.

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

- ☒ Project site boundaries.
- ☒ USGS Quadrangle Name(s).

10. ☒ **Attachment C - Project Narrative.** A detailed narrative description of the proposed project is attached. 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

11. 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/Not cleared)
☐ Other: _____

12. The type of project is:

- ☒ Residential: # of Lots: 0
☐ Residential: # of Living Unit Equivalents: _____
☐ Commercial
☐ Industrial
☐ Other: _____

13. Total project area (size of site): 17.23 Acres

Total disturbed area: 0 Acres

14. Estimated projected population: 0

15. The amount and type of impervious cover expected after construction is complete is shown below:

Table 1 - Impervious Cover

<i>Impervious Cover of Proposed Project</i>	<i>Sq. Ft.</i>	<i>Sq. Ft./Acre</i>	<i>Acres</i>
Structures/Rooftops	5,663	÷ 43,560 =	0.13
Parking	0	÷ 43,560 =	0
Other paved surfaces	249,163	÷ 43,560 =	5.34
Total Impervious Cover	254,826	÷ 43,560 =	5.85

Total Impervious Cover $5.85 \div$ Total Acreage $17.23 \times 100 = 33.95\%$ Impervious Cover

16. ☒ **Attachment D - Factors Affecting Surface Water Quality.** A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.
17. ☒ Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

For Road Projects Only

Complete questions 18 - 23 if this application is exclusively for a road project.

☒ N/A

18. 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.

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

- ☐ Concrete
- ☐ Asphaltic concrete pavement
- ☐ Other: _____

20. Right of Way (R.O.W.):

Length of R.O.W.: _____ feet.

Width of R.O.W.: _____ feet.

$L \times W = \text{_____ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{_____ acres.}$

21. Pavement Area:

Length of pavement area: _____ feet.

Width of pavement area: _____ feet.

$L \times W = \text{_____ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{_____ acres.}$

Pavement area _____ acres \div R.O.W. area _____ acres $\times 100 = \text{_____ \%}$ impervious cover.

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

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

23. ☐ 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

24. ☒ **Attachment E - 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 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

25. ☐ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

☒ N/A

26. Wastewater will be disposed of by:

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

☐ **Attachment F - 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):

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

☒ Existing.

☐ Proposed.

☐ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

Complete questions 27 - 33 if this project includes the installation of AST(s) with volume(s) greater than or equal to 500 gallons.

☒ N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

<i>AST Number</i>	<i>Size (Gallons)</i>	<i>Substance to be Stored</i>	<i>Tank Material</i>
1			
2			
3			
4			
5			

Total x 1.5 = _____ Gallons

28. ☐ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than

5 of 11

one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

- ☐ **Attachment G - Alternative Secondary Containment Methods.** Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are attached.

29. Inside dimensions and capacity of containment structure(s):

Table 3 - Secondary Containment

<i>Length (L)(Ft.)</i>	<i>Width(W)(Ft.)</i>	<i>Height (H)(Ft.)</i>	<i>L x W x H = (Ft3)</i>	<i>Gallons</i>

Total: _____ Gallons

30. Piping:

- ☐ All piping, hoses, and dispensers will be located inside the containment structure.
- ☐ Some of the piping to dispensers or equipment will extend outside the containment structure.
- ☐ The piping will be aboveground
- ☐ The piping will be underground

31. ☐ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of: _____.

32. ☐ **Attachment H - AST Containment Structure Drawings.** A scaled drawing of the containment structure is attached that shows the following:

- ☐ Interior dimensions (length, width, depth and wall and floor thickness).
- ☐ Internal drainage to a point convenient for the collection of any spillage.
- ☐ Tanks clearly labeled
- ☐ Piping clearly labeled
- ☐ Dispenser clearly labeled

33. ☐ Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

- ☐ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.

- ☐ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

Site Plan Requirements

Items 34 - 46 must be included on the Site Plan.

34. ☒ The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 40'.
35. 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; Effective Date: September 26, 2008.
36. ☒ 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, etc. are shown on the site plan.
- ☐ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot contour intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.
37. ☒ A drainage plan showing all paths of drainage from the site to surface streams.
38. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.
39. ☒ Areas of soil disturbance and areas which will not be disturbed.
40. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
41. ☒ Locations where soil stabilization practices are expected to occur.
42. ☐ Surface waters (including wetlands).
☒ N/A
43. ☐ Locations where stormwater discharges to surface water.
☒ There will be no discharges to surface water.
44. ☐ Temporary aboveground storage tank facilities.
☒ Temporary aboveground storage tank facilities will not be located on this site.

45. ☐ Permanent aboveground storage tank facilities.
☒ Permanent aboveground storage tank facilities will not be located on this site.
46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

Practices and measures that will be used during and after construction is completed.

47. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.
☐ N/A
48. ☒ 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
49. ☒ 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
50. 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.

51. 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 I - 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.

52. ☒ **Attachment J - 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.

53. ☒ **Attachment K - 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.

54. ☒ **Attachment L - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams is attached.

☐ N/A

55. ☒ **Attachment M - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are

attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.

☐ N/A

56. ☒ **Attachment N - Inspection, Maintenance, Repair and Retrofit Plan.** A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all of the following:

- ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
- ☒ Signed by the owner or responsible party
- ☒ Outlines specific procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofit.
- ☒ Contains a discussion of record keeping procedures

☐ N/A

57. ☐ **Attachment O - 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

58. ☒ **Attachment P - 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 result in water quality degradation.

☐ N/A

Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.

59. ☒ 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.
60. ☒ 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.

Administrative Information

- 61. ☒ 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.
- 62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.
- 63. ☒ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.
- ☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.

Contributing Zone Plan Application

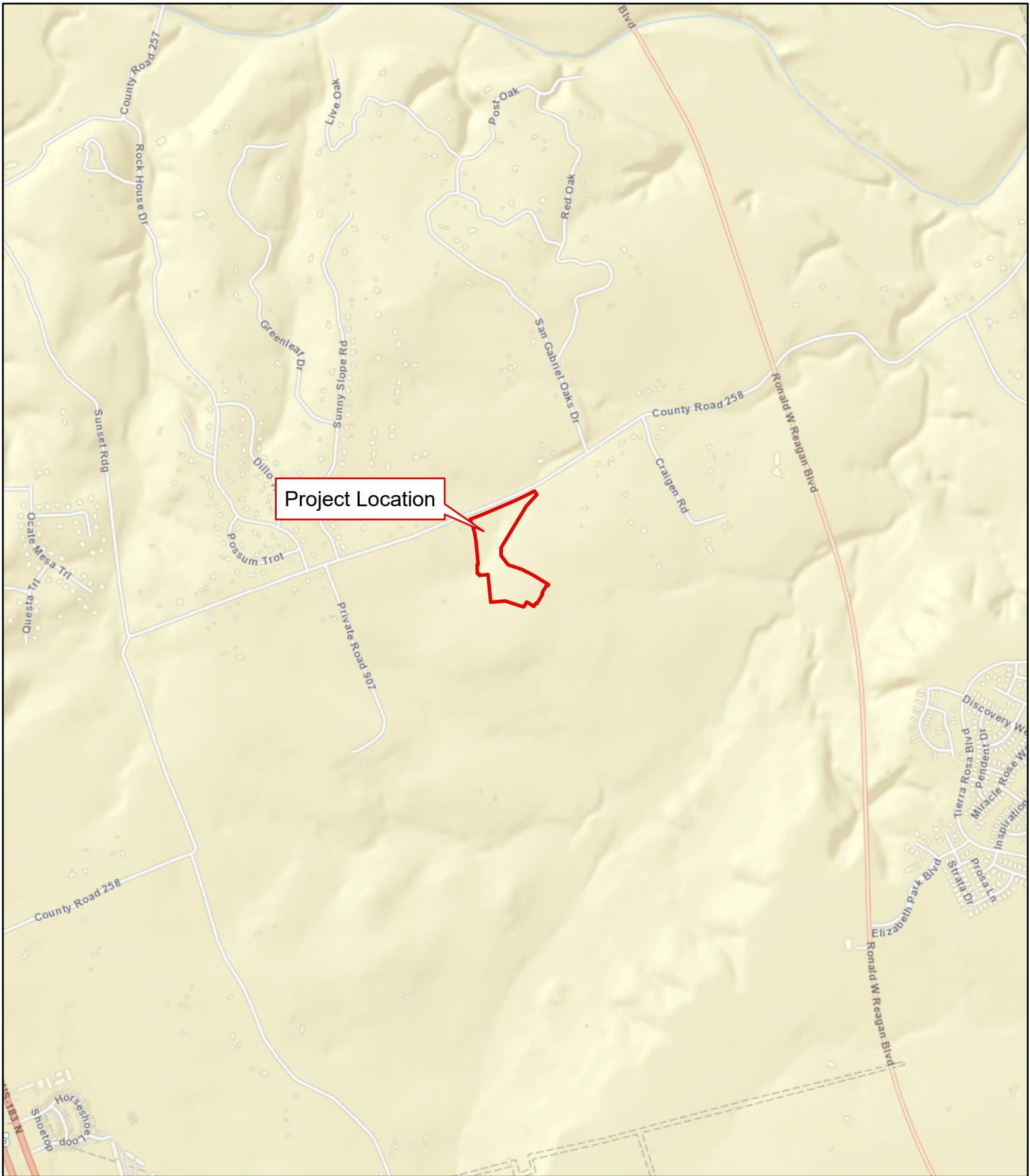
ATTACHMENT A

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

ROAD MAP



Santa Rita Ranch
Water Pollution Abatement Plan Map
Leander NE Quadrant



0 1,000 2,000 4,000
Feet



Carlson, Brigrance & Doering, Inc.
Civil Engineering ♦ Surveying

Contributing Zone Plan Application

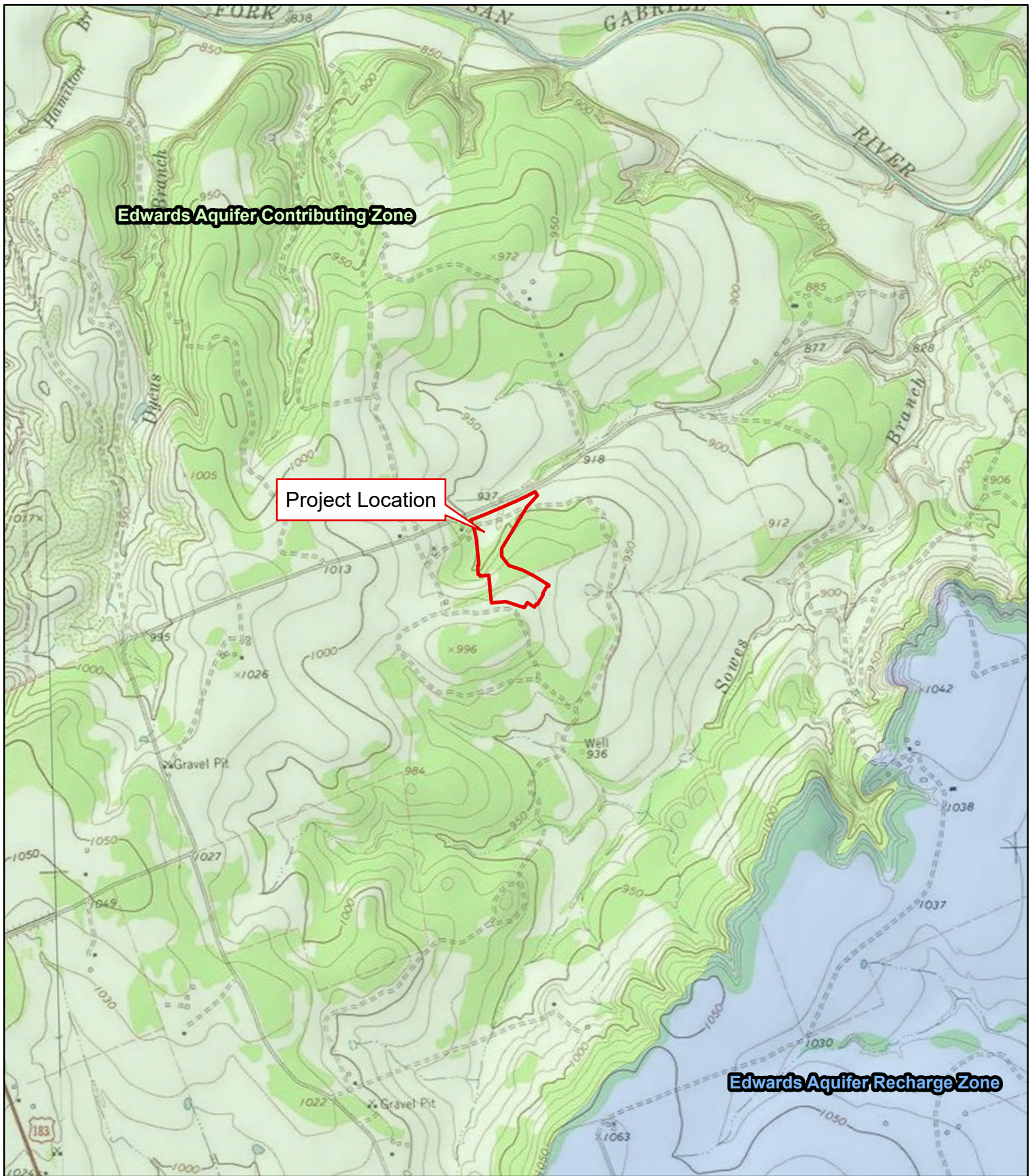
ATTACHMENT B

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

USGS QUADRANGLE MAP



Santa Rita Ranch
Water Pollution Abatement Plan Map
Leander NE Quadrant



0 1,000 2,000 4,000
Feet



Carlson, Brigrance & Doering, Inc.
Civil Engineering ♦ Surveying

Contributing Zone Plan Application

ATTACHMENT C

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

Project Narrative:

Saddleback at Santa Rita Ranch Phase 2 Section 1 is a 17.23-acre residential development that is composed of an Amenity center, 1795 LF of roadway and a batch detention pond. The project is located on the west side of Ronald Reagan Boulevard, and south of County road 258. The project is located within the City of Liberty Hill ETJ, in Williamson County, Texas.

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

This project is located within the Edwards Aquifer Contributing Zone. Flows were calculated using the National Resource Conservation hydrologic method. Water Quality will be provided by a proposed batch detention pond constructed with this section.

Within the 17.23-acre improvement area, approximately 5.85 acres of impervious cover will be installed (33.95% of total project site). Existing batch detention ponds have been designed in accordance with the January 20, 2017 Addendum Sheet to RG-348 which establishes Batch Detention Basins in Section 3.2.17. They have been sized to treat and detain for Phase 2 Section 1 as well as the future sections.

Contributing Zone Plan Application

ATTACHMENT D

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

Factors Affecting Surface Water Quality:

During Construction

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

The following non-stormwater discharges may occur from the site after construction has been completed:

- 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.

Contributing Zone Plan Application

ATTACHMENT E

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

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 mi ²)
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 Watersheds¹ 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 Watersheds² 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.

Contributing Zone Plan Application

ATTACHMENT J

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

Best Management Practices for Upgradient Stormwater:

Upgradient stormwater will travel overland to the curb and gutter and captured by the curb inlets to be conveyed to existing Batch detention pond S3 and S2 and proposed Batch Detention Pond S5. Proposed Batch Detention Pond S5 will treat future development as well.

Contributing Zone Plan Application

ATTACHMENT K

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

Best Management Practices for On-site Stormwater:

Stormwater runoff from this section will sheet flow across lawns, be captured in gutters and curb inlets, and piped into existing Batch Detention S3 and S2 and proposed Batch Detention Pond S5. Proposed Batch Detention Pond S5 will treat future development. The water quality volume provided in these ponds will be sufficient to accommodate TSS removal for this and future sections.

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.

Contributing Zone Plan Application

ATTACHMENT L

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

Best Management Practices for Surface Streams Contamination:

Stormwater runoff in this section will sheet flow across lawns, be captured in gutters and curb inlets, and piped into existing batch detention pond S3 and S2 and proposed Batch Detention Pond S5, as shown on the Overall Drainage Area Plan.

The existing batch detention ponds discharge through rock rip-rap and rock berms which deters heavy floods from entering streams and aids in sediment collection. The remaining site stormwater runoff will sheet flow across the lots and discharge directly into Soves Branch which feeds the North Fork of the San Gabriel River.

No stormwater from the improved area will drain to sensitive geological features.

Contributing Zone Plan Application

ATTACHMENT M

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

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.

Contributing Zone Plan Application

ATTACHMENT N

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

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.).

Contributing Zone Plan Application

ATTACHMENT N

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 1 Section 3

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. 19C. Until the ownership of facilities is transferred to the MUD, SRFV Development, LLC. will be responsible for maintenance of these facilities in accordance with the above stated requirements.

Acknowledged by:


 Stephen Ashlock
 Pulte Homes of Texas, LP.

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

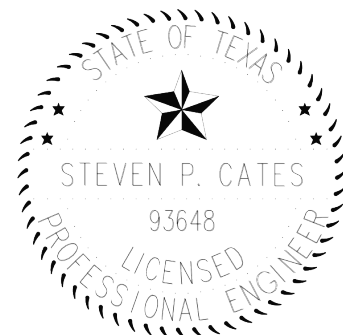
The above Inspection, Maintenance, Repair, and Retrofit Plan has been prepared by the undersigned Engineer, and I hereby certify that the above Plan conforms with the minimum requirements of the TCEQ Technical Guidance on Best Management Practices, RG-348.



Steven P. Cates, P.E.

7-5-2024

Date



CARLSON, BRIGANCE & DOERING, INC.
 ID# F3791

Contributing Zone Plan Application
ATTACHMENT P

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

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 and amenities. Drainage from this development will be directed towards batch detention ponds which will reduce the developed flow rate to predeveloped flow rates. There are no surface streams within this site.

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

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

Date: 7/5/2024

Signature of Customer/Agent:



Regulated Entity Name: Saddleback at Santa Rita Ranch Phase 2 Section 1

Project Information

Potential Sources of Contamination

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

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

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

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

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

- ☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
- ☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
- ☒ Fuels and hazardous substances will not be stored on the site.
- 2. ☒ **Attachment A - Spill Response Actions.** A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
- 3. ☒ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 4. ☒ **Attachment B - Potential Sources of Contamination.** A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

- 5. ☒ **Attachment C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
 - ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.
 - ☒ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
- 6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: North Fork of the San Gabriel River

Temporary Best Management Practices (TBMPs)

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

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

- ☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
 - ☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
 - ☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
 - ☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8. ☐ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
- ☐ **Attachment E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
- ☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.
9. ☒ **Attachment F - Structural Practices.** A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10. ☒ **Attachment G - Drainage Area Map.** A drainage area map supporting the following requirements is attached:
- ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
 - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
 - ☒ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
 - ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

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

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

☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

20. ☒ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

Temporary Stormwater Section

ATTACHMENT A

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

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 runoff 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:

http://www.tnrc.state.tx.us/enforcement/emergency_response.html

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 runoff 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 CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

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 CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

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 = 2.91 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 = 2.91 ac)
7. Ensure that all underground utility crossings are completed. Lay first course base material on all streets. (2.91 ac)
8. Install curb and gutter. (Estimate of disturbed area = 0.22 ac)
9. Place concrete for common area 4' sidewalk. (Estimate of disturbed area = 0.93 ac)
10. Lay final base course on all streets. (2.91 ac)

11. Lot grading. (Estimate of disturbed area = 0.0 ac)
12. Lay asphalt. (3.78 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 CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

Temporary Best Management Practices and Measures:

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

Geological features on this site are located outside of the Limits of Construction and no stormwater from the disturbed areas will drain to the geological features.

Temporary Stormwater Section

ATTACHMENT F

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

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 CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

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 CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

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 or 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 roll shall be periodically removed in 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 CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

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 1 1/4 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 manner and quantity as directed by the Engineer or designated representative. Hydraulic seeded areas and native grass seeded areas shall be watered commencing after the tackifier has dried with a minimum of 5 gallons of water per square yard (22.5 liters of water per square meter) or as needed to keep the seedbed in a wet condition favorable for the growth of grass. Watering applications shall constantly maintain the seedbed in a wet condition favorable for the growth of grass. Watering shall continue until the grass is uniformly 1 1/2 inches (40 mm) in height and accepted by the Engineer or designated representative. Watering can be postponed immediately after a 1/2 inch (12.5 mm) or greater rainfall on the site but shall be resumed before the soil dries out.
3. Hydraulic Planting. The seedbed shall be prepared as specified above and hydraulic planting equipment, which is capable of placing all materials in a single operation, shall be used.

March 1 to September 15

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

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

September 15 to March 1

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

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

Appendix A

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

BMP TSS Removal Worksheet

Saddleback Phase 2 Section 1

Sites

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.

SADDLEBACK AT SANTA RITA RANCH PHASE 2 SECTION 1

Total project area included in plan *	17.23	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	5.85	acres
Total post-development impervious cover fraction *	0.34	
P =	32	inches
L_M TOTAL PROJECT =	5,092	lbs.

PROPOSED BATCH DETENTION POND S2

SADDLEBACK AT SANTA RITA RANCH PHASE 1 SECTION 1 (EXISTING)

Total project area included in plan *	44.31	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	16.81	acres
Total post-development impervious cover fraction *	0.34	
P =	32	inches
L_M TOTAL PROJECT =	14,631	lbs.

SADDLEBACK AT SANTA RITA RANCH PHASE 1 SECTION 2A

Total project area included in plan *	8.40	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	4.77	acres
Total post-development impervious cover fraction *	0.34	
P =	32	inches
L_M TOTAL PROJECT =	4,152	lbs.

SADDLEBACK AT SANTA RITA RANCH PHASE 1 SECTION 2D

Total project area included in plan *	0.17	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	0.00	acres
Total post-development impervious cover fraction *	0.34	
P =	32	inches
L_M TOTAL PROJECT =	0	lbs.

SADDLEBACK AT SANTA RITA RANCH PHASE 2 SECTION 1

Total project area included in plan *	1.35	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	1.28	acres
Total post-development impervious cover fraction *	0.34	
P =	32	inches
L_M TOTAL PROJECT =	1,114	lbs.

SADDLEBACK PHASE 2 (FUTURE)

Total project area included in plan *	20.70	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	10.03	acres
Total post-development impervious cover fraction *	0.34	
P =	32	inches
L_M TOTAL PROJECT =	8,730	lbs.

L_M TOTAL = 28,627 lbs.

EXISTING BATCH DETENTION POND S3

SADDLEBACK AT SANTA RITA RANCH PHASE 1 SECTION 1 (EXISTING)

Total project area included in plan *	24.63	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	10.75	acres

Total post-development impervious cover fraction *	=	0.44	
P =		32	inches
L _M TOTAL PROJECT =		9357	lbs.

SADDLEBACK AT SANTA RITA RANCH PHASE 1 SECTION 2A

Total project area included in plan *	=	20.72	acres
Predevelopment impervious area within the limits of the plan *	=	0.00	acres
Total post-development impervious area within the limits of the plan *	=	9.19	acres
Total post-development impervious cover fraction *	=	0.44	
P =		32	inches
L _M TOTAL PROJECT =		7999	lbs.

SADDLEBACK AT SANTA RITA RANCH PHASE 1 SECTION 2B

Total project area included in plan *	=	11.91	acres
Predevelopment impervious area within the limits of the plan *	=	0.00	acres
Total post-development impervious area within the limits of the plan *	=	7.70	acres
Total post-development impervious cover fraction *	=	0.65	
P =		32	inches
L _M TOTAL PROJECT =		6702	lbs.

SADDLEBACK AT SANTA RITA RANCH PHASE 1 SECTION 2C

Total project area included in plan *	=	11.27	acres
Predevelopment impervious area within the limits of the plan *	=	0.00	acres
Total post-development impervious area within the limits of the plan *	=	5.68	acres
Total post-development impervious cover fraction *	=	0.50	
P =		32	inches
L _M TOTAL PROJECT =		4944	lbs.

SADDLEBACK AT SANTA RITA RANCH PHASE 1 SECTION 2D

Total project area included in plan *	=	3.53	acres
Predevelopment impervious area within the limits of the plan *	=	0.00	acres
Total post-development impervious area within the limits of the plan *	=	2.29	acres
Total post-development impervious cover fraction *	=	0.65	
P =		32	inches
L _M TOTAL PROJECT =		1993	lbs.

SADDLEBACK AT SANTA RITA RANCH PHASE 1 SECTION 3

Total project area included in plan *	=	5.89	acres
Predevelopment impervious area within the limits of the plan *	=	0.00	acres
ost-development impervious area within the limits of the plan *	=	3.89	acres
Total post-development impervious cover fraction *	=	0.66	
P =		32	inches
L _M TOTAL PROJECT =		3386	lbs.

SADDLEBACK AT SANTA RITA RANCH PHASE 2 SECTION 1

Total project area included in plan *	=	0.25	acres
Predevelopment impervious area within the limits of the plan *	=	0.00	acres
Total post-development impervious area within the limits of the plan *	=	0.14	acres
Total post-development impervious cover fraction *	=	0.56	
P =		32	inches
L _M TOTAL PROJECT =		122	lbs.

SADDLEBACK AT SANTA RITA RANCH PHASE 2 FUTURE

Total project area included in plan *	=	0.41	acres
Predevelopment impervious area within the limits of the plan *	=	0.00	acres
Total post-development impervious area within the limits of the plan *	=	0.00	acres
Total post-development impervious cover fraction *	=	0.00	
P =		32	inches
L _M TOTAL PROJECT =		0	lbs.

L_M TOTAL = 34,503 lbs.

PROPOSED BATCH DETENTION POND S5

SADDLEBACK AT SANTA RITA RANCH PHASE 2 SECTION 1

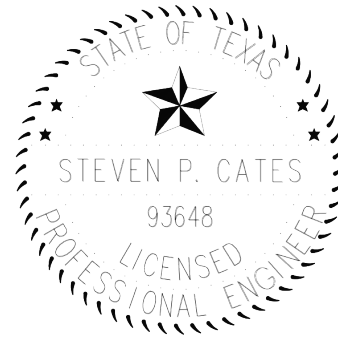
Total project area included in plan *	=	15.63	acres
Predevelopment impervious area within the limits of the plan *	=	0.00	acres
Total post-development impervious area within the limits of the plan *	=	4.43	acres
Total post-development impervious cover fraction *	=	0.28	
P =		32	inches
L _M TOTAL PROJECT =		3856	lbs.

SADDLEBACK AT SANTA RITA RANCH COMMERCIAL AREA FUTURE

Total project area included in plan *	=	7.84	acres
Predevelopment impervious area within the limits of the plan *	=	0.00	acres
Total post-development impervious area within the limits of the plan *	=	6.25	acres
Total post-development impervious cover fraction *	=	0.80	
P =		32	inches
L _M TOTAL PROJECT =		5440	lbs.

SADDLEBACK AT SANTA RITA RANCH PHASE 2 FUTURE

Total project area included in plan *	=	69.47	acres
Predevelopment impervious area within the limits of the plan *	=	0.00	acres
Total post-development impervious area within the limits of the plan *	=	50.81	acres
Total post-development impervious cover fraction *	=	0.73	
P =		32	inches
L _M TOTAL PROJECT =		44225	lbs.
L _M TOTAL =		53,521	lbs.



CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

7-5-2024

Appendix A

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

BMP TSS Removal Worksheet

Saddleback Phase 2 Section 1

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 *	17.23	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	5.85	acres
Total post-development impervious cover fraction *	0.34	
P =	32	inches

 L_M TOTAL PROJECT = 5092 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 =	17.23	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	5.85	acres
Post-development impervious fraction within drainage basin/outfall area =	0.34	
L_M THIS BASIN =	5092	lbs.

3. Indicate the proposed BMP Code for this basin.Proposed BMP = Batch Detention
Removal efficiency = 91 percent

Aqualogic Cartridge Filter
Batch Detention
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

SOURCE:

"COMPLYING WITH THE EDWARDS AQUIFER RULES TECHNICAL
GUIDANCE ON BEST MANAGEMENT PRACTICES RG-348 (REVISED JULY
2005)", ADDENDUM DATED JANUARY 20, 2017, SECTION 3.2.17 "BATCH

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 =	17.23	acres
A_i =	5.85	acres
A_p =	11.38	acres
L_R =	6073	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall areaDesired L_M THIS BASIN = 5092 lbs.

F = 0.84

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348

Pages 3-34 to 3-36

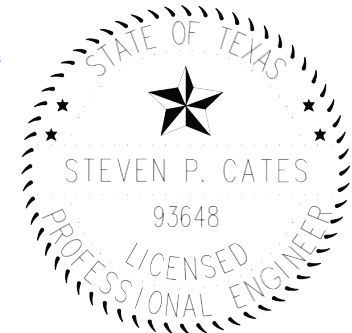
Rainfall Depth =	1.26	inches
Post Development Runoff Coefficient =	0.28	
On-site Water Quality Volume =	21896	cubic feet

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 = 4379

Total Capture Volume (required water quality volume(s) x 1.20) = 26275 cubic feet



CARLSON, BRIGANCE & DOERING, INC.

ID# F3791

7-5-2024

Appendix A

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

BMP TSS Removal Worksheet

Drainage Basin POND S2

(OVERALL)

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:

 $L_{M \text{ TOTAL PROJECT}} =$ 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 =	74.93	acres
Predevelopment impervious area within the limits of the plan =	0.00	acres
Total post-development impervious area within the limits of the plan =	32.89	acres
Total post-development impervious cover fraction =	0.44	
P =	32	inches

 $L_{M \text{ TOTAL PROJECT}} =$ 28627 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 =	62.60	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	30.86	acres
Post-development impervious fraction within drainage basin/outfall area =	0.49	
$L_{M \text{ THIS BASIN}} =$	26861	lbs.

3. Indicate the proposed BMP Code for this basin.Proposed BMP = Batch Detention
Removal efficiency = 91 percent

SOURCE:
"COMPLYING WITH THE EDWARDS AQUIFER RULES TECHNICAL GUIDANCE ON BEST MANAGEMENT PRACTICES RG-348 (REVISED JULY 2005)", ADDENDUM DATED JANUARY 20, 2017, SECTION 3.2.17 'BATCH

Aqualogic Cartridge Filter
Batch Detention
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

$A_C =$	62.60	acres
$A_i =$	30.86	acres
$A_p =$	31.74	acres
$L_R =$	31592	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall areaDesired $L_{M \text{ THIS BASIN}} =$ 28627 lbs. $F =$ 0.91**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

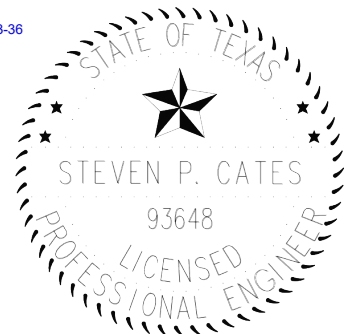
Rainfall Depth =	1.80	inches
Post Development Runoff Coefficient =	0.35	
On-site Water Quality Volume =	144659	cubic feet

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 = 28932

Total Capture Volume (required water quality volume(s) x 1.20) = 173590 cubic feet

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

7-5-2024

Appendix A

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

BMP TSS Removal Worksheet

Drainage Basin POND S3

(OVERALL)

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:

 $L_{M \text{ TOTAL PROJECT}} =$ 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 =	78.61	acres
Predevelopment impervious area within the limits of the plan =	0.00	acres
Total post-development impervious area within the limits of the plan =	39.64	acres
Total post-development impervious cover fraction =	0.50	
P =	32	inches

 $L_{M \text{ TOTAL PROJECT}} =$ 34503 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 =	78.24	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	39.39	acres
Post-development impervious fraction within drainage basin/outfall area =	0.50	
$L_{M \text{ THIS BASIN}} =$	34285	lbs.

3. Indicate the proposed BMP Code for this basin.Proposed BMP = Batch Detention
Removal efficiency = 91 percent

Aqualogic Cartridge Filter
Batch Detention
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

SOURCE:
"COMPLYING WITH THE EDWARDS AQUIFER RULES TECHNICAL
GUIDANCE ON BEST MANAGEMENT PRACTICES RG-348 (REVISED JULY
2005)", ADDENDUM DATED JANUARY 20, 2017, SECTION 3.2.17 'BATCH

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

$A_C =$	78.24	acres
$A_i =$	39.39	acres
$A_p =$	38.85	acres
$L_R =$	40298	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall areaDesired $L_{M \text{ THIS BASIN}} =$ 34503 lbs. $F =$ 0.86**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

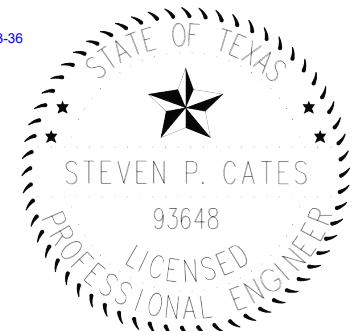
Rainfall Depth =	1.38	inches
Post Development Runoff Coefficient =	0.36	
On-site Water Quality Volume =	140864	cubic feet

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 = 28173

Total Capture Volume (required water quality volume(s) x 1.20) = 169036 cubic feet



CARLSON, BRIGANCE & DOERING, INC.

ID# F3791

7-5-2024

Appendix A

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

BMP TSS Removal Worksheet

Drainage Basins POND S5

(OVERALL)

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 *	92.94	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	61.49	acres
Total post-development impervious cover fraction *	0.66	
P =	32	inches

 L_M TOTAL PROJECT = **53521** 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 =	89.52	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	61.13	acres
Post-development impervious fraction within drainage basin/outfall area =	0.68	
L_M THIS BASIN =	53208	lbs.

3. Indicate the proposed BMP Code for this basin.Proposed BMP = **Batch Detention**
Removal efficiency = **91** percent

Aqualogic Cartridge Filter
Batch Detention
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

SOURCE:

"COMPLYING WITH THE EDWARDS AQUIFER RULES TECHNICAL
GUIDANCE ON BEST MANAGEMENT PRACTICES RG-348 (REVISED JULY
2005)", ADDENDUM DATED JANUARY 20, 2017, SECTION 3.2.17 "BATCH

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 =	89.52	acres
A_i =	61.13	acres
A_p =	28.39	acres
L_R =	62038	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall areaDesired L_M THIS BASIN = **53521** lbs.F = **0.86****6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.**

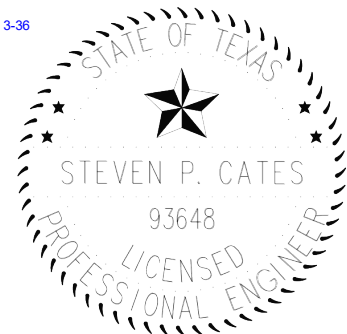
Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth =	1.38	inches
Post Development Runoff Coefficient =	0.49	
On-site Water Quality Volume =	219284	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 = **43857**Total Capture Volume (required water quality volume(s) x 1.20) = **263141** cubic feet

CARLSON, BRIGANCE & DOERING, INC.

ID# F3791

7-5-2024

Appendix B

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

Water Quality Calculation

Spreadsheet

SADDLEBACK AT SANTA RITA RANCH PHASE 2 SECTION 1

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	
EXISTING BATCH DETENTION POND S2													
1-1	44.31	129	10.50	6.31		16.81	34.96	119	9.67	6.31		15.98	14,631
1-2A	8.40	16	1.31	3.46		4.77	8.40	16	1.31	3.46		4.77	4,152
1-2D	0.17	0	0.00	0.00		0.00	0.17	0	0.00	0.00		0.00	0
2-1	1.35	0	0.00	1.28		1.28	1.35	0	0.00	1.28		1.28	1,114
2-FUTURE	20.70	82	6.59	3.44		10.03	17.72	67	5.38	3.45		8.83	8,730
EXISTING BATCH DETENTION POND S3													
1-1	24.63	91	7.36	3.39		10.75	24.63	91	7.36	3.39		10.75	9,357
1-2A	20.72	68	5.64	3.55		9.19	20.72	68	5.64	3.55		9.19	7,999
1-2B	11.91	64	5.14	2.56		7.70	11.54	62	4.90	2.56		7.46	6,702
1-2C	11.27	52	4.20	1.48		5.68	11.27	52	4.20	1.48		5.68	4,944
1-2D	3.53	22	1.77	0.52		2.29	3.53	22	1.77	0.52		2.29	1,993
1-3	5.89	36	2.89	1.00		3.89	5.89	36	2.89	1.00		3.89	3,386
2-1	0.25	0	0.00	0.14		0.14	0.25	0	0.00	0.14		0.14	122
2-FUTURE	0.41	0	0.00	0.00		0.0	0.41	0	0.00	0.00		0.00	0
PROPOSED BATCH DETENTION POND S5													
2-1	15.63	0	0.13	3.86	0.44	4.43	14.77	0	0.13	3.57	0.44	4.14	3,856
COMERCIAL AREA	7.84	0	0.00	0.00	6.25	6.25	7.84	0	0.00	0.00	6.25	6.25	5,440
2-FUTURE	69.47	465	37.54	13.27		50.81	66.91	464	37.47	13.27		50.74	44,225
SADDLEBACK AT SANTA RITA BATCH PHASE 2 SECTION 1													
2-1	17.23	0	0.13	5.28	0.44	5.85							5,144

Table 2 - BMP Treatment Requirements

Project Area			Drainage Basin						BMP Treatment Provided	
			Onsite		Offsite			Total	Permanent Pool (cf)	
Total (ac)	Impv Area (ac)	Required TSS Removal (lbs)	Total (ac)	Impv Area (ac)	Total (ac)	Impv Area (ac)	Total (ac)	Impv Area (ac)	Required	Provided
EXISTING BATCH DETENTION POND S2										
74.93	32.89	28,627	62.60	30.86	0.00	0.00	62.60	30.86	173,590	208,303
EXISTING BATCH DETENTION POND S3										
78.61	39.64	75,812	78.24	39.39	0.00	0.00	78.24	39.39	169,032	174,205
PROPOSED BATCH DETENTION POND S5										
92.94	61.49	53,521	89.52	61.13	0.00	0.00	89.52	61.13	263,141	269,946

Pond S2 Stage-Storage

Stage	Area (sf)	Area (ac)	Incremental Storage (cf)	Cumulative Storage (cf)	Cumulative Storage (ac-ft)	
890.00	15	0.00	0	0	0.00	Pond Bottom
891.00	20,455	0.47	10,235	10,235	0.23	
892.00	58,491	1.34	39,473	49,708	1.14	
893.00	90,797	2.08	74,644	124,352	2.85	WQV Provided
893.80				208,303	4.78	
894.00	119,081	2.73	104,939	229,291	5.26	
895.00	127,474	2.93	123,278	352,569	8.09	Top of Berm
896.00	132,719	3.05	130,097	482,665	11.08	
897.00	138,028	3.17	135,374	618,039	14.19	
898.00	143,402	3.29	140,715	758,754	17.42	
899.00	148,841	3.42	146,122	904,875	20.77	

*Pond S2 Stage-Storage per Saddleback at Santa Rita Ranch Phase 1, Section 1 Construction Plans

Pond S3 Stage-Storage

Stage	Area (sf)	Area (ac)	Incremental Storage (cf)	Cumulative Storage (cf)	Cumulative Storage (ac-ft)	
904.75	15	0.00	0	0	0.00	Pond Bottom
905.00	3,927	0.09	493	493	0.01	
906.00	32,354	0.74	18,141	18,633	0.43	
907.00	77,977	1.79	55,166	73,799	1.69	WQV Provided
908.00	122,835	2.82	100,406	174,205	4.00	
909.00	160,219	3.68	141,527	315,732	7.25	
910.00	196,873	4.52	178,546	494,278	11.35	Top of Berm
911.00	217,119	4.98	206,996	701,274	16.10	
912.00	225,080	5.17	221,100	922,373	21.17	

*Pond S3 Stage-Storage per Saddleback at Santa Rita Ranch Phase 1, Section 1 Construction Plans

Pond S5 Stage-Storage

Stage	Area (sf)	Area (ac)	Incremental Storage (cf)	Cumulative Storage (cf)	Cumulative Storage (ac-ft)	
942.00	182	0.00	0	0	0.00	Pond Bottom
943.00	34,979	0.80	17,581	17,581	0.40	
944.00	77,026	1.77	56,003	73,583	1.69	
945.00	99,864	2.29	88,445	162,028	3.72	WQV Provided
946.00	115,971	2.66	107,918	269,946	6.20	
947.00	126,010	2.89	120,990	390,936	8.97	
948.00	130,723	3.00	128,366	519,302	11.92	Top of Berm
949.00	135,484	3.11	133,104	652,406	14.98	
950.00	140,288	3.22	137,886	790,292	18.14	
951.00	145,133	3.33	142,711	933,002	21.42	

*Pond S5 Stage-Storage per Saddleback at Santa Rita Ranch Phase 2, Section 1 Construction Plans



Appendix C

TCEQ CZP APPLICATION

Saddleback at Santa Rita Ranch Phase 2 Section 1

Williamson County, Texas

CZP Approval Letter

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 13, 2021

Mr. James Edward Horne
Santa Rita KC, LLC
1700 Cross Creek Lane, Suite 100
Liberty Hill, Texas 78642

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Saddleback at Santa Rita Ranch Phase 1 Section 1; Located Southwest of Ronald Reagan Blvd. and Tower Rd.; Liberty Hill (ETJ), Texas

TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program ID No. 11002565; Regulated Entity No. RN111283701

Dear Mr. Horne:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP application for the above-referenced project submitted to the Austin Regional Office by Carlson, Brigrance & Doering, Inc. on behalf of Santa Rita KC, LLC on June 18, 2021. Final review was completed after additional material was received on August 12, 2021. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed single-family residential project will have an area of approximately 79.21 acres. It will include the development of 222 single-family residential lots, roads and drives, utilities, and three water quality basins (Ponds S1, S2, and S3). The impervious cover will be 30.63 acres (38.7 percent). The wastewater generated by this project will be conveyed to the existing Liberty Hill Wastewater Treatment Plant.

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, three batch detentions (Ponds S1, S2, and S3), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 26,664 pounds of TSS generated from the 30.63 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The proposed water quality basins are sized for future development. Pond S1 is designed to have a capacity of 62,314 cubic feet (cf), to remove 9,732 pounds of TSS to treat stormwater runoff from a maximum of 11.18 acres of impervious cover. Pond S2 is designed to have a capacity of 208,303 cf, to remove 28,915 pounds of TSS to treat stormwater runoff from a maximum of 33.22 acres of impervious cover. Pond S3 is designed to have a capacity of 174,205 cf, to remove 26,181 pounds of TSS to treat stormwater runoff from a maximum of 30.08 acres of impervious cover.

SPECIAL CONDITIONS

- I. All permanent pollution abatement measures shall be operational prior to occupancy of the houses.
- II. All sediment and/or media removed from the water quality basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved CZP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will

commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.

7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP), must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

8. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. 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 significantly reduced. 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).
10. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
11. 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.
12. 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.
13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

14. Owners of permanent BMPs and measures must insure that the 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 Austin Regional Office within 30 days of site completion.
15. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of

Mr. James Edward Horne

Page 4

August 13, 2021

the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through the Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
17. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
18. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Ms. Mihaela (Miki) Chilarescu, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at (512) 339-2929.

Sincerely,



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

LIB/mec

Enclosure: Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I Stephen Ashlock,
Print Name
Vice President of Land Development,
Title - Owner/President/Other
of Pulte Homes of Texas, LP,
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:

Stephen Ashlock
Applicant's Signature

6-25-2024
Date

THE STATE OF Texas §

County of Travis §

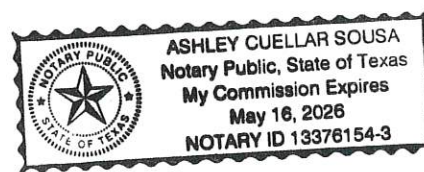
BEFORE ME, the undersigned authority, on this day personally appeared Stephen Ashlock known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 25th day of June, 2024

Ashley Cuellar Sousa
NOTARY PUBLIC

Ashley Cuellar Sousa
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: May 16, 2026



Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Saddleback at Santa Rita Ranch Phase 2 Section 1

Regulated Entity Location: West of Ronald Reagan Blvd., South of Co Rd 258.

Name of Customer: Pulet Homes of Texas LP

Contact Person: Stephen Ashlock

Phone: (512) 532-3355

Customer Reference Number (if issued):CN _____

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

☐ San Antonio Regional Office

☒ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

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	17.23 Acres	\$ 4,000.00
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	\$
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: 7/5/2024

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

<i>Project</i>	<i>Project Area in Acres</i>	<i>Fee</i>
One Single Family Residential Dwelling	< 5	\$650
Multiple Single Family Residential and Parks	< 5	\$1,500
	5 < 10	\$3,000
	10 < 40	\$4,000
	40 < 100	\$6,500
	100 < 500	\$8,000
	≥ 500	\$10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1	\$3,000
	1 < 5	\$4,000
	5 < 10	\$5,000
	10 < 40	\$6,500
	40 < 100	\$8,000
	≥ 100	\$10,000

Organized Sewage Collection Systems and Modifications

<i>Project</i>	<i>Cost per Linear Foot</i>	<i>Minimum Fee- Maximum Fee</i>
Sewage Collection Systems	\$0.50	\$650 - \$6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

<i>Project</i>	<i>Cost per Tank or Piping System</i>	<i>Minimum Fee- Maximum Fee</i>
Underground and Aboveground Storage Tank Facility	\$650	\$650 - \$6,500

Exception Requests

<i>Project</i>	<i>Fee</i>
Exception Request	\$500

Extension of Time Requests

<i>Project</i>	<i>Fee</i>
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.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input type="checkbox"/> 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 603410499		RN

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)					
<input type="checkbox"/> New Customer		<input checked="" type="checkbox"/> Update to Customer Information		<input type="checkbox"/> Change in Regulated Entity Ownership			
<input type="checkbox"/> 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: e.g.: Doe, John)			If new Customer, enter previous Customer below:				
Pulte Homes of Texas, LP							
7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)				
0010034910	17527201275	752720127					
11. Type of Customer:	<input checked="" type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited				
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other	<input type="checkbox"/> Sole Proprietorship	<input checked="" type="checkbox"/> Other: Limited Partnership					
12. Number of Employees		13. Independently Owned and Operated?					
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
14. Customer Role (Proposed or Actual) - as it relates to the Regulated Entity listed on this form. Please check one of the following:							
<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Owner & Operator							
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other:							
15. Mailing Address:	9401 Amberglen Blvd.						
	Bldg. I, Suite 150						
	City	Austin	State	TX	ZIP	78729	ZIP + 4
16. Country Mailing Information (if outside USA)			17. E-Mail Address (if applicable)				
			Stephen.Ashlock@PulteGroup.com				
18. Telephone Number		19. Extension or Code		20. Fax Number (if applicable)			
(512) 532 - 3355				() -			

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)	
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> 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.)	
Saddleback at Santa Rita Ranch Phase 2 Section 1	

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:	Just west of Ronald Reagan Boulevard and south of County Road 258							
26. Nearest City					State		Nearest ZIP Code	
Liberty Hill					TX		78642	
27. Latitude (N) In Decimal:		30.676084		28. Longitude (W) In Decimal:		-97.857327		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds			
30	40	33.9N	97	51	26.37W			
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								
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)								
Single Family Residential Development								
34. Mailing Address:		Pulte Group						
		9401 Amberglen Blvd., Bldg. I, Suite 150						
		City	Austin	State	TX	ZIP	78729	ZIP + 4
35. E-Mail Address:		Stephen.Ashlock@PulteGroup.com						
36. Telephone Number			37. Extension or Code			38. Fax Number (if applicable)		
(512) 532 - 3355						() -		

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.

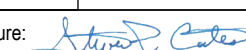
<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
		EAPP # 11002565		
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Waste Water	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

SECTION IV: Preparer Information

40. Name:	Steven P. Cates, P.E.		41. Title:	Senior Project Manager
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, Brigrance and Doering, Inc.	Job Title:	Senior Project Manager
Name(In Print):	Steven P. Cates	Phone:	(512) 280 - 5160
Signature:		Date:	7-5-2024

FILE PATH: J:\ACCS\0519\ang5619\COVER.dwg - Jul 01, 2024 - 11:18am

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

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

SUBMITTED BY:



7-1-2024

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

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.

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

FOR WILLIAMSON COUNTY

DATE

WILLIAMSON COUNTY M.U.D. #19H

DATE

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

SANTA RITA RANCH PHASE 2 SECTION 1

WILLIAMSON COUNTY, TEXAS CONSTRUCTION PLANS



LOCATION MAP
SCALE: 1" = 500'

THIS PROJECT IS LOCATED WITHIN THE EDWARDS AQUIFER CONTRIBUTING ZONE A CONTRIBUTING ZONE PLAN WAS APPROVED BY TCEQ ON _____
30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 213
EDWARDS AQUIFER PROTECTION PROGRAM ID NO. 11003882
THE WASTEWATER SYSTEM WAS APPROVED BY THE TCEQ ON _____
30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 217
PERMIT NO. _____ WWPR LOG NO. _____

OWNER:

PULTE HOMES OF TEXAS, LP
9401 AMBERGLEN BLVD.
BLDG. I, SUITE 150
AUSTIN, TX. 78729

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

TOTAL ACREAGE: 17.139 AC
SURVEY: B. MANLOVE SURVEY,
ABSTRACT NO. 417

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

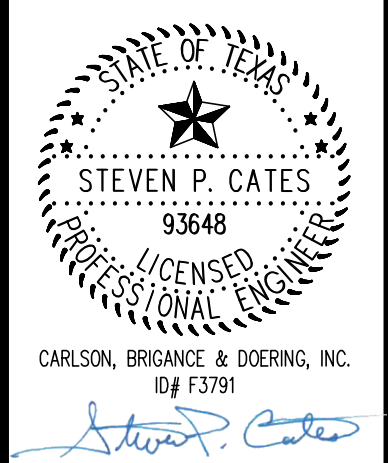


SHEET INDEX

- 1 - COVER SHEET
- 2 - GENERAL NOTES (1 OF 2)
- 3 - GENERAL NOTES (2 OF 2)
- 4 - FINAL PLAT (1 OF 2)
- 5 - FINAL PLAT (2 OF 2)
- 6 - EROSION CONTROL PLAN
- 7 - EROSION CONTROL NOTES & DETAILS
- 8 - EXISTING HYDROLOGY MAP
- 9 - DEVELOPED OVERALL HYDROLOGY MAP
- 10 - DEVELOPED SITE HYDROLOGY MAP
- 11 - TCEQ PROJECT AND DRAINAGE AREA MAP
- 12 - DRAINAGE PLAN
- 13 - DRAINAGE CALCS
- 14 - GRADING PLAN
- 15 - TRAFFIC CONTROL PLAN
- 16 - TOWER ROAD (0+00 TO 3+00)
- 17 - TOWER ROAD (3+00 TO 7+80)
- 18 - TOWER ROAD (7+80 TO END)
- 19 - SADDLEBACK PARKWAY (0+00 TO 2+50)
- 20 - SADDLEBACK PARKWAY (2+50 TO 5+00)
- 21 - SADDLEBACK PARKWAY (5+00 TO END)
- 22 - POND PLAN
- 23 - POND DETAILS
- 24 - OVERALL STORMSEWER PLAN
- 25 - STORMSEWER LINE A (0+00 TO 0+00)
- 26 - STORMSEWER LINE B & C (0+00 TO END)
- 27 - STORMSEWER LINE D & E (0+00 TO END)
- 28 - STORMSEWER LINE F (0+00 TO END) & STORMSEWER LATERALS
- 29 - OVERALL WATER PLAN
- 30 - WATERLINE A (0+00 TO END)
- 31 - WATERLINE B (0+00 TO 7+00)
- 32 - WATERLINE B (7+00 TO END)
- 33 - WASTEWATER LINE A (7+00 TO END)
- 34 - CONSTRUCTION DETAILS (1 OF 4)
- 35 - CONSTRUCTION DETAILS (2 OF 4)
- 36 - CONSTRUCTION DETAILS (3 OF 4)
- 37 - CONSTRUCTION DETAILS (4 OF 4)
- 38 - WATER DETAILS
- 39 - WASTEWATER DETAILS

ELECTRICAL DRAWING INDEX

- 40 - (E1.0) ELECTRICAL NOTES, SYMBOLS & ABBREVIATIONS
- 41 - (E1.1) ELECTRICAL SPECIFICATIONS
- 42 - (E2.0) ELECTRICAL SITE PLAN - NEW BATCH POND S5
- 43 - (E3.0) ELECTRICAL LADDER DIAGRAM
- 44 - (E4.0) ELECTRICAL DETAILS

DESIGNED BY: SPC	DRAFTED BY: CEL
DATE	
REVISION	
COVER SHEET	
SADDLEBACK AT SANTA RITA	
PHASE 2 SECTION 1	
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS	
	
DATE: JUNE 2024	
JOB NUMBER: 5619	
SHEET: 1 OF 44	
SHEET NO. 1	

CONSTRUCTION SEQUENCING

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

GEORGETOWN UTILITY SYSTEMS GENERAL NOTES:

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

STREET AND DRAINAGE NOTES:

1. ROADWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT "WILLIAMSON COUNTY SUBDIVISION REGULATIONS," AS APPLICABLE.
2. ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. ANY RETESTING SHALL BE PAID FOR BY THE CONTRACTOR. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.
3. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 3" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 3" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
4. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, WATER SERVICES, ETC., SHALL BE A MINIMUM OF 30" BELOW SUBGRADE.
5. STREET RIGHTS-OF-WAY SHALL BE GRADED AT A SLOPE OF 1/4" PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED. HOWEVER, IN NO CASE SHALL THE WIDTH OF RIGHT-OF-WAY AT 1/4" PER FOOT SLOPE BE LESS THAN 10 FEET UNLESS A SPECIFIC REDUCT FOR AN ALTERNATE GRADING SCHEME IS MADE TO AND ACCEPTED BY THE COUNTY ENGINEER. BARRICADES BUILT TO WILLIAMSON COUNTY STANDARDS SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.
6. ALL R.C.P. SHALL BE MINIMUM CLASS III, UNLESS OTHERWISE NOTED.
7. THE PREPARATION OF SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER AND IN CONJUNCTION WITH THE OUTLINED IN THE GEOTECHNICAL REPORT BY MIA LABS, INC., DATED JAN 14, 2022. 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	Limestone	2.0	8	—
	Subgrade PI < 20	2.0	12	—
	Subgrade 20 < PI < 35	2.0	12	8*
	Subgrade PI > 35	2.0	14	8*
Collectors	Limestone	2.0	14	—
	Subgrade PI < 20	2.0	14	—
	Subgrade 20 < PI < 35	2.0	14	8*
	Subgrade PI > 35	2.0	16	8*
Minor Arterial	Limestone	3.5	20	—
	Subgrade PI < 20	3.5	20	—
	Subgrade 20 < PI < 35	3.5	20	8*
	Subgrade PI > 35	3.5	22	10*

- 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 MIA Geotechnical.

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

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

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

GENERAL NOTES:

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

BENCHMARKS:

DESCRIPTION	ELEVATION	NORTHING	EASTING
MAG NAIL W/ SHINER ON RONALD REAGAN BOULEVARD	902.77	10,219,838.4682	3,079,718.4620
MAG NAIL W/ SHINER AT END OF GUARDRAIL ON RONALD REAGAN BOULEVARD	900.80	10,219,364.8892	3,079,878.7660
MAG NAIL W/ SHINER ON RONALD REAGAN BOULEVARD	899.85	10,218,932.5392	3,080,013.6460

TRENCH SAFETY NOTES:

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

TRAFFIC MARKING NOTES:

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

EROSION AND SEDIMENTATION CONTROL NOTES:

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

WILLIAMSON COUNTY SUBDIVISION REGULATIONS

APPENDIX B

ADOPTED AND EFFECTIVE AS OF JUNE 22, 2021

B4 – CONSTRUCTION – GENERAL

- B4.1 A PRECONSTRUCTION MEETING SHALL BE SCHEDULED PRIOR TO THE START OF CONSTRUCTION. THE DESIGN ENGINEER, OWNER, CONTRACTOR, SUBCONTRACTORS, AND COUNTY ENGINEER SHALL ATTEND THIS MEETING. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS FOUND IN THE CURRENT VERSION OF THE TEXAS DEPARTMENT OF TRANSPORTATION MANUAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES UNLESS OTHERWISE STATED ON THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER.
- B4.2 ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.
- B4.3 EXCEPT FOR ELECTRIC 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 SOILD 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 AND 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 PELLETED 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 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 (REOB'S) OR POLY PHOSPHORIC ACID (PPA). RECYCLED ASPHALT PAVEMENT (RAP) IS NOT PERMITTED FOR USE AS A COMPONENT OF THE HMAC. THE CONTRACTOR IS ALSO NOT PERMITTED THE USE RECYCLED ASPHALT SHINGLES (RAS) AS A COMPONENT OF THE HMAC.
- B7.3 IF PROVIDING MIXTURE TYPE B, USE PG BINDER 64–22. PROVIDE PG BINDERS THAT DO NOT CONTAIN REOB'S 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 HMAC.
- B7.4 TARGET LABORATORY MOLED 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 (GSG) 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 10% THE 5 MOST RECENT TESTS IS BELOW THE SPECIFIED NUMBER OF PASSES AND THE FAILING TEST IS NO MORE THAN 2,000 PASSES BELOW THE SPECIFIED NUMBER OF PASSES.
- B7.6 SUBMIT ANY PROPOSED ADJUSTMENTS OR CHANGES TO A JOB MIX FORMULA TO THE COUNTY ENGINEER BEFORE PRODUCTION OF THE NEW JOB MIX FORMULA.
- B7.7 UNLESS OTHERWISE APPROVED, PROVIDE TYPE B MIXTURES THAT HAVE NO LESS THAN 4.5% ASPHALT BINDER, AND TY C AND D MIXTURES WITH NO LESS THAN 4.7% BINDER.
- B7.8 FOR MIXTURE DESIGN VERIFICATION, PROVIDE THE ENGINEER WITH TWO 5-GALLON BUCKETS OF EACH AGGREGATE STOCKPILE TO BE USED ON THE PROJECT AND THREE GALLONS OF EACH PG BINDER TO BE USED ON THE PROJECT. ALSO PROVIDE SUFFICIENT QUANTITIES OF ANY OTHER ADDITIVES THAT WILL BE USED IN THE HMA MIXTURE. THIS MUST BE DONE PRIOR TO APPROVAL OF THE MIX DESIGN, UNLESS ALREADY PERFORMED WITHIN A ONE-YEAR TIME PERIOD.
- B7.9 PRIOR TO ALLOWING PRODUCTION OF THE MIXTURE, 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 MOLED BE RAISED TO NO MORE THAN 97.5% OR MAY LOWER THE DESIGN NUMBER OF CYRATIONS 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 200 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, 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.

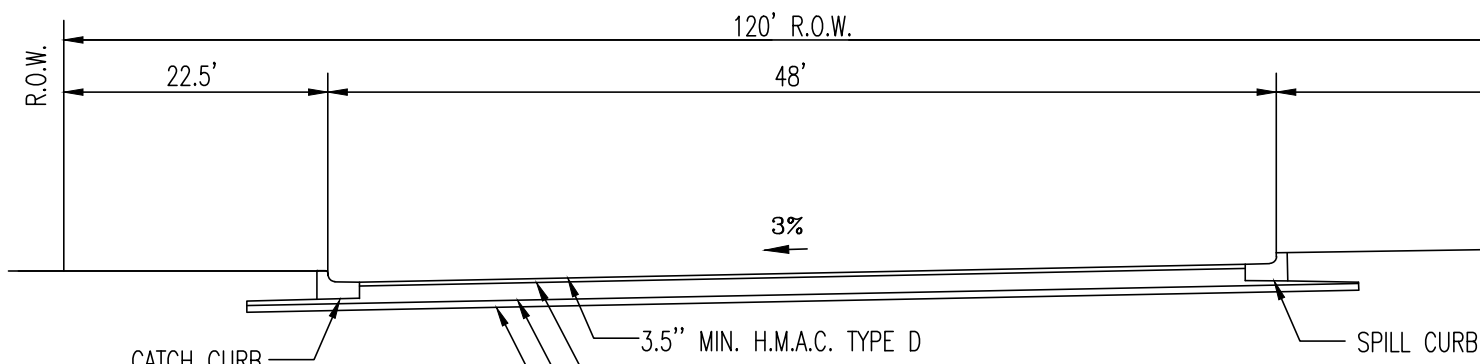
B10 – ROAD NAMES, SIGNS AND MARKERS

- 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 ERRECTED BY THE OWNER IN COMPLIANCE WITH THE TxDOT "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 TxDOT 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 TxDOT 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 B12.
- B11.2 THE PROPOSED TIME OF CONCENTRATIONS AND LAND COVER ROUGHNESS H-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 TUNING OF HYDROGRAPHS MAY NOT BE USED TO DEMONSTRATE A DECREASE OF PROPOSED PEAK FLOWS.
- 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 DATA SHALL BE UTILIZED FOR ALL HYDROLOGIC ANALYSES. IF HEC-HMS IS NOT UTILIZED, THE FULL MODEL INPUT AND OUTPUT SHALL BE PROVIDED INCLUDING STRUCTURAL AND OUTLET DETAILS AS MOODED.
- 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 2

FILE PATH: J:\CADD\0519\0519\0519-GENERAL NOTES.dwg - Jul 01, 2024 - 11:20am



TOWER ROAD & SADDLEBACK PARKWAY (ARTERIAL)
(0+00.00 TO END)
N.T.S.

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 CAPITAL 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 § 213.01 RELATING TO ENFORCEMENT. SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND SANCTIONS. 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.

- 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.
- 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.
- IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SNK 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.
- 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.
- 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.
- 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.
- SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
- LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
- 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.
- 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.
- 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.
- 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:
 - 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.
 - 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.
 - 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.
(TCEQ006 (REV. JULY 18, 2019))

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
ORGANIZED SEWAGE COLLECTION SYSTEM
GENERAL CONSTRUCTION NOTES

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES - LEGAL DISCLAIMER

THE FOLLOWING LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR, NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR CONDITIONS TO BE FOLLOWED DURING CONSTRUCTION. FURTHER ACTIONS MAY BE REQUIRED TO ACHIEVE COMPLIANCE WITH TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE, CHAPTERS 213 AND 217, AS WELL AS LOCAL ORDINANCES AND REGULATIONS PROVIDING FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE EXECUTIVE DIRECTOR, THE COMMISSION OR ANY OTHER GOVERNMENTAL ENTITY TO PREVENT, CORRECT, OR CAPITAL ACTIVITIES THAT RESULT OR MAY RESULT IN POLLUTION OF THE EDWARDS AQUIFER OR HYDROLOGICALLY CONNECTED SURFACE WATERS. THE HOLDER OF ANY EDWARDS AQUIFER PROTECTION PLAN CONTAINING "CONSTRUCTION NOTES" IS STILL RESPONSIBLE FOR COMPLIANCE WITH TITLE 30, TEXAS ADMINISTRATIVE CODE, CHAPTERS 213 OR ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF AN EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THE EXECUTIVE DIRECTOR'S APPROVAL, WHETHER OR NOT IN CONTRADICTION OF ANY "CONSTRUCTION NOTES" IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS, AND PENALTIES AS PROVIDED UNDER TITLE 30, TEXAS ADMINISTRATIVE CODE § 213.01 RELATING TO ENFORCEMENT. SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND SANCTIONS. THE FOLLOWING LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVED EXCEPTION BY THE EXECUTIVE DIRECTOR TO ANY PART OF TITLE 30, TEXAS ADMINISTRATIVE CODE, CHAPTERS 213 AND 217, OR ANY OTHER TCEQ APPLICABLE REGULATION.

- THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.01(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.
 - ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.
 - A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
 - THE NAME OF THE APPROVED PROJECT;
 - THE ACTIVITY START DATE; AND
 - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
 - ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.
 - PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.
- SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.
 - BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.
 - ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE.
- THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET 72 - 66 OF 72.

IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER, THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.

- WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §200.44(E) (WATER DISTRIBUTION).

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

SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC §217.54.

NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED VYVES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH MANUFACTURING TECHNIQUES. IF NO CRIB-PILE PRESURE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET 72 OF 72, FOR POTENTIAL FUTURE LATERALS, (NOT APPLICABLE).

THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET 72, OF 72, AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET 72, OF 72.

- TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A & B OR C.
- SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.01(C)(3)(E).

- ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:
 - FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST; A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:
 - LOW PRESSURE AIR TEST.
 - A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-628, ASTM C-624, OR ASTM F-4117 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS PARAGRAPH.
 - FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION.
 - A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE.
 - ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

EQUATION C.3

$$T = \frac{0.00416 \times D^5 \times L}{Q}$$

WHERE:

T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS
K = 0.00416 X D XL, BUT NOT LESS THAN 1.0
D = AVERAGE INSIDE PIPE DIAMETER IN INCHES
L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET
Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

(C) SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING TABLE C.3:

PIPE DIAMETER (INCHES)	Minimum Time (seconds)	Maximum Length for Minimum Time (feet)	Time for Longer Length (seconds/foot)
6	340	398	0.8550
8	454	298	1.5200
10	567	239	2.3740
12	680	199	3.4190
15	850	159	5.3420
18	1020	133	7.6930
21	1190	114	10.4710
24	1360	100	13.6760
27	1530	88	17.3090
30	1700	80	21.3690
33	1870	72	25.8560

- AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME. IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.
- WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS SECTION.
- A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.
 - INFILTRATION/EXFILTRATION TEST.
 - THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.
 - AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.
 - THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE. OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER.
 - FOR CONSTRUCTION WITH A 25-YEAR FLOOD PLAN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.
 - IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.
 - IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:
 - FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDEL.
 - MANDEL SIZING.
 - A RIGID MANDEL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTM, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED AGENCY.
 - A MANDEL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD. THE MANDEL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE, IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDEL. MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.
 - ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.
 - MANDEL DESIGN.
 - A RIGID MANDEL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.
 - A MANDEL MUST HAVE NINE OR MORE 000 NUMBER RUNNERS OR LEGS.
 - A BARREL SECTION LENGTH MUST BE EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.
 - EACH SIZE MANDEL MUST USE A SEPARATE PROVING RING.
 - METHOD OPTIONS.
 - AN ADJUSTABLE OR FLEXIBLE MANDEL IS PROHIBITED.
 - A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.
 - IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDEL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.
 - FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.
 - A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.
 - AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.
 - GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).
 - IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.
- ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.
 - ALL MANHOLES MUST PASS A LEAKAGE TEST.
 - AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION, TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.
 - HYDROSTATIC TESTING.
 - THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.
 - TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.
 - A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE.
 - VACUUM TESTING.
 - TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.
 - NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.
 - STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.
 - AN OWNER SHALL USE A MINIMUM 60 INCHLB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE.
 - A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
 - THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.
 - A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.
 - A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.
- ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.01(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

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

SAN ANTONIO REGIONAL OFFICE
14250 JUDSON ROAD
SAN ANTONIO, TEXAS 78233-4480
PHONE (210) 490-3096
FAX (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.
(TCEQ006 (REV. JULY 18, 2019))

TCEQ WATER DISTRIBUTION SYSTEM
GENERAL CONSTRUCTION NOTES

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

- Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.

- The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

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

Where:

- Q = the quantity of makeup water in gallons per hour,
- L = the length of the pipe section being tested, in feet,
- D = the nominal diameter of the pipe in inches, and
- P = the average test pressure during the hydrostatic test in pounds per square inch (psi).

- The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

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

Where:

- L = the quantity of makeup water in gallons per hour,
- S = the length of the pipe section being tested, in feet,
- D = the nominal diameter of the pipe in inches, and
- P = the average test pressure during the hydrostatic test in pounds per square inch (psi).

- The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet §290.44(e)(1)-(4).

- The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(e)(5)].

- Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(e)(6)].

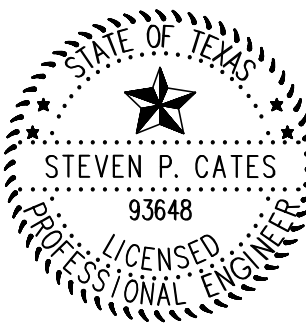
- Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(e)(7)].

- Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(e)(8)].

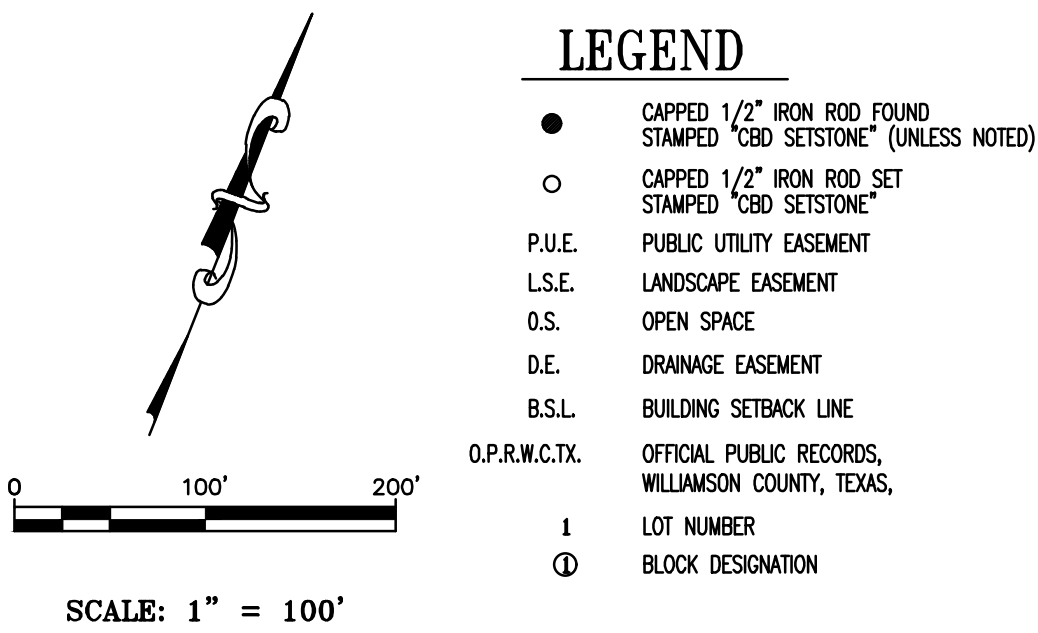
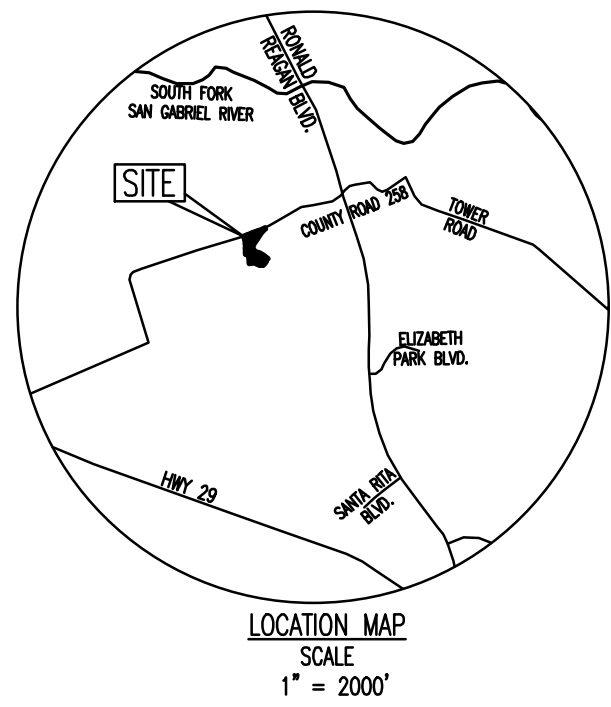
- The contractor shall disinfect the new waterlines in accordance with AWWA Standard C-651-14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(f)(3)].

- Dechlorination of disinfecting water shall be in strict accordance with current AWWA Standard C655-09 or most recent.

Revised October 2017

DESIGNED BY: SPC	DRAFTED BY: CEL
DATE	
REVISION	
Carlson, Brigrance & Doering, Inc. Civil Engineering ♦ Surveying FIRM ID #E3791 Main Office: 5501 West Williams Canyon Dr., Austin, Texas 78750 North Office: 12129 RR (291 N. St., 400 Austin, Texas 78750 Phone No. (512) 280-5160 Fax No. (512) 280-5165	
GENERAL NOTES (2 OF 2)	
SADDLEBACK AT SANTA RITA	
PHASE 2 SECTION 1	
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS	
SHEET NAME:	
JOB NAME:	
 CARLSON, BRIGRANCE & DOERING, INC. ID# F3791 <i>Steven P. Cates</i> 7-1-2024	
DATE	JUNE 2024
JOB NUMBER	5619
SHEET	3 OF 44
SHEET NO.	3

SADDLEBACK AT SANTA RITA RANCH PHASE 2, SECTION 1
FINAL PLAT



TOTAL ACREAGE: 17.226 ACRES
SURVEY: B. MANLOVE SURVEY, ABSTRACT NO. 417

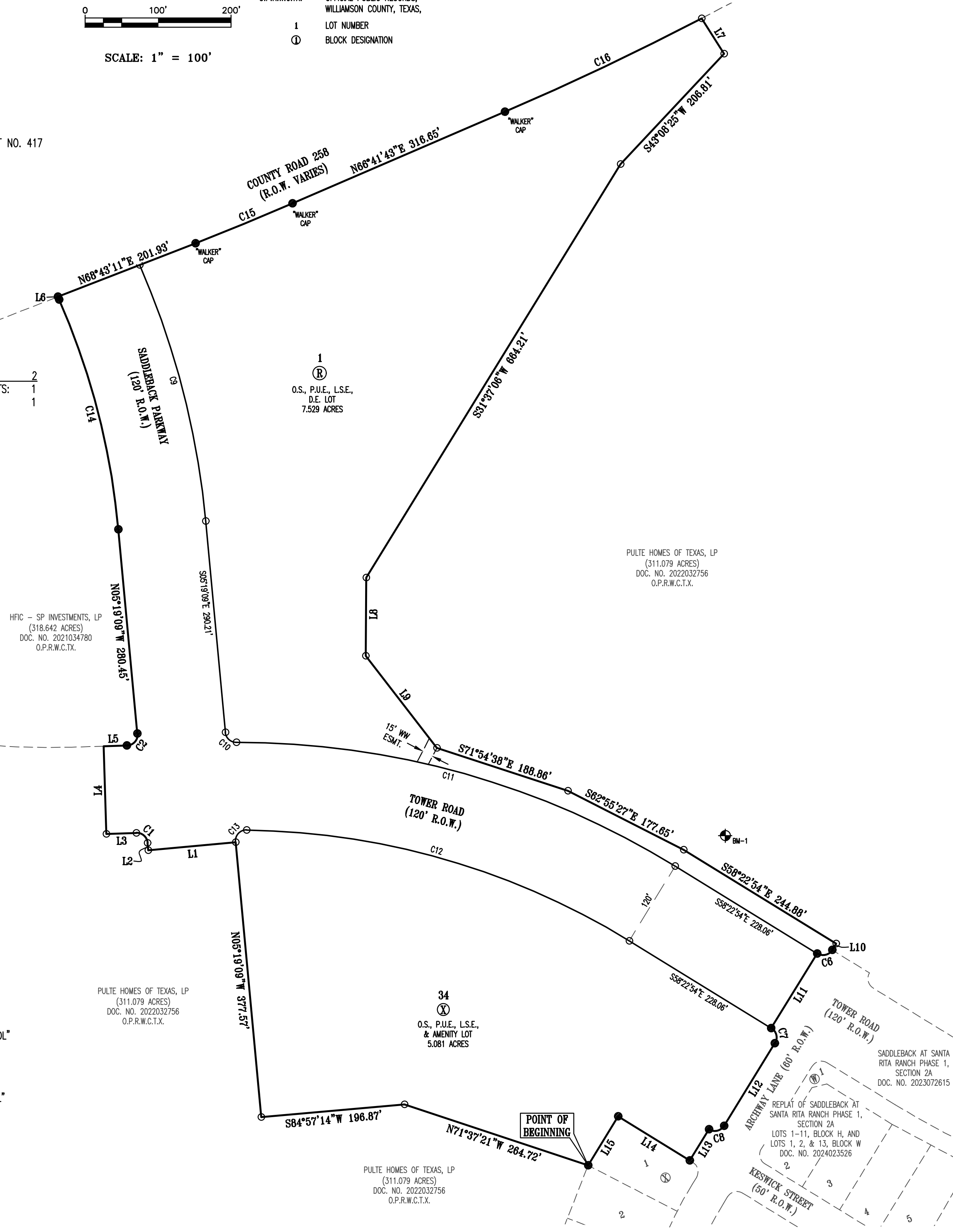
DATE: MAY 14, 2024

OWNER AND DEVELOPER:
PULTE HOMES OF TEXAS, L.P.
9401 AMBERGLEN BLVD.,
BLDG. 1, SUITE 150
AUSTIN, TEXAS 78729
PHONE: (512) 532-3300

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

TOTAL LOTS: 2
NO. OF O.S., P.U.E., L.S.E., & AMENITIES LOTS: 1
NO. OF OS, PUE, LSE, & D.E. LOTS: 1

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



BENCHMARKS:
BM-1: 1/2 INCH IRON ROD FOUND STAMPED "CONTROL"
N: 10218801.22
E: 3075900.79
ELEV: 974.82

BM-2: 1/2 INCH IRON ROD FOUND STAMPED "CONTROL"
N: 10218001.86
E: 3076299.186
ELEV: 969.17

ROAD TABLE					
STREET NAMES	LINEAR FOOTAGE	R.O.W. WIDTH	PAVEMENT WIDTH	DESIGN SPEED	DESIGNATION CLASSIFICATION
TOWER ROAD	1007'	120' R.O.W.	48' FOC-FOC	45 M.P.H.	PUBLIC ARTERIAL
SADDLEBACK PARKWAY	788'	120' R.O.W.	48' FOC-FOC	45 M.P.H.	PUBLIC ARTERIAL
TOTAL	1,795'				

SHEET NO. 1 OF 3

Carlson, Brigrance & Doering, Inc.

FIRM ID #F3791 REG. # 10024900

Civil Engineering 5501 West William Cannon Austin, Texas 78749 Phone No. (512) 280-5160

Surveying Austin, Texas 78749 Fax No. (512) 280-5165

J:\AC3D\5619\dwg\5619-FINAL PLAT STEVE

SADDLEBACK AT SANTA RITA RANCH PHASE 2, SECTION 1
FINAL PLAT

METES AND BOUNDS
BEING ALL OF THAT CERTAIN 17.226 ACRE TRACT OF LAND SITUATED IN THE B. MANLOVE SURVEY, ABSTRACT NUMBER 417, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF A CALLED 311.079 ACRE TRACT OF LAND CONVEYED TO PULTE HOMES OF TEXAS, LP BY DEED RECORDED IN DOCUMENT NUMBER 2022032756, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, SAID 17.226 ACRE TRACT OF LAND BEING MORE FULLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS,

BEGINNING, AT A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT THE SOUTHWEST CORNER OF LOT 1, BLOCK X, AND THE NORTHWEST CORNER OF LOT 2, BLOCK X, SADDLEBACK AT SANTA RITA RANCH PHASE 1, SECTION 2A, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2023072615, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, FOR THE SOUTHEAST CORNER AND THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT,

THENCE, OVER AND ACROSS SAID 311.079 ACRE TRACT OF LAND, THE FOLLOWING EIGHT (8) COURSES AND DISTANCES, NUMBERED 1 THROUGH 8,

- 1) N71°37'21"W, A DISTANCE OF 264.72 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 2) S84°57'14"W, A DISTANCE OF 196.87 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 3) N05°19'09"W, A DISTANCE OF 377.57 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 4) S84°40'51"W, A DISTANCE OF 120.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 5) N05°19'09"W, A DISTANCE OF 10.18 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
- 6) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 22.63 FEET, AND A CHORD THAT BEARS N48°32'49"W, A DISTANCE OF 20.55 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 7) S88°13'28"W, A DISTANCE OF 9.29 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, AND
- 8) N01°46°31"W, A DISTANCE OF 120.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" ON THE WEST LINE OF SAID 311.079 ACRE TRACT OF LAND, FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,

THENCE, WITH THE WEST LINE OF SAID 311.079 ACRE TRACT OF LAND AND OVER AND ACROSS A CALLED 318.642 ACRE TRACT OF LAND CONVEYED TO HFIC - SP INVESTMENTS, LP BY DEED RECORDED IN DOCUMENT NUMBER 2021034780, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, THE FOLLOWING FOUR (4) COURSES AND DISTANCES, NUMBERED 1 THROUGH 4,

- 1) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 24.49 FEET, AND A CHORD THAT BEARS N41°27'10"E, A DISTANCE OF 21.86 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 2) N05°19'09"W, A DISTANCE OF 280.45 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
- 3) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 1,020.00 FEET, AN ARC LENGTH OF 325.80 FEET, AND A CHORD THAT BEARS N14°28'11"W, A DISTANCE OF 324.42 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, AND
- 4) N23°37'13"W, A DISTANCE OF 4.25 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" ON THE NORTH LINE OF SAID 311.079 ACRE TRACT OF LAND, BEING ON THE NORTH LINE OF SAID 318.642 ACRE TRACT OF LAND, SAME BEING ON THE SOUTH RIGHT-OF-WAY LINE OF COUNTY ROAD 258 (R.O.W. VARIES), FOR THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND,

THENCE, WITH THE COMMON LINE OF SAID 311.079 ACRE TRACT AND SAID COUNTY ROAD 258, THE FOLLOWING FOUR (4) COURSES AND DISTANCES, NUMBERED 1 THROUGH 4,

- 1) N68°43'11"E, A DISTANCE OF 201.93 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "WALKER" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
- 2) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 4,070.57 FEET, AN ARC LENGTH OF 143.43 FEET, AND A CHORD THAT BEARS N67°42'13"E, A DISTANCE OF 143.42 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "WALKER" FOR CORNER,
- 3) N66°41'43"E, A DISTANCE OF 316.65 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "WALKER" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT, AND
- 4) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 4,070.57 FEET, AN ARC LENGTH OF 298.09 FEET, AND A CHORD THAT BEARS N64°36'44"E, A DISTANCE OF 298.03 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR THE NORTHEAST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND,

THENCE, OVER AND ACROSS SAID 311.079 ACRE TRACT OF LAND, THE FOLLOWING NINE (9) COURSES AND DISTANCES, NUMBERED 1 THROUGH 9,

- 1) S32°17'28"E, A DISTANCE OF 57.17 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 2) S43°08'25"W, A DISTANCE OF 206.81 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 3) S31°37'06"W, A DISTANCE OF 664.21 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 4) S00°14'10"W, A DISTANCE OF 107.14 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 5) S37°41'34"E, A DISTANCE OF 158.87 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 6) S71°54'38"E, A DISTANCE OF 188.86 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 7) S62°56'22"E, A DISTANCE OF 177.65 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 8) S58°22'54"E, A DISTANCE OF 244.88 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, AND
- 9) S31°37'06"W, A DISTANCE OF 10.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT THE NORTHWEST CORNER OF SAID SADDLEBACK AT SANTA RITA RANCH PHASE 1, SECTION 2A, CORNER, BEING AT THE NORTHWEST TERMINUS CORNER OF TOWER ROAD (120' R.O.W.), BEING AT THE BEGINNING OF A CURVE TO THE RIGHT, FOR CORNER,

THENCE, WITH THE WEST LINE OF SAID SADDLEBACK AT SANTA RITA RANCH PHASE 1, SECTION 2A, AND OVER AND ACROSS SAID 311.079 ACRE TRACT OF LAND, THE FOLLOWING EIGHT (8) COURSES AND DISTANCES, NUMBERED 1 THROUGH 8,

- 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 S76°37'06"W, A DISTANCE OF 21.21 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 2) S31°37'06"W, A DISTANCE OF 120.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 3) S13°22'54"E, A DISTANCE OF 21.21 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 4) S31°37'06"W, A DISTANCE OF 132.40 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
- 5) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.57 FEET, AND A CHORD THAT BEARS S76°38'13"W, A DISTANCE OF 21.22 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 6) S31°37'06"W, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 7) N58°22'54"W, A DISTANCE OF 114.99 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, AND
- 8) S31°37'06"W, A DISTANCE OF 78.65 FEET TO THE POINT OF BEGINNING AND CONTAINING 17.139 ACRES OF LAND.

GENERAL:

1. BEARINGS AND COORDINATES 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 PURPOSE ROADWAY AND EASEMENTS AS SHOWN ON THIS PLAT ARE FREE OF LIENS.
5. THE H.O.A. WILL OWN AND MAINTAIN THE FOLLOWING LOTS:
LOT 1, BLOCK R, AND LOT 34, BLOCK X

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. THIS CERTIFICATE IS VALID UNTIL SUCH TIME AS FEMA REVISES OR NEWLY ADOPTS FLOODPLAIN BOUNDARIES IN THIS AREA.
3. 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.

WATER AND WASTEWATER:

1. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTION IS MADE TO AN APPROVED PUBLIC SEWER SYSTEM. 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 19H/GEORGETOWN UTILITY SYSTEMS.
4. WASTEWATER SERVICE IS PROVIDED BY: WILLIAMSON COUNTY MUD 19H/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 ALONG & ADJACENT TO ALL STREET RIGHT-OF-WAY, AND A TWO AND ONE-HALF (2.5') FOOT WIDE PUBLIC UTILITY EASEMENT IS DEDICATED ALONG ALL SIDE LOT LINES.

SURVEYOR NOTES:

- 1) SUBJECT TRACT IS AFFECTED BY THE THE POTABLE WATER LINE EASEMENT RECORDED IN VOLUME 1233, PAGE 608, DEED RECORDS OF WILLIAMSON COUNTY, TEXAS, AND ASSIGNED IN VOLUME 2168, PAGE 44, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS. (BLANKET TYPE, 15' CENTERED AS INSTALLED)

SHEET NO. 2 OF 3

Carlson, Brigrance & Doering, Inc.

FIRM ID #F3791 REG. # 10024900

Civil Engineering 5501 West William Cannon Austin, Texas 78749 Phone No. (512) 280-5160

Surveying Austin, Texas 78749 Fax No. (512) 280-5165

J:\AC3D\5619\dwg\5619-FINAL PLAT

SADDLEBACK AT SANTA RITA RANCH PHASE 2, SECTION 1
FINAL PLAT

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

STEPHEN ASHLOCK, VICE PRESIDENT, PLUTE HOMES OF TEXAS, LP, OWNER OF THAT CALLED 311.079 ACRE TRACT OF LAND CONTAINED IN DOCUMENT NUMBER 2022032756, OFFICIAL PUBLIC RECORDS OF WILLAMSON COUNTY, TEXAS, AND DO HEREBY SUBDIVIDE SAID 17.139 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 WILLAMSON 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,

THE COUNTY ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF REPRESENTATIONS BY OTHER PARTIES IN THIS PLAT. FLOOD PLAIN DATA IN PARTICULAR, MAY CHANGE DEPENDING ON SUBSEQUENT DEVELOPMENT. 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 STREETS IN THE SUBDIVISION HAVE FINALLY BEEN ACCEPTED FOR MAINTENANCE BY THE COUNTY.

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.

"SADDLEBACK AT SANTA RITA RANCH PHASE 2,
SECTION 1 FINAL PLAT"

PAUL BRANDENBURG, CITY MANAGER
CITY OF LIBERTY HILL, TEXAS

BY: STEPHEN ASHLOCK, VICE PRESIDENT
PULTE HOMES OF TEXAS, L.P.
9401 AMBERGLEN BLVD., BLDG. I, SUITE 150
AUSTIN, TEXAS 78729
PHONE: (512) 532-3300

ROAD NAME AND ADDRESS ASSIGNMENTS VERIFIED THIS THE ____ DAY OF _____, 20__ AD.

WILLIAMSON COUNTY ADDRESSING COORDINATOR
WILLIAMSON COUNTY, TEXAS

PRINTED NAME: _____

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

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

BILL GRAVELL, JR., COUNTY JUDGE
WILLIAMSON COUNTY, TEXAS

STATE OF TEXAS: §
COUNTY OF WILLIAMSON: §

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED STEPHEN ASHLOCK, 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 _____ DAY OF _____, 20____, A.D.

NOTARY PUBLIC IN AND FOR TRAVIS COUNTY, TEXAS

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.

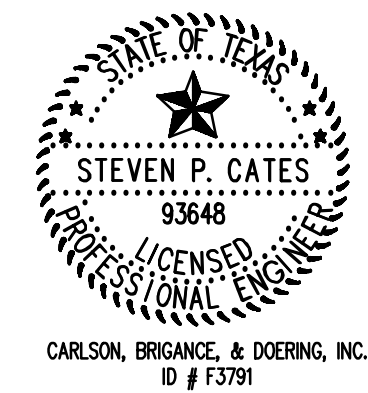
THIS STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF ENGINEER OR SURVEYOR.

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, P.E. NO. 93648 DATE
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE,
AUSTIN, TEXAS 78749



STATE OF TEXAS: §
COUNTY OF TRAVIS: §

I, ERIC J. DANNHEIM, 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 LISTED ON TITLE REPORT ISSUED BY TITLE RESOURCES GUARANTY COMPANY, G.F. NO. 2160726-COM, EFFECTIVE DATE SEPTEMBER 17, 2021, WHICH AFFECT THE SUBJECT PLAT ARE SHOWN OR NOTED ON THE PLAT.

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

FOR REVIEW ONLY.	
SURVEYED BY:	DATE
ERIC J. DANNHEIM, R.P.L.S. NO. 6075 CARLSON, BRIGANCE & DOERING, INC. 5501 WEST WILLIAM CANNON DRIVE, AUSTIN, TEXAS 78749 EDANNHEIM@CBDENG.COM	

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

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 PLAT RECORDS OF SAID COUNTY IN INSTRUMENT NUMBER _____.

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



J: \AC3D\5619\dwg\5619-FINAL PLAT



LEGEND

SILT FENCE

SILT FENCE J-HOOK

LIMITS OF CONSTRUCTION

INLET PROTECTION

ROCK BERM

STABILIZED CONSTRUCTION ENTRANCE

DIVERSION BERM

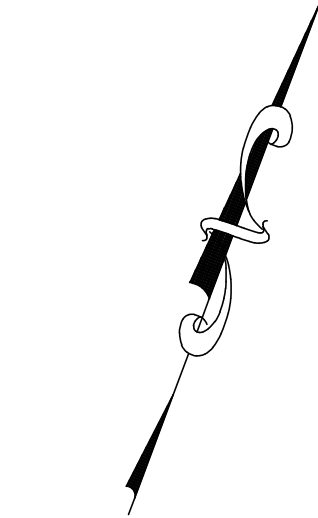
SEEDING & TOPSOIL (PERMANENT) WITHIN THE ROW ONLY

ROLLED EROSION CONTROL MATTING, SEEDING & TOPSOIL (PERMANENT) FOR SLOPES 5:1 & STEEPER

SEEDING & TOPSOIL (PERMANENT) FOR EASEMENTS, OPEN SPACE LOTS, AND VEGETATIVE FILTER STRIPS ON ALL SLOPES FLATTER THAN 5:1

TOPSOIL AND DRILL SEED

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



0 60' 120'
SCALE: 1" = 60'

DESIGNED BY: SPC

DRAFTED BY: CEL

DATE

REVISION

Carlson, Brigrance & Doering, Inc.

CBD

Civil Engineering & Surveying

FIRM ID #E3791

Main Office: 5501 West Willow Canyon Dr., Austin, Texas 78750

North Office: 12129 RR 630 N., Suite 600, Austin, Texas 78750

Phone No. (512) 280-5160 Fax No. (512) 280-5165

SHEET NAME: EROSION CONTROL PLAN

JOB NAME: SADDLEBACK AT SANTA RITA

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

STATE OF TEXAS

STEVEN P. CATES

93648

PROFESSIONAL ENGINEER

Carlson, Brigrance & Doering, Inc.

Id# F3791

7-1-2024

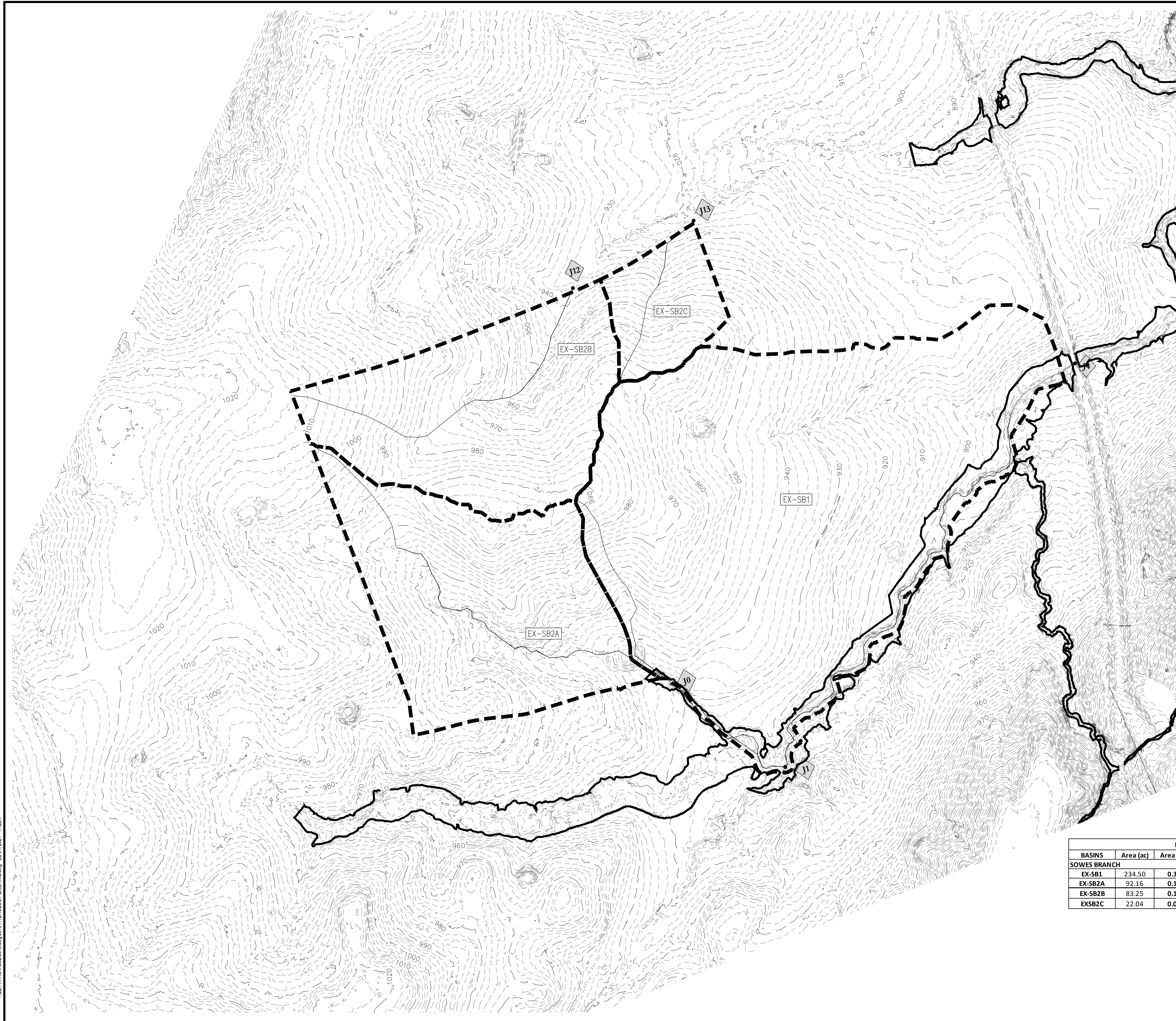
DATE: JUNE 2024














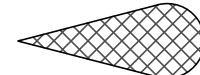

JOB NUMBER: 5619

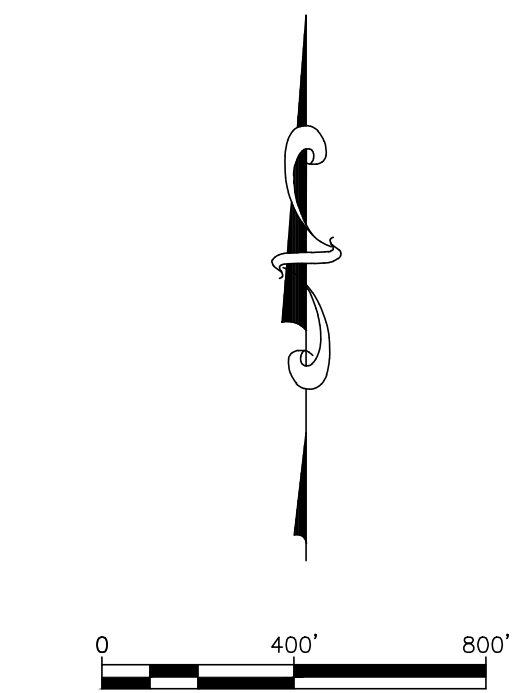
SHEET: 6 OF 44

SHEET NO.: 6

FILE PATH: J:\ACD\0519\ang1519-EROSION.dwg - Jul 01, 2024 - 11:12am



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



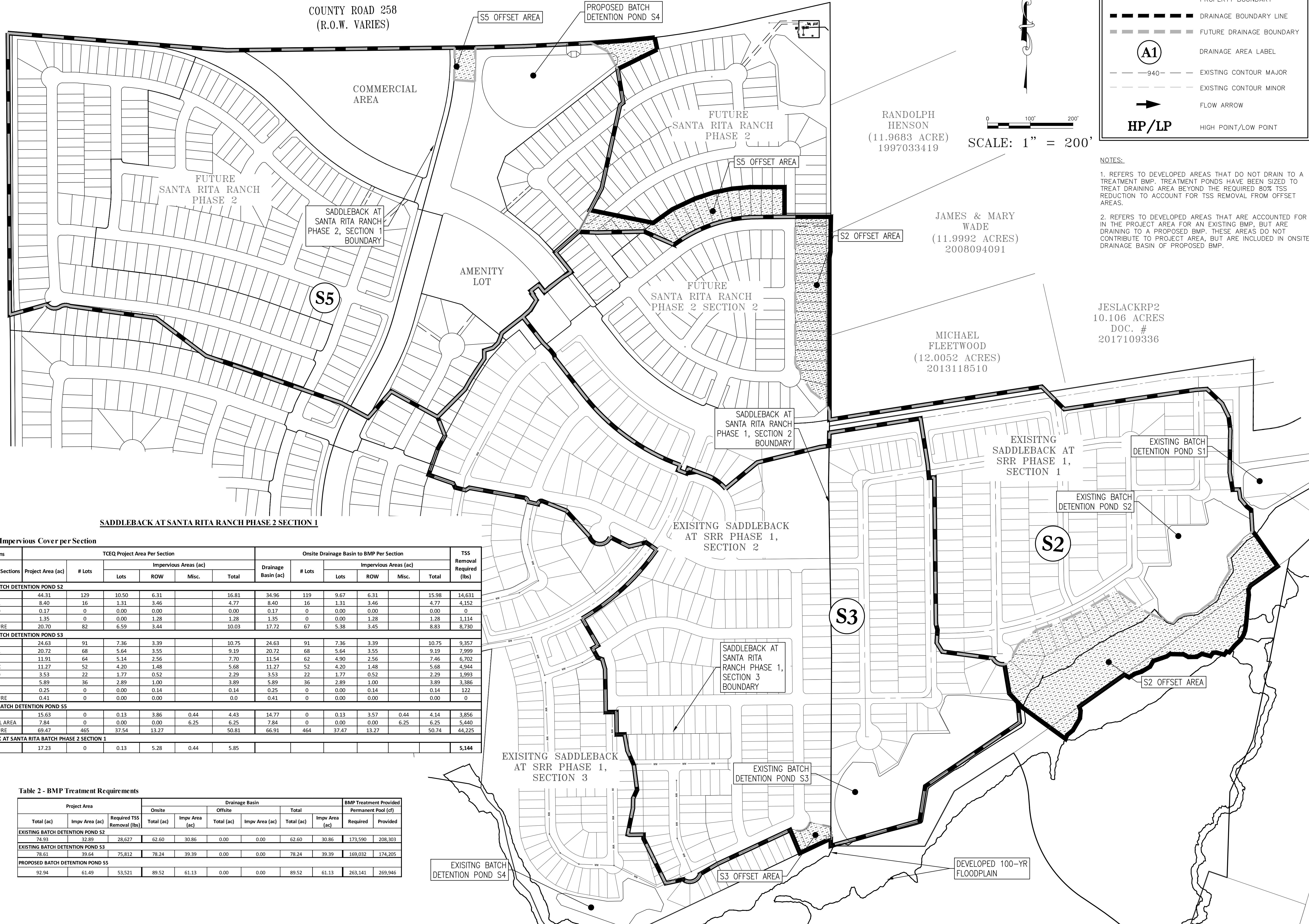
HEC-HMS Input Summary								
BASINS	Area (ac)	Area (mi²)	IC Area (ac)	% IC	CN	TL (min)	REACHES	TL (min)
SOWES BRANCH								
EX-SB1	234.50	0.3664	0.27	0.1%	78.9	31.0	0->1	2.5
EX-SB2A	92.16	0.1440	0.00	0.0%	78.9	17.8	1->4	19.9
EX-SB2B	83.25	0.1301	0.00	0.0%	79.5	17.1		
EXSB2C	22.04	0.0344	0.00	0.0%	79.5	12.7		

EXISTING REACHES - SOWES BRANCH						
REACH	Length (ft)	Slope (ft/ft)	n	Left n	Right n	X-Section
J1->J4	5,141	0.0062	0.05	0.07	0.07	8-Point

Existings Peak Flows Q (cfs) at Junctions				
Storm Event	2-YR	10-YR	25-YR	100-YR
J4 (AP-1)	333.9	818.5	1117.3	1590.1
J5 (AP-2)	116.8	274.7	370.6	519.7
J6 (AP-3)	35.8	84	113.2	158.6

SHEET NAME:	EXISTING HYDROLOGY MAP	SHEET NO.	8	DATE	JUNE 2024	DESIGNED BY: SPC	DRAFTED BY: CEL
JOB NAME:	SADDLEBACK AT SANTA RITA PHASE 2 SECTION 1	SHEET NO.	8 OF 44	REVISION		Civil Engineering	FIRM ID #F3791
PROJECT:	STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS	SHEET NO.	8	DATE		Main Office	North Office
						5301 West William Harrison Dr. Suite 600 Austin, Texas 78750 Phone No. (512) 280-5160 Fax No. (512) 280-5165	

FILE PATH: J:\AC\0519\ang\5619-1\CEQ.dwg - Jul 01, 2024 - 11:30am



LEGEND

PROPERTY BOUNDARY

DRAINAGE BOUNDARY LINE

FUTURE DRAINAGE BOUNDARY

A1

DRAINAGE AREA LABEL

940

EXISTING CONTOUR MAJOR

EXISTING CONTOUR MINOR

FLOW ARROW

HP/LP

HIGH POINT/LOW POINT

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.

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	
EXISTING BATCH DETENTION POND S2													
1-1	44.31	129	10.50	6.31		16.81	34.96	119	9.67	6.31		15.98	14,631
1-2A	8.40	16	1.31	3.46		4.77	8.40	16	1.31	3.46		4.77	4,152
1-2D	0.17	0	0.00	0.00		0.00	0.17	0	0.00	0.00		0.00	0
2-1	1.35	0	0.00	1.28		1.28	1.35	0	0.00	1.28		1.28	1,114
2-FUTURE	20.70	82	6.59	3.44		10.03	17.72	67	5.38	3.45		8.83	8,730
EXISTING BATCH DETENTION POND S3													
1-1	24.63	91	7.36	3.39		10.75	24.63	91	7.36	3.39		10.75	9,357
1-2A	20.72	68	5.64	3.55		9.19	20.72	68	5.64	3.55		9.19	7,999
1-2B	11.91	64	5.14	2.56		7.70	11.54	62	4.90	2.56		7.46	6,702
1-2C	11.27	52	4.20	1.48		5.68	11.27	52	4.20	1.48		5.68	4,944
1-2D	3.53	22	1.77	0.52		2.29	3.53	22	1.77	0.52		2.29	1,993
1-3	5.89	36	2.89	1.00		3.89	5.89	36	2.89	1.00		3.89	3,386
2-1	0.25	0	0.00	0.14		0.14	0.25	0	0.00	0.14		0.14	122
2-FUTURE	0.41	0	0.00	0.00		0.0	0.41	0	0.00	0.00		0.00	0
PROPOSED BATCH DETENTION POND S5													
2-1	15.63	0	0.13	3.86	0.44	4.43	14.77	0	0.13	3.57	0.44	4.14	3,856
COMERCIAL AREA	7.84	0	0.00	0.00	6.25	6.25	7.84	0	0.00	0.00	6.25	6.25	5,440
2-FUTURE	69.47	465	37.54	13.27		50.81	66.91	464	37.47	13.27		50.74	44,225
SADDLEBACK AT SANTA RITA BATCH PHASE 2 SECTION 1													
2-1	17.23	0	0.13	5.28	0.44	5.85							5,144

Table 2 - BMP Treatment Requirements

Project Area			Drainage Basin						BMP Treatment Provided	
			Onsite		Offsite		Total		Permanent Pool (cf)	
Total (ac)	Impv Area (ac)	Required TSS Removal (lbs)	Total (ac)	Impv Area (ac)	Total (ac)	Impv Area (ac)	Total (ac)	Impv Area (ac)	Required	Provided
EXISTING BATCH DETENTION POND S2										
74.93	32.89	28,627	62.60	30.86	0.00	0.00	62.60	30.86	173,590	208,303
EXISTING BATCH DETENTION POND S3										
78.61	39.64	75,812	78.24	39.39	0.00	0.00	78.24	39.39	169,032	174,205
PROPOSED BATCH DETENTION POND S5										
92.94	61.49	53,521	89.52	61.13	0.00	0.00	89.52	61.13	263,141	269,946

DESIGNED BY: SPC

DRAFTED BY: CEL

DATE

REVISION

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

JUNE 2024

5619

11 OF 44

11

Carlson, Brigrance & Doering, Inc.

Civil Engineering

5501 West Willow Canyon Dr.

Austin, Texas 78750

Phone No. (512) 280-5160

Fax No. (512) 280-5165

STEVEN P. CATES

93648

PROFESSIONAL ENGINEER

STATE OF TEXAS

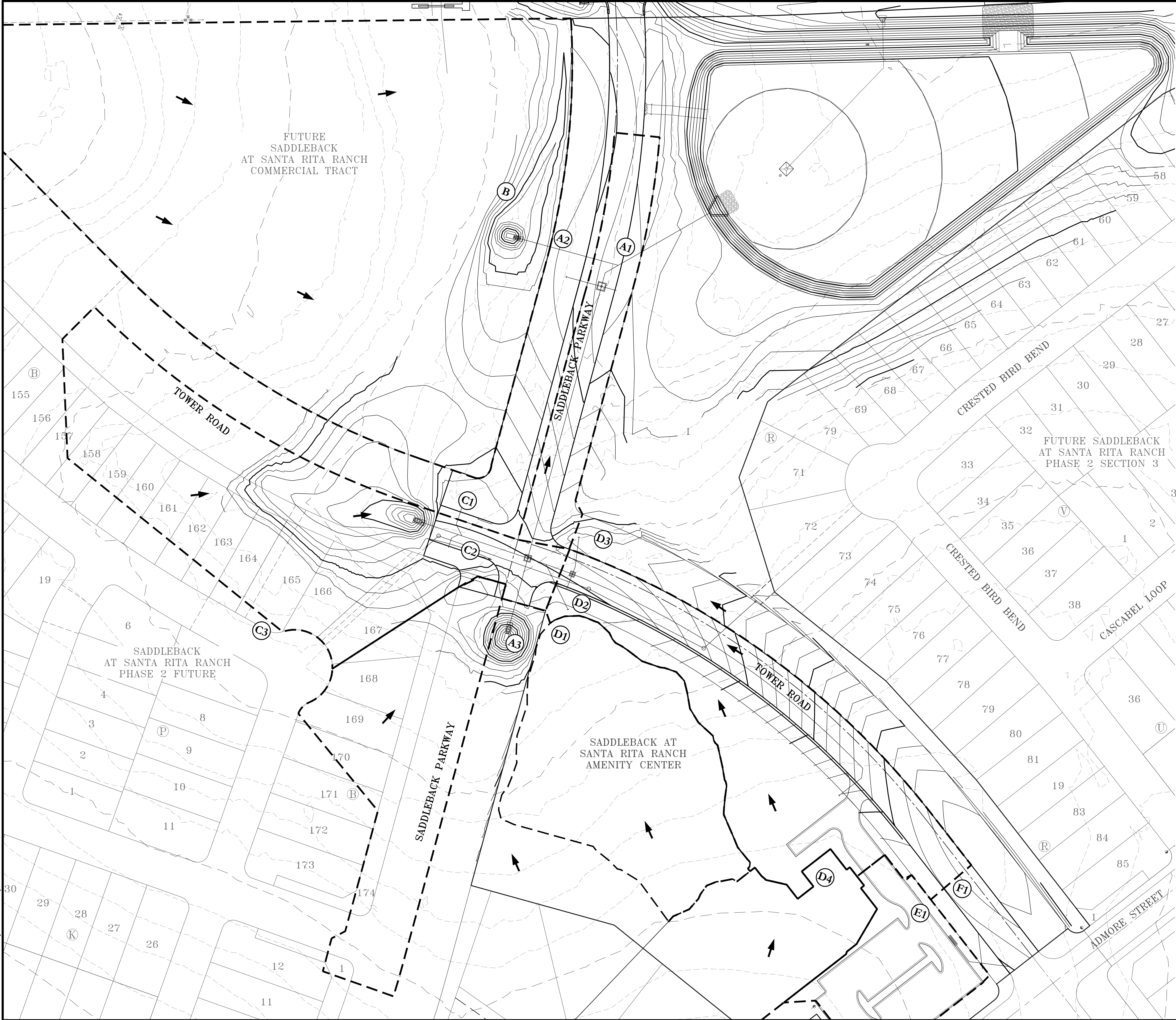
12129 RR (3) N. Ste. 600

Austin, Texas 78750

7-1-2024

11

FILE PATH: J:\ACD\5619\DWG\5619.DWG - JUL 01, 2024 - 9:31 AM



LEGEND

PROPERTY BOUNDARY

DRAINAGE BOUNDARY LINE

FUTURE DRAINAGE BOUNDARY

A1

DRAINAGE AREA LABEL

940

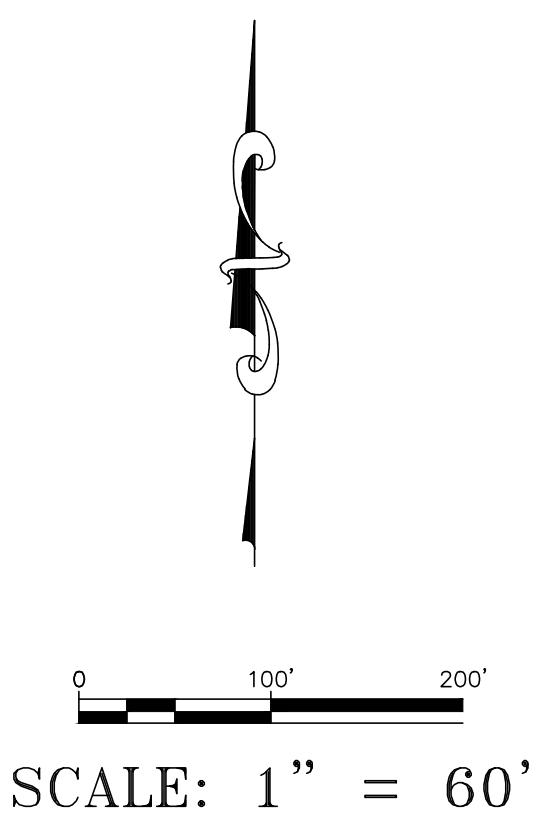
EXISTING CONTOUR MAJOR

EXISTING CONTOUR MINOR

FLOW ARROW

HP/LP

HIGH POINT/LOW POINT



DESIGNED BY: SPC	DRAFTED BY: CEL
DATE	
REVISION	
<div><div><div><div><div>Carlson, Brigrance & Doering, Inc.</div><div>CBD</div></div><div><div>Civil Engineering</div><div>Surveying</div></div></div><div><div>FIRM ID #E3791</div><div>12120 RR (3) N. Ste. 600</div><div>Austin, Texas 78750</div></div><div><div>Phone No. (512) 280-5160</div><div>Fax No. (512) 280-5165</div></div></div></div>	
SHEET NAME: DRAINAGE PLAN	
JOB NAME: SADDLEBACK AT SANTA RITA	
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS	
<div><div><div><div>STATE OF TEXAS</div><div>STEVEN P. CATES</div><div>93648</div><div>REGISTERED PROFESSIONAL ENGINEER</div></div><div><div>Carlson, Brigrance & Doering, Inc.</div><div>ID# F3791</div></div></div><div><div>7-1-2024</div></div></div>	
DATE: JUNE 2024	
JOB NUMBER: 5619	
SHEET: 12 OF 44	
SHEET NO.: 12	

FILE PATH: J:\AC\30519\ang15619\ang15619.dwg - Jul 01, 2024 - 11:39m

Area	Area	T _C	Perv.	Imperv.	C	C	I ₂₅	I ₁₀₀	Q ₂₅	Q ₁₀₀	C25*A	C100*A	AREA
No.	(Acre)	(Min.)	(%)	(%)	25	100	In/Hr	In/Hr	CFS	CFS			NO.
A1	0.78	12	21	79	0.76	0.85	8.27	10.63	4.9	7.0	0.59	0.66	A1
A2	1.43	10	37	63	0.65	0.73	8.78	11.23	8.2	11.8	0.93	1.05	A2
A3	35.87	27	46	54	0.60	0.68	5.68	7.48	121.4	181.3	21.36	24.25	A3
B	8.25	10	55	45	0.60	0.68	8.78	11.23	43.6	63.0	4.96	5.61	B
C1	2.08	14	19	81	0.75	0.84	7.75	10.01	12.1	17.4	1.56	1.74	C1
C2	2.72	14	43	57	0.62	0.70	7.80	10.07	13.1	19.2	1.68	1.90	C2
C3	18.89	21	46	54	0.60	0.68	6.51	8.50	73.5	108.9	11.29	12.82	C3
D1	1.78	13	55	45	0.60	0.68	8.08	10.40	8.7	12.6	1.07	1.21	D1
D2	1.93	14	38	62	0.68	0.76	7.86	10.14	10.3	14.9	1.31	1.47	D2
D3	0.79	10	14	86	0.78	0.87	8.78	11.23	5.4	7.7	0.62	0.68	D3
D4	3.89	16	52	48	0.57	0.65	7.41	9.59	16.3	24.1	2.20	2.51	D4
E1	0.74	14	55	45	0.55	0.63	7.83	10.10	3.2	4.7	0.40	0.46	E1

AREAS	T _C	C ₂₅ *A	C ₁₀₀ *A	I ₂₅	I ₁₀₀	Q ₂₅	Q ₁₀₀
COMBINED	(Min.)			In/Hr	In/Hr	CFS	CFS
C2-C3	21	12.97	14.72	6.51	8.50	84.4	125.1
C1-C3	21	14.53	16.46	6.51	8.50	94.6	139.9
D2-D4	16	4.13	4.66	7.41	9.59	30.6	44.8
D1-D4	16	5.20	5.88	7.41	9.59	38.5	56.4
A3,D*	27	26.55	30.13	5.68	7.48	150.9	225.3
A3,D,C	27	41.09	46.59	5.68	7.48	233.6	348.3
A2-A3,D,C	27	42.02	47.64	5.68	7.48	238.9	356.2
A1-A3,D,C	27	42.61	48.30	5.68	7.48	242.2	361.1
A,D,C,B	27	47.57	53.91	5.68	7.48	270.4	403.1

25 - YEAR INLET FLOW CALCULATION TABLE																		
INLET NUMBER	DRAINAGE AREA NO.	Q (CFS)	Q PASS (CFS)	Q SPILL (CFS)	Q ADD (CFS)	Q TOTAL (QA) (CFS)	SLOPE (%)	a (FT)	Yo (FT)	PAVEMENT WIDTH	PONDED WIDTH (FT)	Qa/La	La (FT)	LENGTH (FT)	L/La	a/Yo	Q/Qa	REMARK
A1	A1	4.9	0.0	0.0	0.0	4.9	LP	0.42	0.23	75	5.40	-	-	15	-	1.84	1.00	
A2	A2	8.2	0.0	0.0	0.0	8.2	LP	0.42	0.32	75	8.15	-	-	15	-	1.31	1.00	
C1	C1	12.1	0.0	0.0	0.0	12.1	LP	0.42	0.42	75	11.32	-	-	15	-	1.01	1.00	
C2	C2	13.1	0.0	0.0	0.0	13.1	LP	0.42	0.44	75	12.12	-	-	15	-	0.96	1.00	
D2	D2	10.3	0.0	0.0	0.0	10.3	LP	0.42	0.37	75	9.87	-	-	15	-	1.12	1.00	
D3	D3	5.4	0.0	0.0	0.0	5.4	2.80	0.42	0.32	75	8.08	0.78	6.94	10	1.44	1.32	1.00	
E1	E1	3.2	0.0	0.0	0.0	3.2	0.30	0.42	0.40	75	10.57	0.86	3.68	10	2.72	1.06	1.00	

100 - YEAR INLET FLOW CALCULATION TABLE																		
INLET NUMBER	DRAINAGE AREA NO.	Q (CFS)	Q PASS (CFS)	Q SPILL (CFS)	Q ADD (CFS)	Q TOTAL (QA) (CFS)	SLOPE (%)	a (FT)	Yo (FT)	PAVEMENT WIDTH	PONDED WIDTH (FT)	Qa/La	La (FT)	LENGTH (FT)	L/La	a/Yo	Q/Qa	REMARK
A1	A1	7.0	0.0	0.0	0.0	7.0	LP	0.42	0.29	75	7.20	-	-	15	-	1.45	1.00	
A2	A2	11.8	0.0	0.0	0.0	11.8	LP	0.42	0.41	75	11.05	-	-	15	-	1.03	1.00	
C1	C1	17.4	0.0	0.0	0.0	17.4	LP	0.42	0.53	75	15.69	-	-	15	-	0.79	1.00	
C2	C2	19.2	0.0	0.0	0.0	19.2	LP	0.42	0.57	75	17.18	-	-	15	-	0.74	1.00	
D2	D2	14.9	0.0	0.0	0.0	14.9	LP	0.42	0.48	75	13.57	-	-	15	-	0.88	1.00	
D3	D3	7.7	0.0	0.0	0.0	7.7	2.80	0.42	0.36	75	9.50	0.83	9.31	10	1.07	1.16	1.00	
E1	E1	4.7	0.0	0.0	0.0	4.7	0.30	0.42	0.46	75	12.75	0.93	5.04	10	1.98	0.92	1.00	

DESIGNED BY: SPC

DRAFTED BY: CEL

DATE

REVISION

Carlson, Brigrance & Doering, Inc.

Civil Engineering ♦ Surveying

FIRM ID #E3791

Moisture, Soil, and Air Quality

5501 West Williams Canyon Dr. Austin, Texas 78749

12129 RR (23) N. Suite 600 Austin, Texas 78750

Phone No. (512) 280-5160 Fax No. (512) 280-5165

SHEET NAME: DRAINAGE CALCS

JOB NAME: SADDLEBACK AT SANTA RITA

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

PHASE 2 SECTION 1

STATE OF TEXAS

STEVEN P. CATES

93648

PROFESSIONAL ENGINEER

CARLSON, BRIGRANCE & DOERING, INC.

ID# F3791

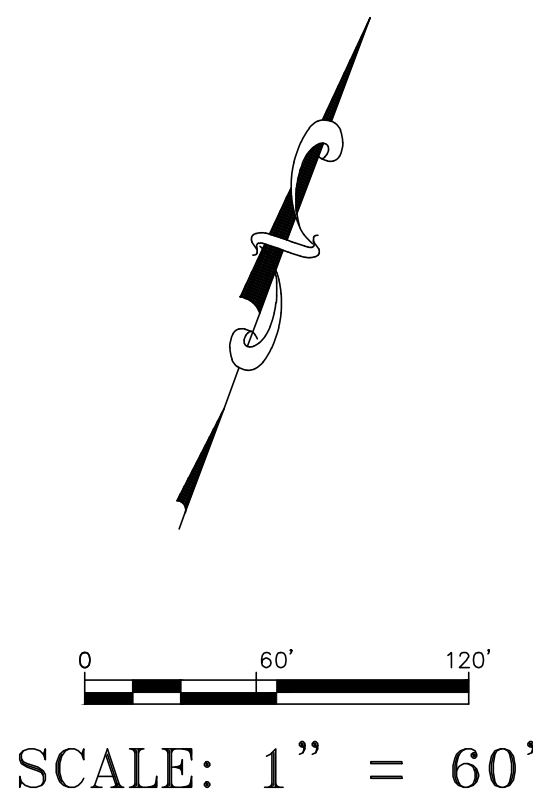
7-1-2024

DATE: JUNE 2024

JOB NUMBER: 5619

SHEET: 13 OF 44

SHEET NO.: 13



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.

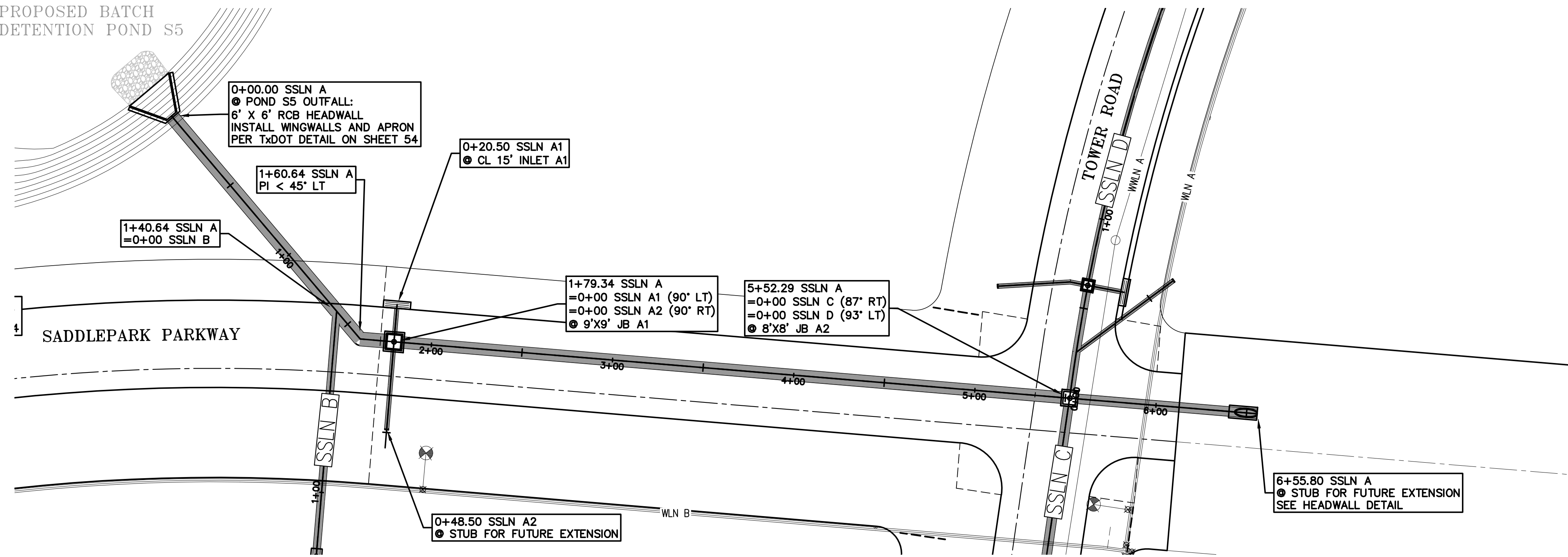
- NOTES:**
1. THE DESIGN INTENT OF THESE PLANS IS FOR ALL CONNECTIONS, BENDS, AND REDUCTIONS TO BE MADE WITH PRE-CAST FITTINGS MANUFACTURED IN ACCORDANCE WITH ASTM C-76, CLASS 3 REQUIREMENTS. IF THE CONTRACTOR ELECTS TO USE ALTERNATE CONNECTION METHODS THEN A SUBMITTAL SHALL BE APPROVED BY THE ENGINEER AND WILLAMSON COUNTY PRIOR TO COMMENCING PIPE LAYING OPERATIONS.
 2. WHERE STORM DRAINAGE IS SHOWN TO BE INSTALLED ON A CURVE THE CONTRACTOR SHALL SUBMIT A LAYING SCHEDULE DEMONSTRATING ANTICIPATED JOINT SEPARATIONS USING 8' JOINTS, A COMBINATION OF 8' AND 4' JOINTS, OR LONG RADIUS PIPE TO ACHIEVE THE NECESSARY RADIUS WITHOUT EXCESSIVE JOINT SEPARATION. PROPOSED INSTALLATION METHOD SHALL BE APPROVED BY THE ENGINEER AND WILLAMSON COUNTY PRIOR TO COMMENCING PIPE LAYING OPERATIONS.

Curve Table					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C1	1061.00'	261.03'	027°38'36"	506.95'	511.90'

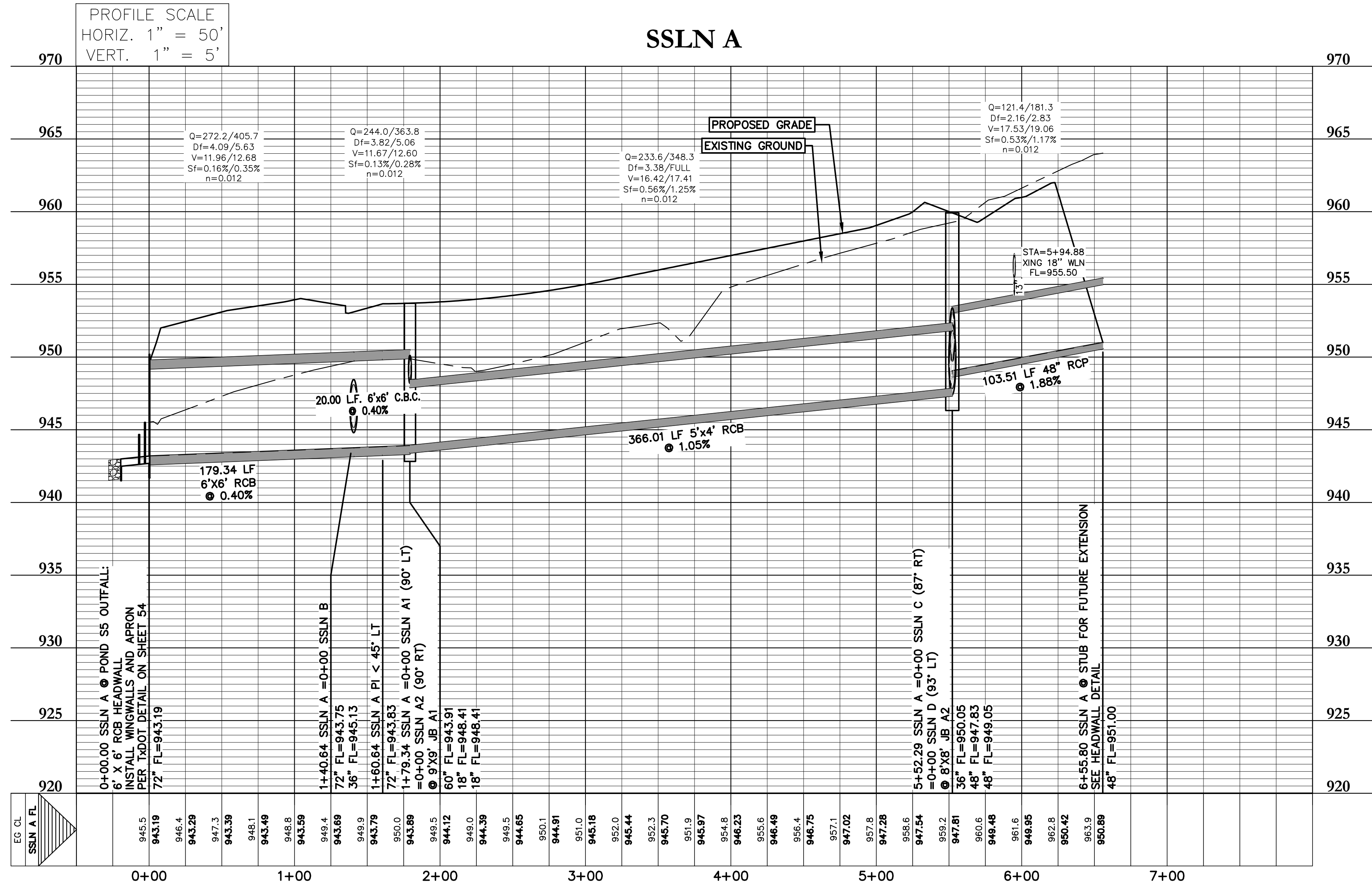
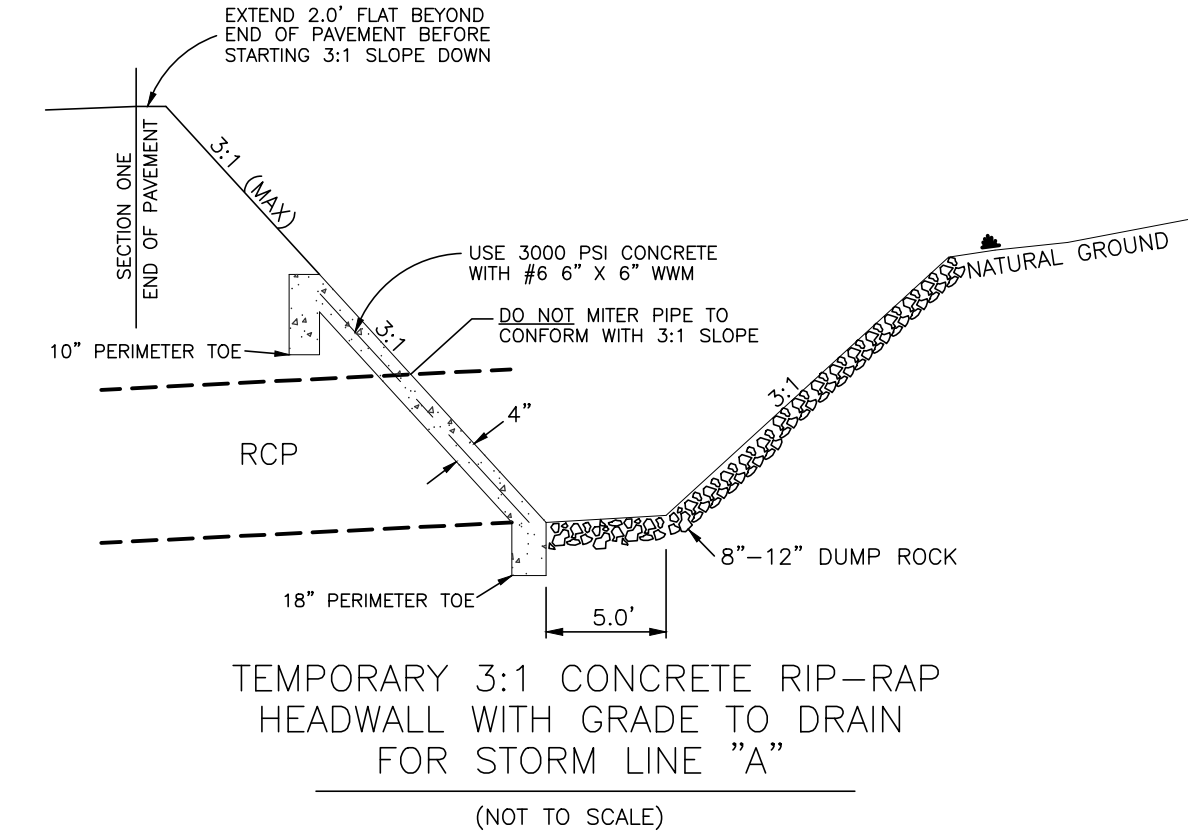
FILE PATH: J:\AC\0519\ang1818\STORM.dwg - Jul 01, 2024 - 1:17am

DESIGNED BY: SPC	DRAFTED BY: CEL
DATE	
REVISION	
<div>Carlson, Brigrance & Doering, Inc. Civil Engineering ♦ Surveying FIRM ID #E3791 Main Office: 5501 West Williams Canyon Dr., Austin, Texas 78749 North Office: 12129 RR (33) N. Ste. 600, Austin, Texas 78750 Phone No. (512) 280-5160 Fax No. (512) 280-5165</div>	
SHEET NAME: OVERALL STORMSEWER PLAN	
JOB NAME: SADDLEBACK AT SANTA RITA	
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS	
<div><div>STATE OF TEXAS STEVEN P. CATES 93648 LICENSED PROFESSIONAL ENGINEER CARLSON, BRIGRANCE & DOERING, INC. ID# F3791 7-1-2024</div><div>DATE: JUNE 2024 JOB NUMBER: 5619 SHEET: 24 OF 44 SHEET NO.: 24</div></div>	

PROPOSED BATCH
DETENTION POND S5



0 40' 80'
SCALE: 1" = 40'

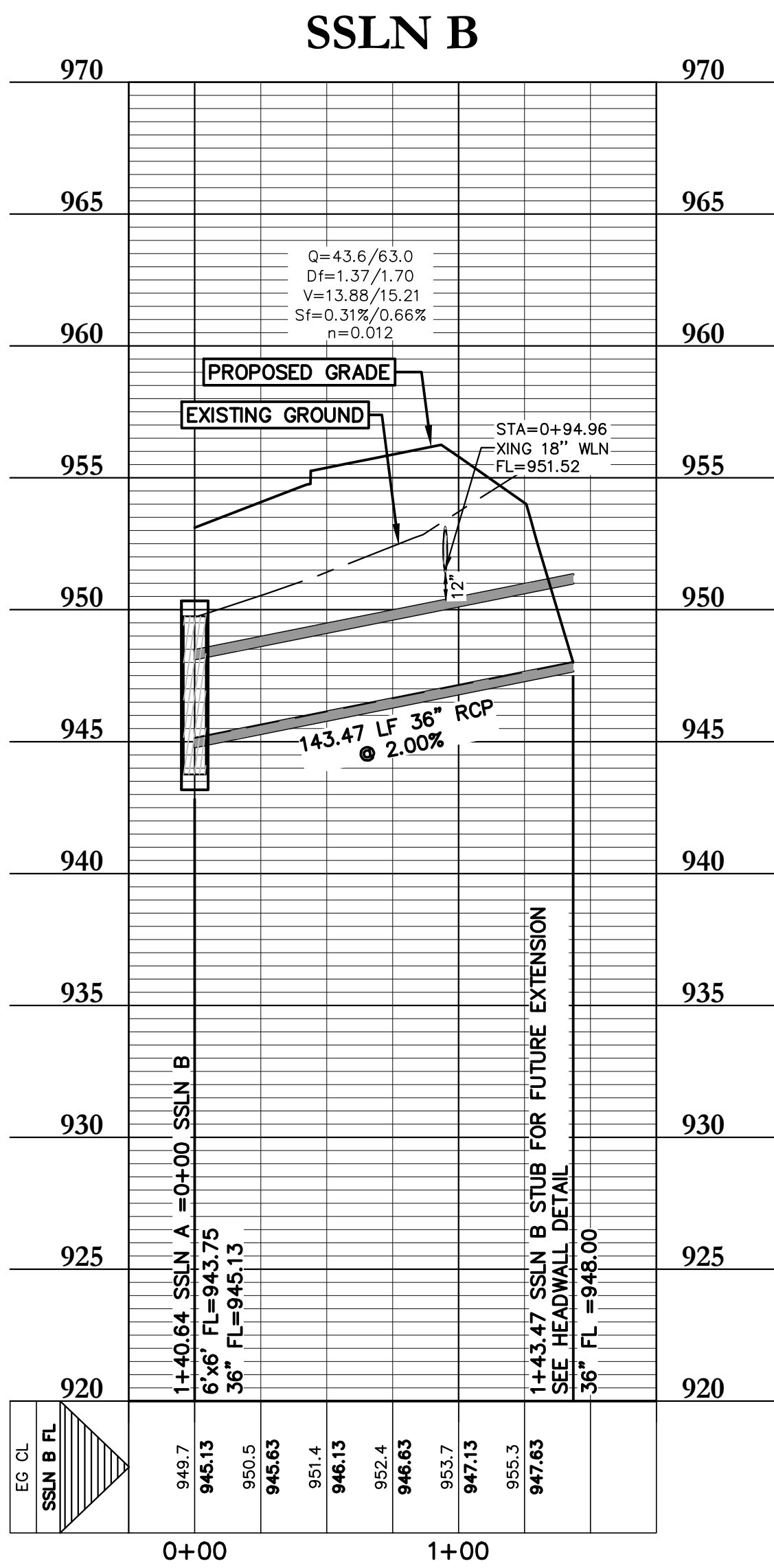
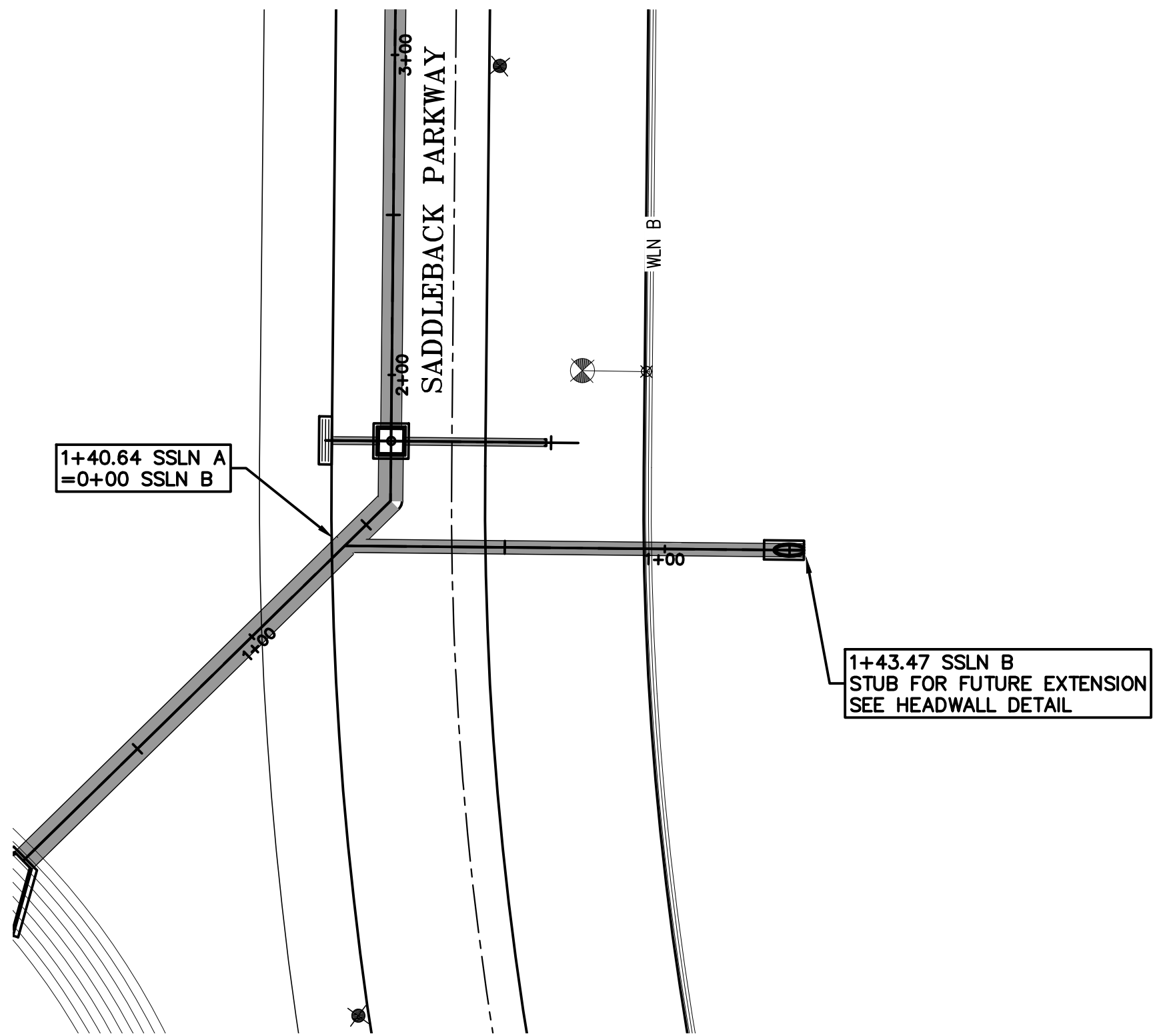


THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE 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.

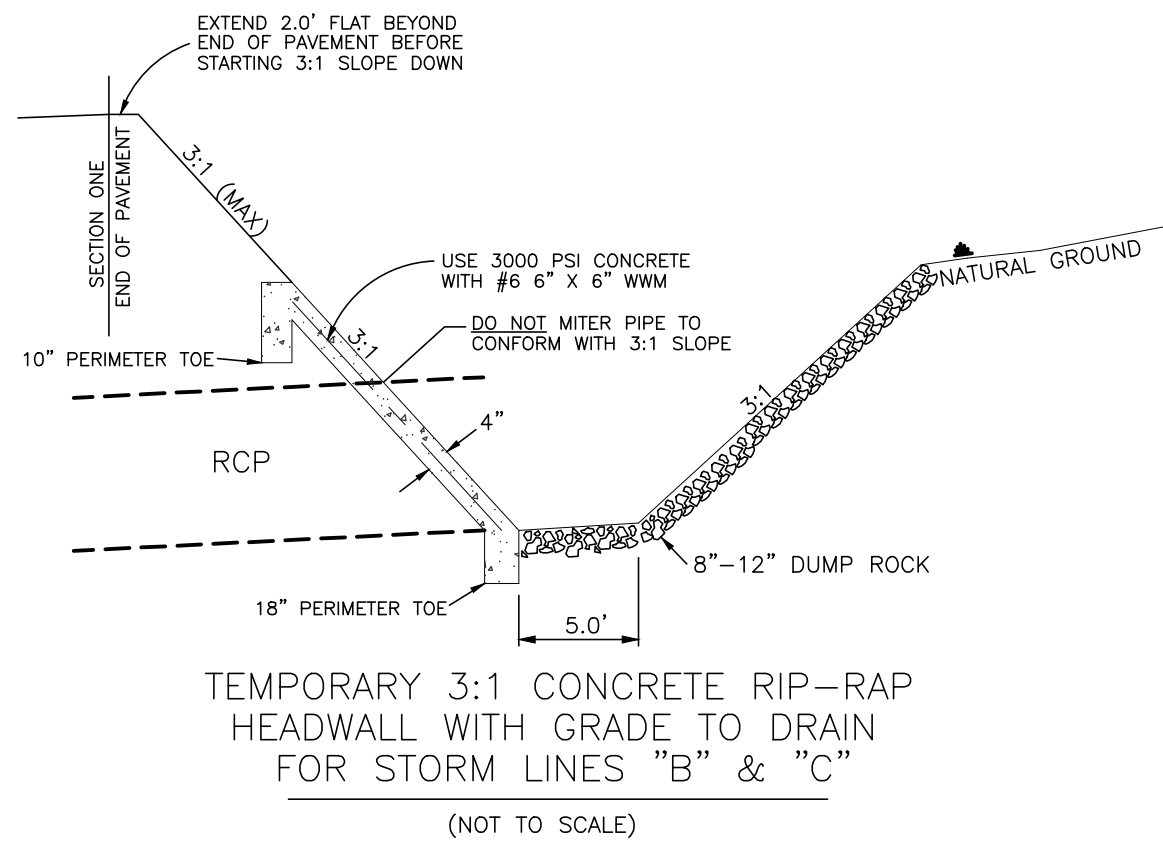
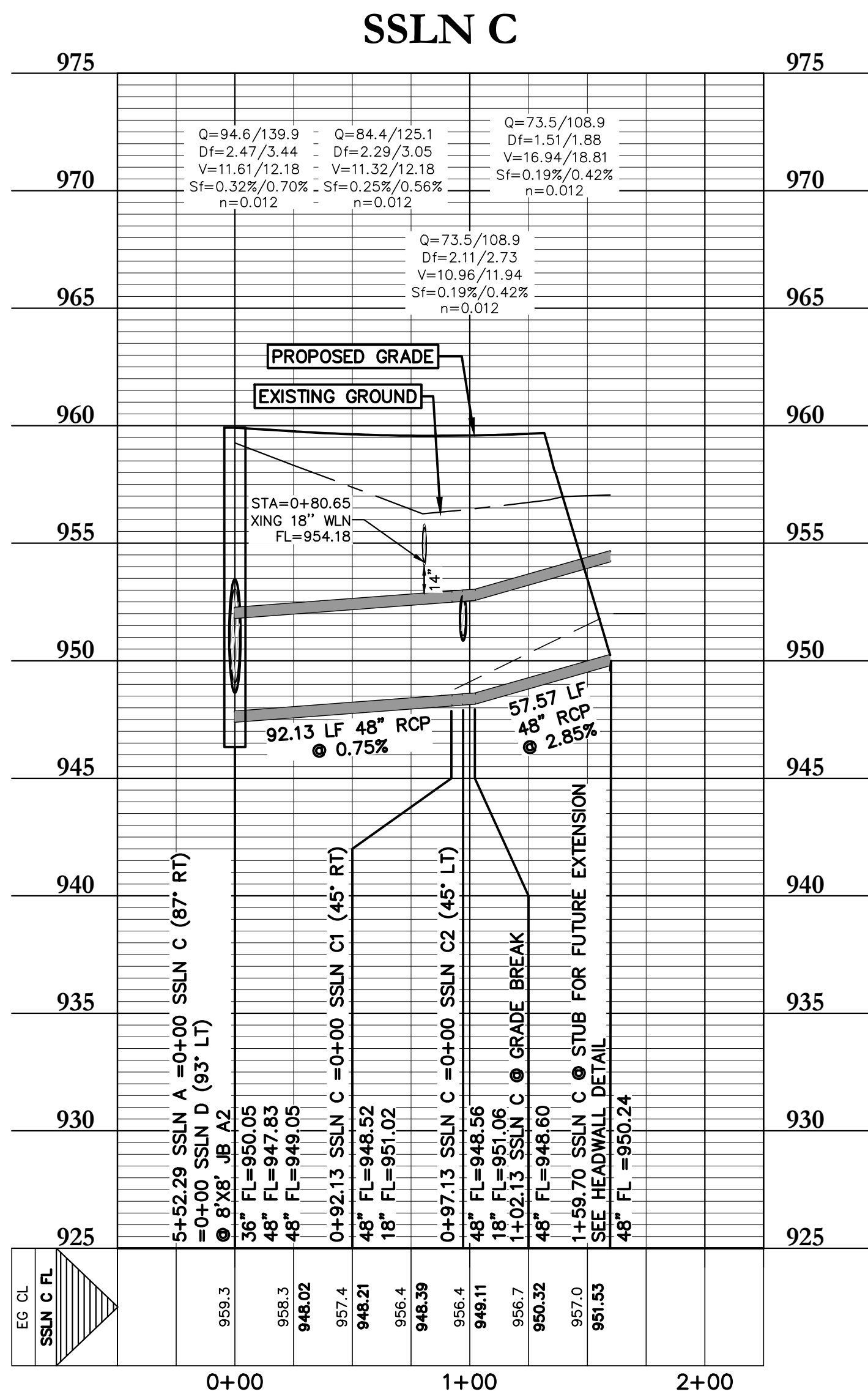
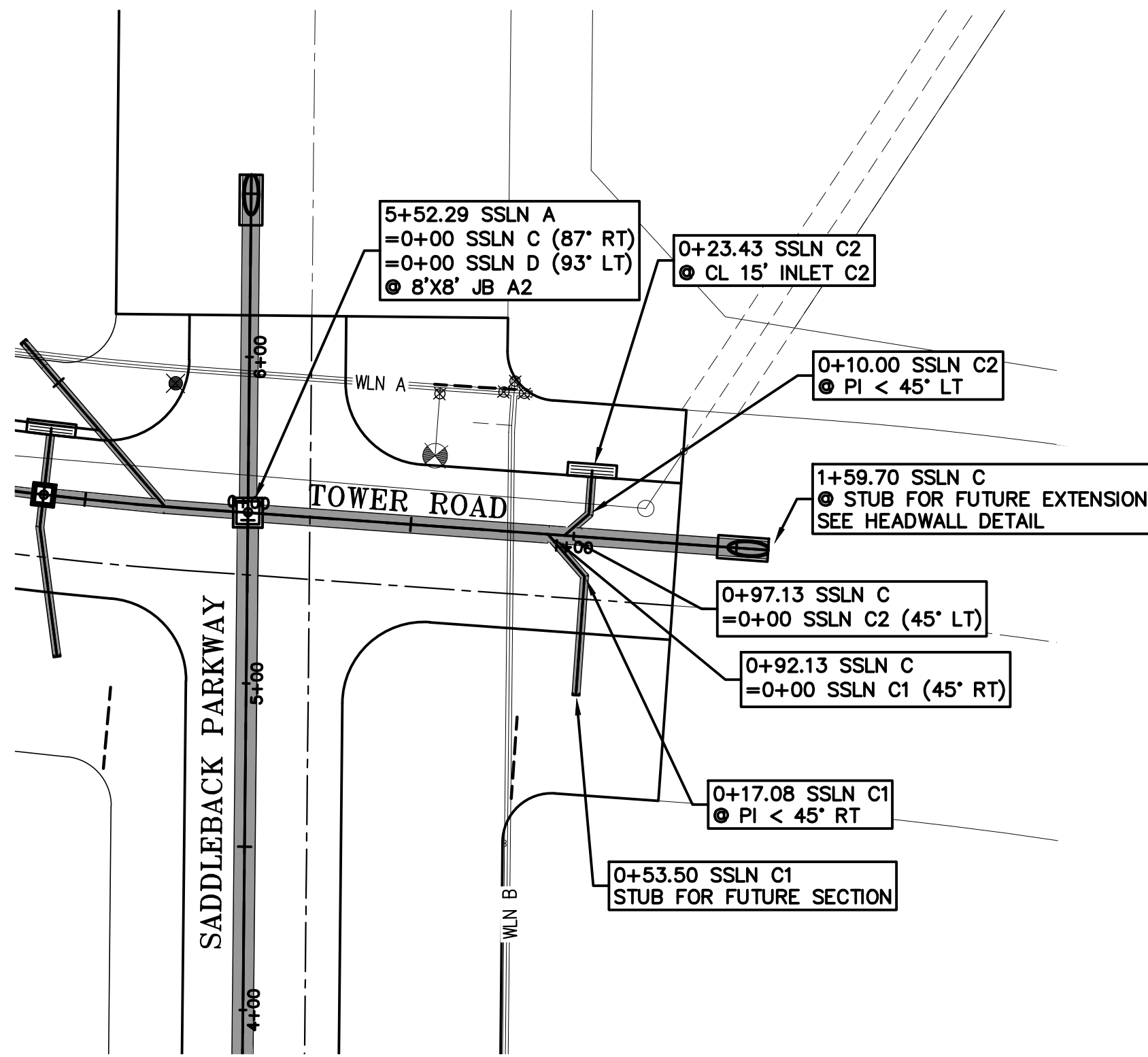
NOTES:

- THE DESIGN INTENT OF THESE PLANS IS FOR ALL CONNECTIONS, BENDS, AND REDUCTIONS TO BE MADE WITH PRE-CAST FITTINGS MANUFACTURED IN ACCORDANCE WITH ASTM C-76, CLASS 3 REQUIREMENTS. IF THE CONTRACTOR ELECTS TO USE ALTERNATE CONNECTION METHODS THEN A SUBMITTAL SHALL BE APPROVED BY THE ENGINEER AND WILLIAMSON COUNTY PRIOR TO COMMENCING PIPE LAYING OPERATIONS.
- WHERE STORM DRAINAGE IS SHOWN TO BE INSTALLED ON A CURVE THE CONTRACTOR SHALL SUBMIT A LAYING SCHEDULE DEMONSTRATING ANTICIPATED JOINT SEPARATIONS USING 8' JOINTS. A COMBINATION OF 8' AND 4' JOINTS, OR LONG RADIUS PIPE TO ACHIEVE THE NECESSARY RADIUS WITHOUT EXCESSIVE JOINT SEPARATION. PROPOSED INSTALLATION METHOD SHALL BE APPROVED BY THE ENGINEER AND WILLIAMSON COUNTY PRIOR TO COMMENCING PIPE LAYING OPERATIONS.

DESIGNED BY: SPC	DRAFTED BY: CEL
DATE	
REVISION	
SHEET NAME: STORMSEWER LINE A (0+00 TO 0+00)	
JOB NAME: SADDLEBACK AT SANTA RITA	
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS	
CARLSON, BRIGANCE & DOERING, INC. 93648 10/1/2024	
DATE: JUNE 2024	
JOB NUMBER: 5619	
SHEET: 25 OF 44	
SHEET NO. 25	



PROFILE SCALE
HORIZ. 1" = 50'
VERT. 1" = 5'



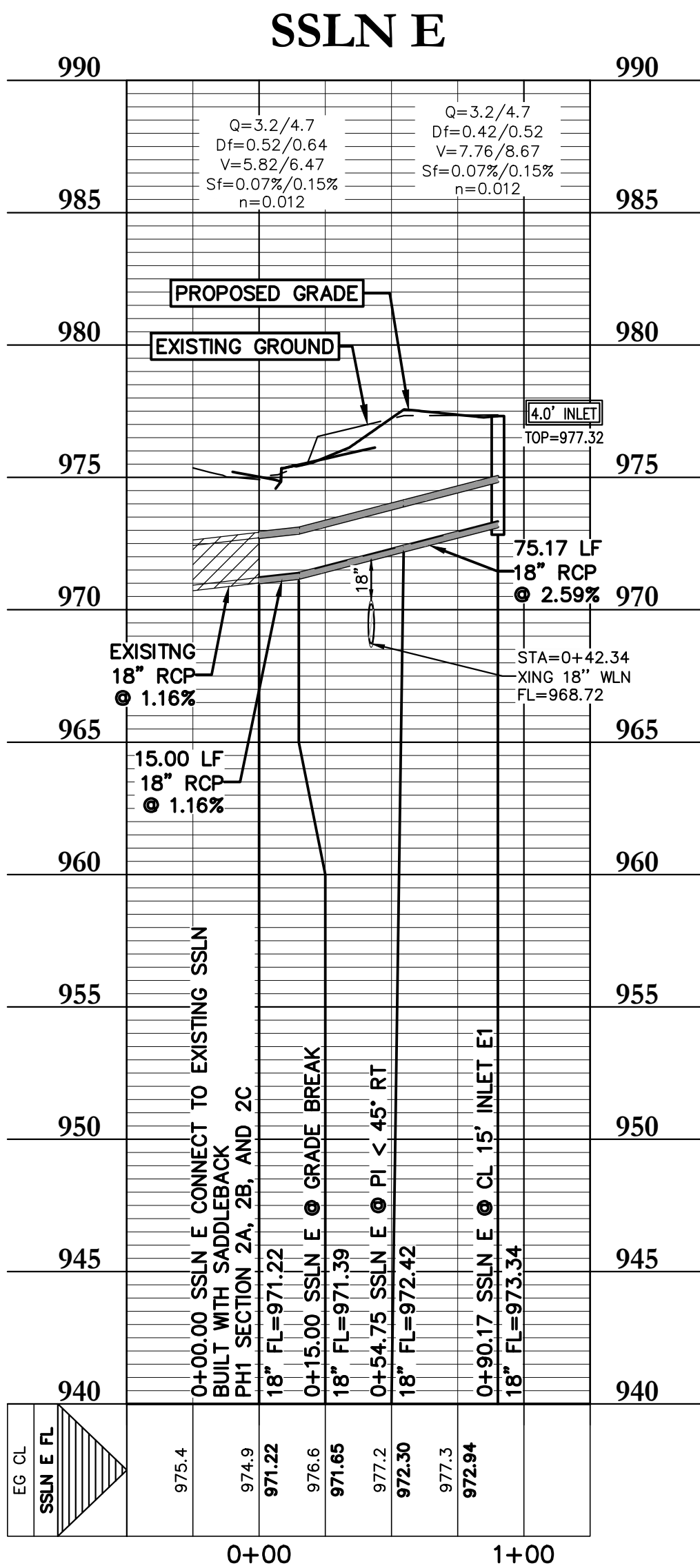
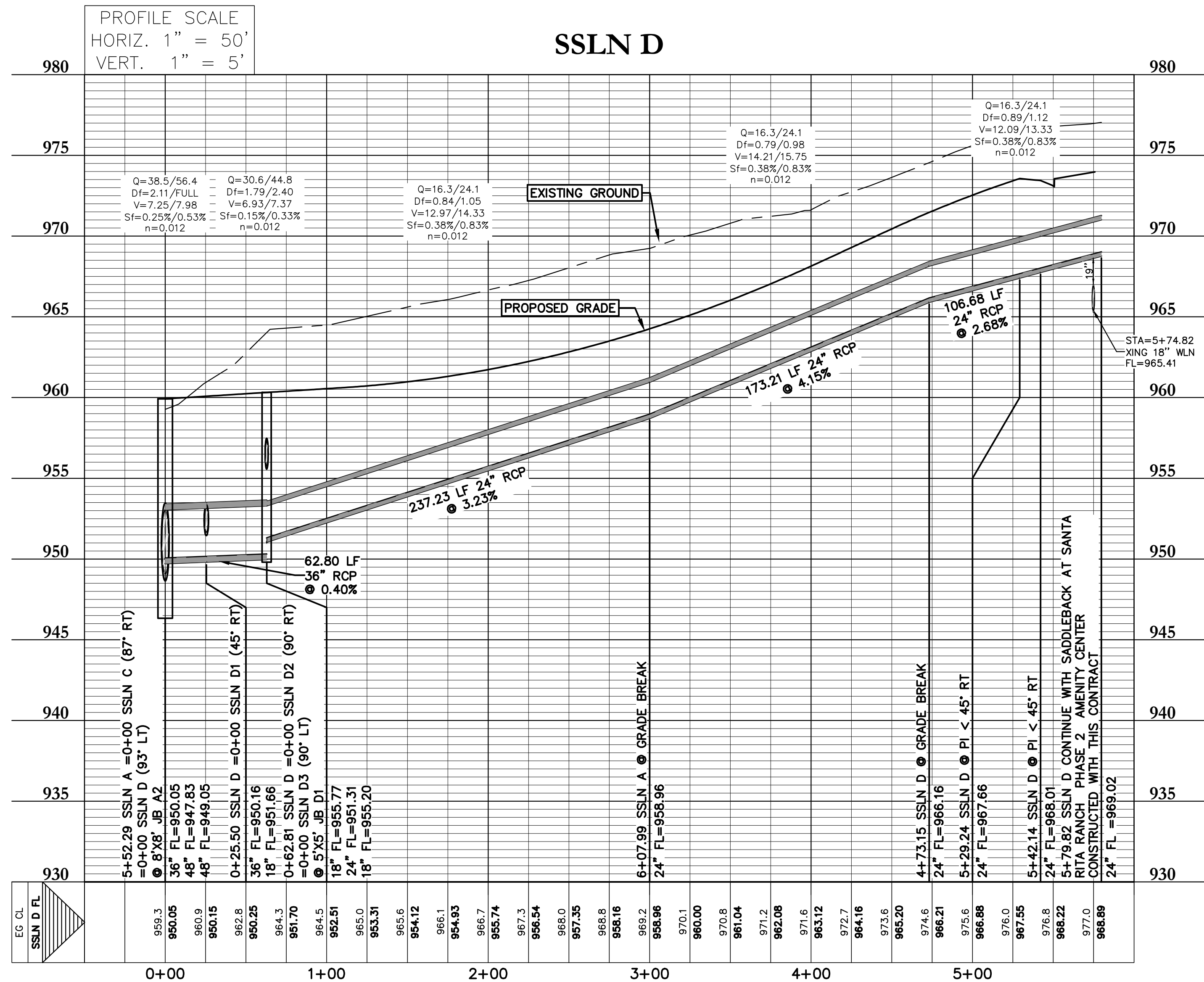
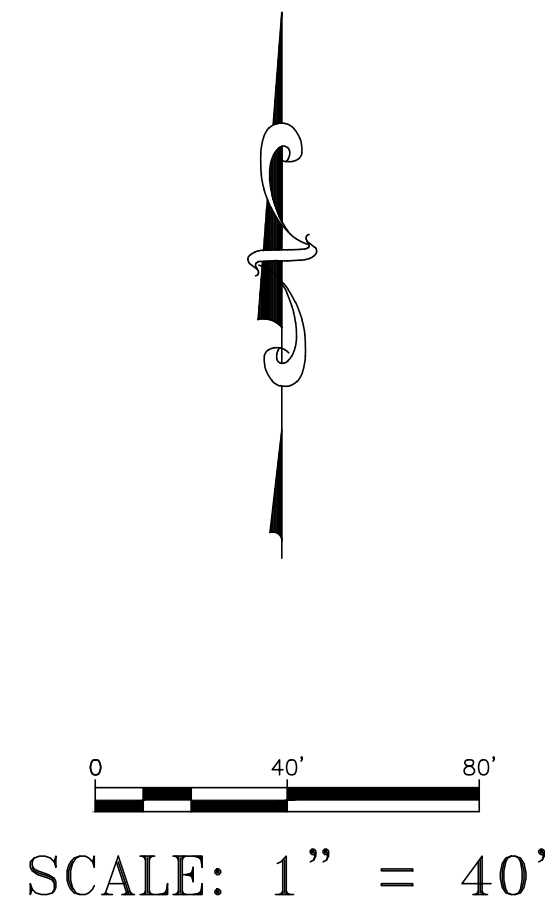
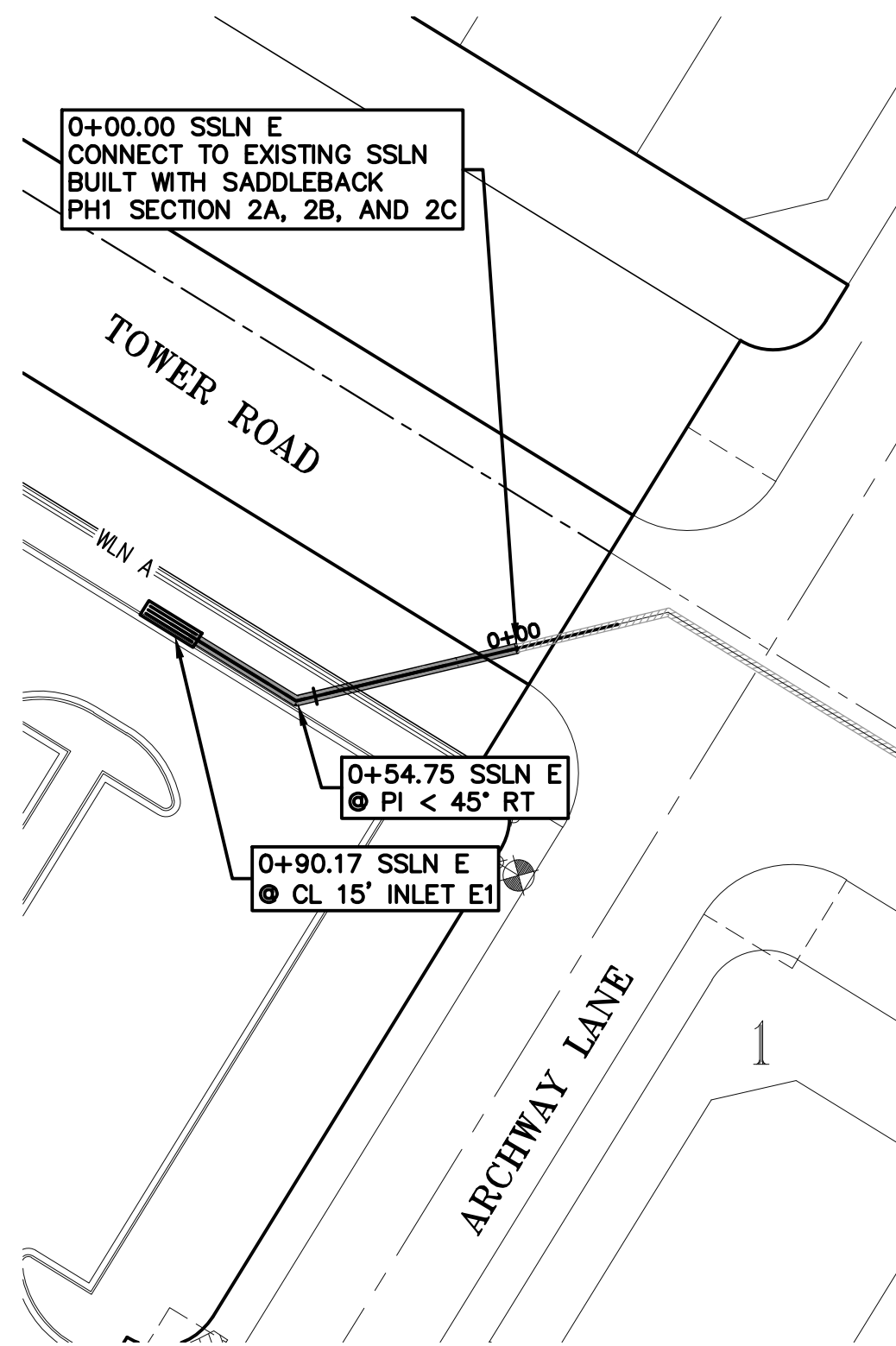
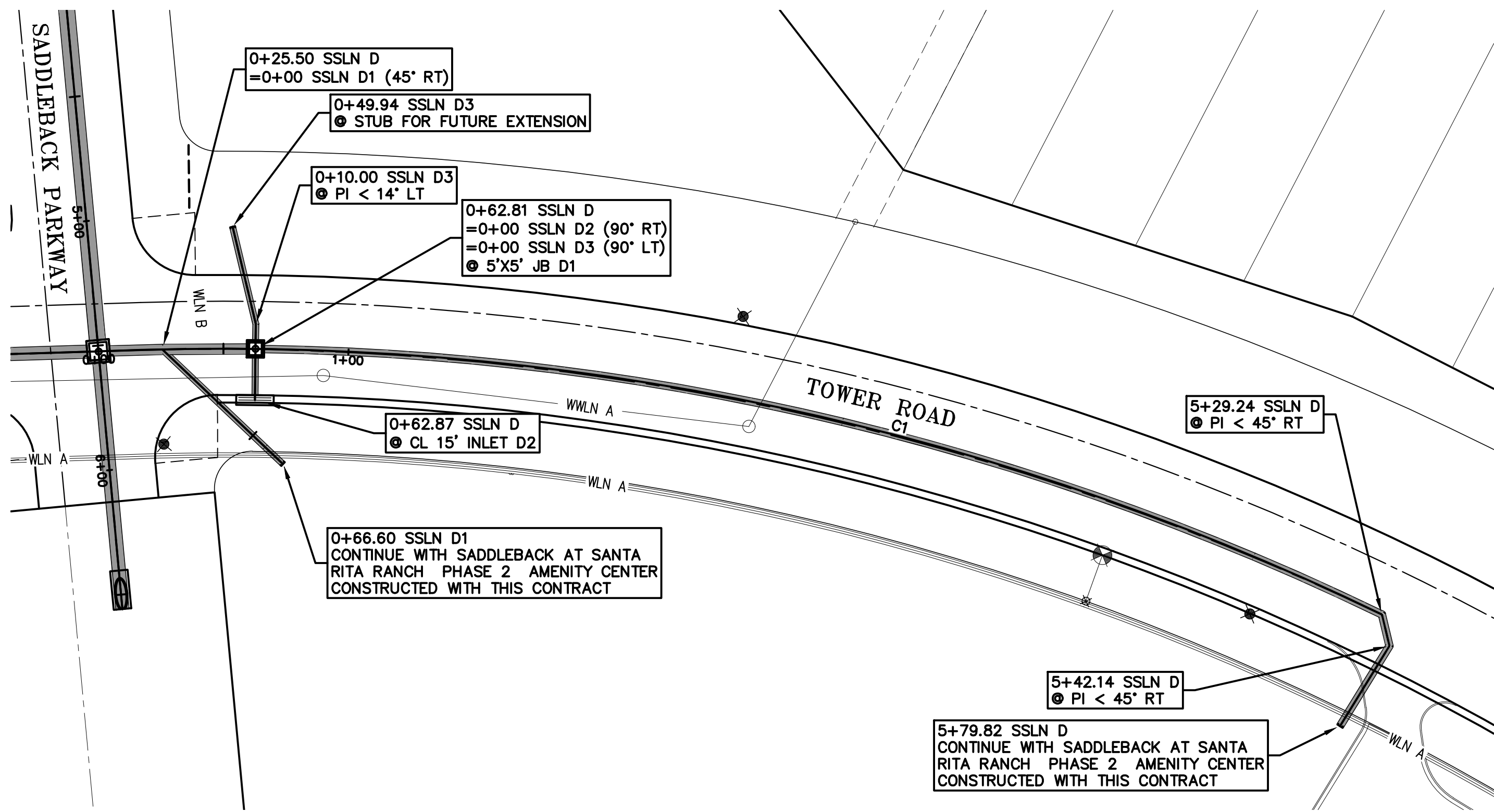
THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE 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.

NOTES:

- THE DESIGN INTENT OF THESE PLANS IS FOR ALL CONNECTIONS, BENDS, AND REDUCTIONS TO BE MADE WITH PRE-CAST FITTINGS MANUFACTURED IN ACCORDANCE WITH ASTM C-76, CLASS 3 REQUIREMENTS. IF THE CONTRACTOR ELECTS TO USE ALTERNATE CONNECTION METHODS THEN A SUBMITTAL SHALL BE APPROVED BY THE ENGINEER AND WILLIAMSON COUNTY PRIOR TO COMMENCING PIPE LAYING OPERATIONS.
- WHERE STORM DRAINAGE IS SHOWN TO BE INSTALLED ON A CURVE THE CONTRACTOR SHALL SUBMIT A LAYING SCHEDULE DEMONSTRATING ANTICIPATED JOINT SEPARATIONS USING 8' JOINTS, A COMBINATION OF 8' AND 4' JOINTS, OR LONG RADIUS PIPE TO ACHIEVE THE NECESSARY RADIUS WITHOUT EXCESSIVE JOINT SEPARATION. PROPOSED INSTALLATION METHOD SHALL BE APPROVED BY THE ENGINEER AND WILLIAMSON COUNTY PRIOR TO COMMENCING PIPE LAYING OPERATIONS.

DESIGNED BY: SPC	DRAFTED BY: CEL
DATE	
REVISION	
Carlson, Brigrance & Doering, Inc. Civil Engineering & Surveying FIRM ID #13791 Main Office: 5501 West Williams Canyon Dr., Austin, Texas 78750 North Office: 12129 RR (33) N. Ste. 600, Austin, Texas 78750 Phone No. (512) 280-5160 Fax No. (512) 280-5165	
SHEET NAME: STORMSEWER LINE B & C (0+00 TO END)	
JOB NAME: SADDLEBACK AT SANTA RITA	
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS	
DATE: JUNE 2024	
JOB NUMBER: 5619	
SHEET: 26 OF 44	
SHEET NO. 26	

FILE PATH: J:\AC\0519\ang1818\storm.dwg - Jul 01, 2024 - 11:08am



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.

- NOTES:**
- THE DESIGN INTENT OF THESE PLANS IS FOR ALL CONNECTIONS, BENDS, AND REDUCTIONS TO BE MADE WITH PRE-CAST FITTINGS MANUFACTURED IN ACCORDANCE WITH ASTM C-76, CLASS 3 REQUIREMENTS. IF THE CONTRACTOR ELECTS TO USE ALTERNATE CONNECTION METHODS THEN A SUBMITTAL SHALL BE APPROVED BY THE ENGINEER AND WILLIAMSON COUNTY PRIOR TO COMMENCING PIPE LAYING OPERATIONS.
 - WHERE STORM DRAINAGE IS SHOWN TO BE INSTALLED ON A CURVE THE CONTRACTOR SHALL SUBMIT A LAYING SCHEDULE DEMONSTRATING ANTICIPATED JOINT SEPARATIONS USING 8' JOINTS, A COMBINATION OF 8' AND 4' JOINTS, OR LONG RADIUS PIPE TO ACHIEVE THE NECESSARY RADIUS WITHOUT EXCESSIVE JOINT SEPARATION. PROPOSED INSTALLATION METHOD SHALL BE APPROVED BY THE ENGINEER AND WILLIAMSON COUNTY PRIOR TO COMMENCING PIPE LAYING OPERATIONS.

Curve Table				
Curve #	Radius	Tangent	Delta	Arc Length
C1	1061.00'	261.03'	027°38'36"	506.95'

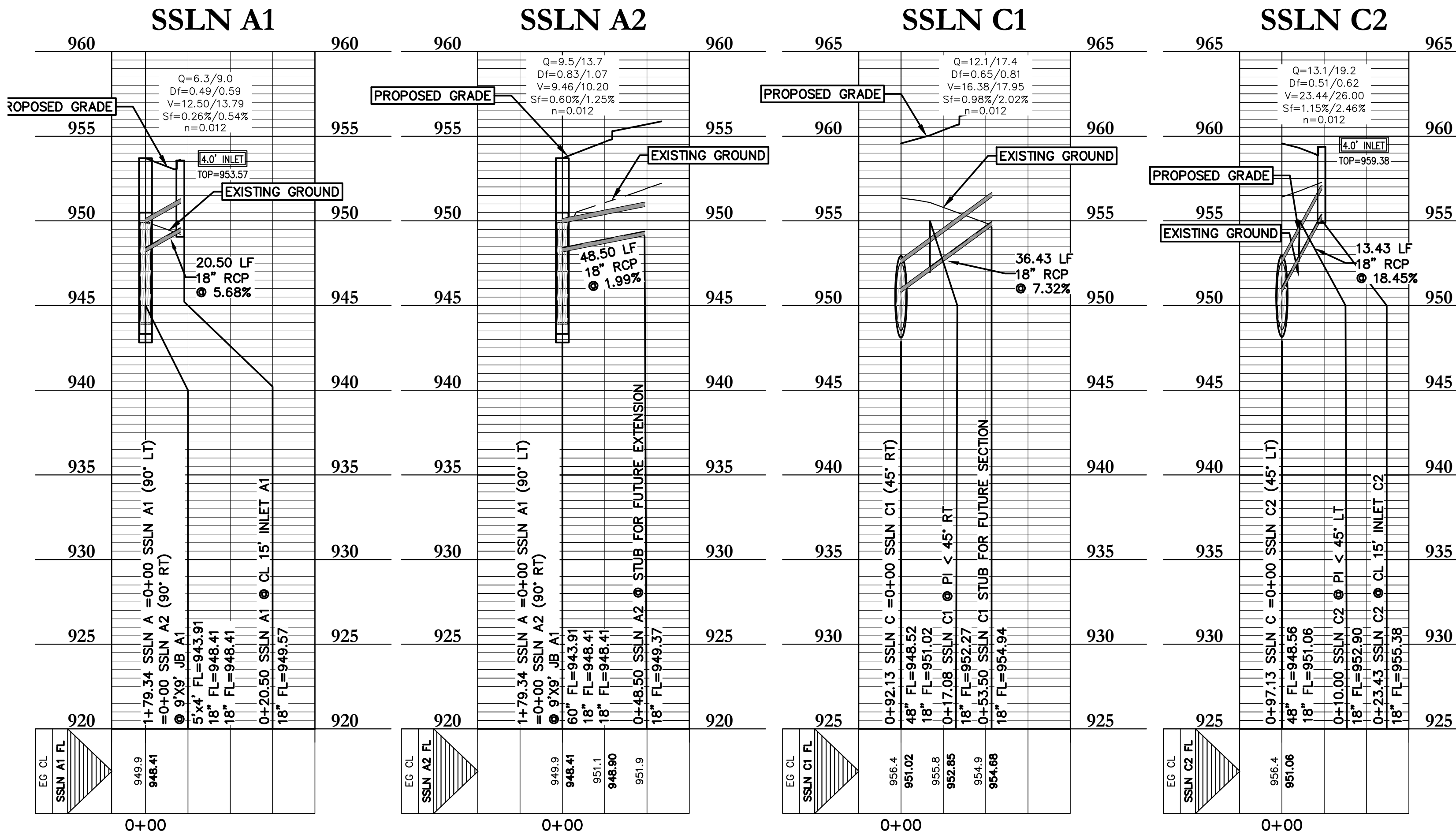
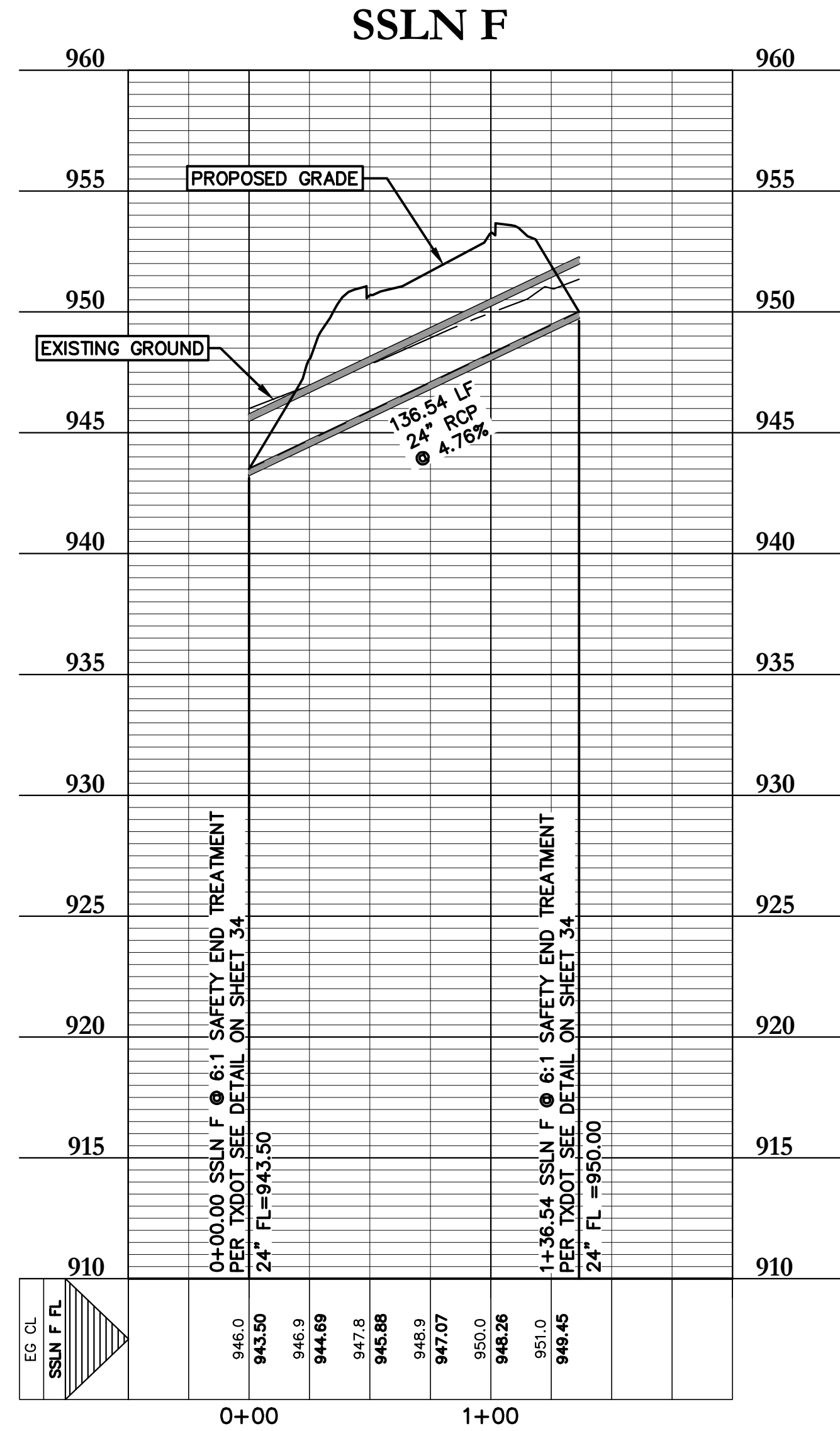
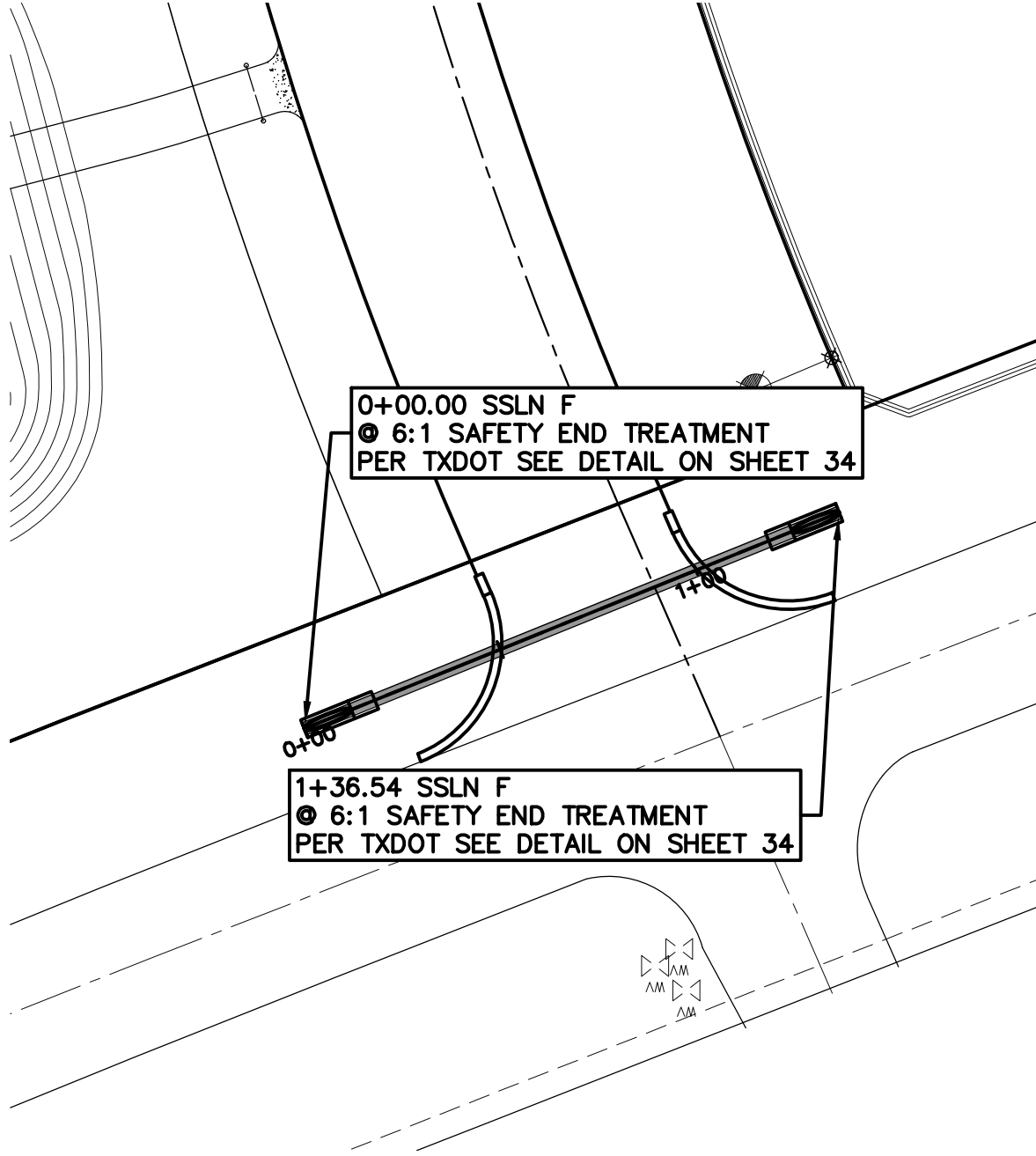
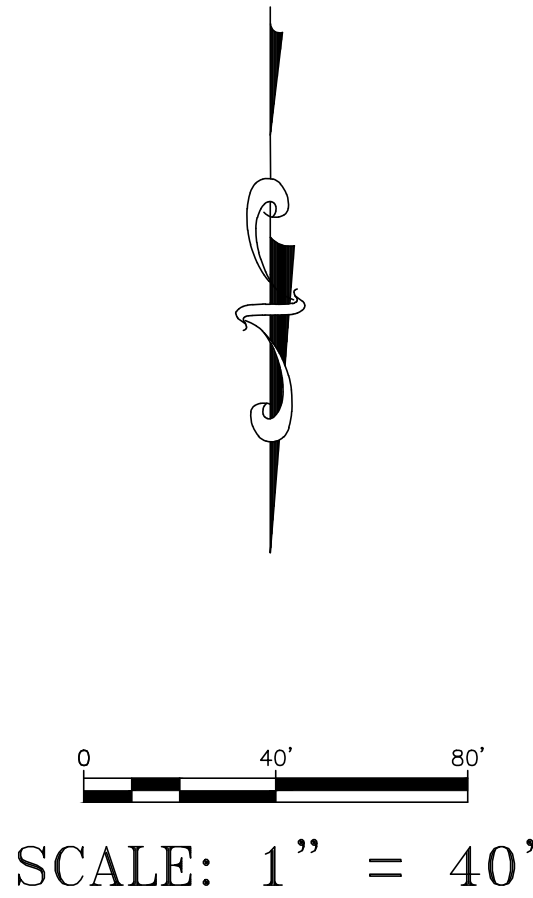
DESIGNED BY: SPC	DRAFTED BY: CEL
DATE	
REVISION	
Carlson, Brigrance & Doering, Inc. Civil Engineering & Surveying FIRM ID #13791 Main Office: 5501 West Williams Canyon Dr., Austin, Texas 78750 North Office: 12129 RR (33) N. Ste. 600, Austin, Texas 78750 Phone No. (512) 280-5160 Fax No. (512) 280-5165	
SHEET NAME: STORMSEWER LINE D & E (0+00 TO END)	
JOB NAME: SADDLEBACK AT SANTA RITA	
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS	
7-1-2024	
DATE	JUNE 2024
JOB NUMBER	5619
SHEET	27 OF 44
SHEET NO.	27

FILE PATH: J:\ACSD\5619\Ang18\Storm.dwg - Jul 01, 2024 - 11:18am

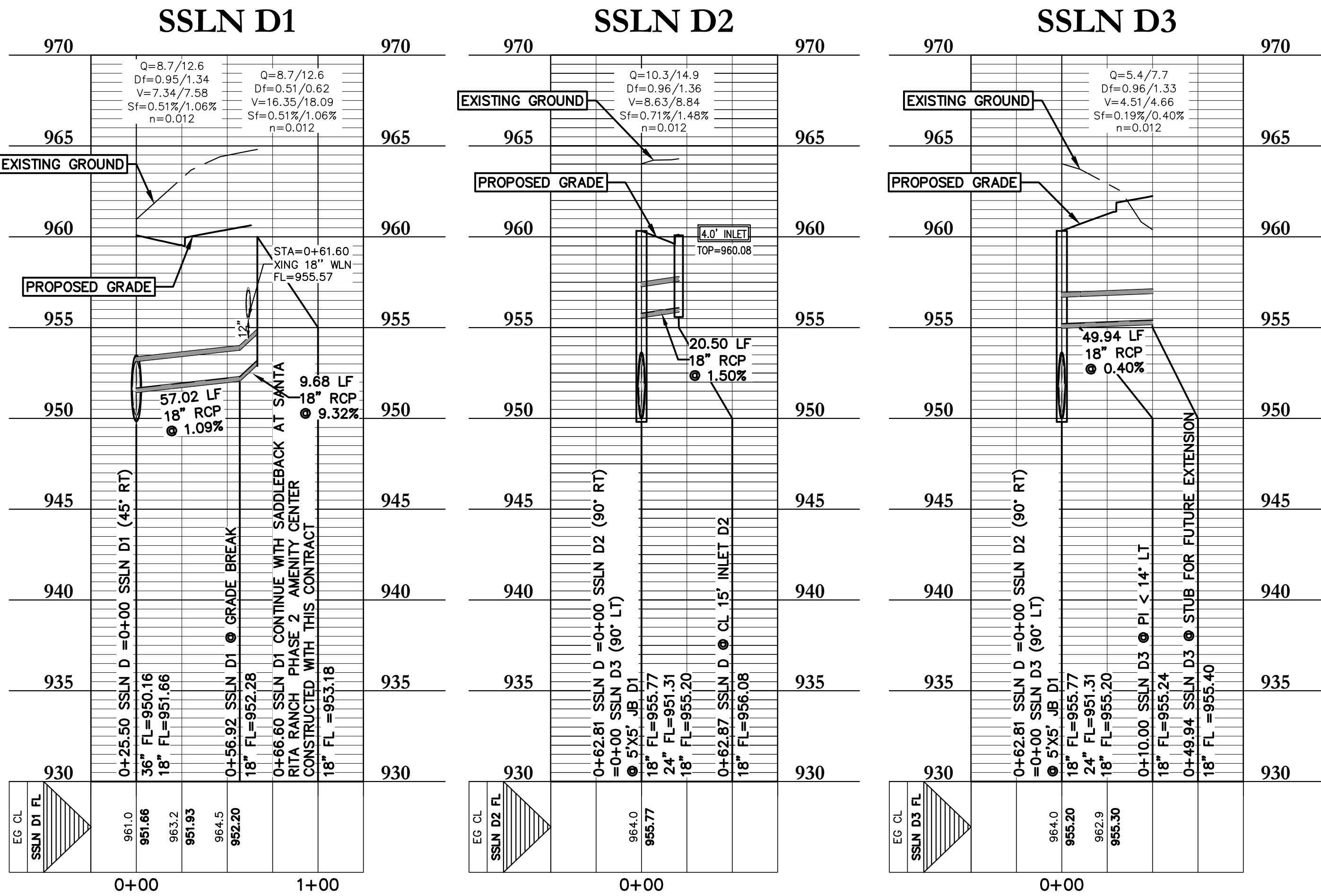
THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE 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.

NOTES:

- THE DESIGN INTENT OF THESE PLANS IS FOR ALL CONNECTIONS, BENDS, AND REDUCTIONS TO BE MADE WITH PRE-CAST FITTINGS MANUFACTURED IN ACCORDANCE WITH ASTM C-76, CLASS 3 REQUIREMENTS. IF THE CONTRACTOR ELECTS TO USE ALTERNATE CONNECTION METHODS THEN A SUBMITTAL SHALL BE APPROVED BY THE ENGINEER AND WILLIAMSON COUNTY PRIOR TO COMMENCING PIPE LAYING OPERATIONS.
- WHERE STORM DRAINAGE IS SHOWN TO BE INSTALLED ON A CURVE THE CONTRACTOR SHALL SUBMIT A LAYING SCHEDULE DEMONSTRATING ANTICIPATED JOINT SEPARATIONS USING 8" JOINTS, A COMBINATION OF 8" AND 4" JOINTS, OR LONG RADIUS PIPE TO ACHIEVE THE NECESSARY RADIUS WITHOUT EXCESSIVE JOINT SEPARATION. PROPOSED INSTALLATION METHOD SHALL BE APPROVED BY THE ENGINEER AND WILLIAMSON COUNTY PRIOR TO COMMENCING PIPE LAYING OPERATIONS.



PROFILE SCALE
HORIZ. 1" = 50'
VERT. 1" = 5'



DESIGNED BY: SPC	DRAFTED BY: CEL		
DATE			
REVISION			
		STORMSEWER LINE F (0+00 TO END) & STORMSEWER LATERALS	
		SADDLEBACK AT SANTA RITA	
		PHASE 2 SECTION 1	
		PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS	
JOB NAME:			
PROJECT:			
DATE: JUNE 2024			
JOB NUMBER: 5619			
SHEET: 28 OF 44			
SHEET NO. 28			

ELECTRICAL SYMBOL LEGEND

NOT ALL SYMBOLS SHOWN MAY BE USED

PLAN LEGEND

SYMBOL	DESCRIPTION
	JUNCTION BOX
	DISCONNECT SWITCH
	MOTOR STARTER OR LIGHTING CONTACTOR, SURFACE MOUNTED
	COMBINATION MOTOR STARTER, AND DISCONNECT SWITCH, SURFACE MOUNTED
	MANHOLE, NUMBER OF MANHOLE SHOWN NEXT TO SYMBOL
	COMMUNICATIONS MANHOLE, NUMBER OF MANHOLE SHOWN NEXT TO SYMBOL
	TELECOMMUNICATIONS MANHOLE, NUMBER OF MANHOLE SHOWN NEXT TO SYMBOL
	KEYED NOTE, NUMBER IN POSITION "W" MATCHES NOTE NUMBER
	SWITCH, TOGGLE, WALL MOUNTED, (SINGLE POLE THROW) MOUNT 48" AFF, UON
	SWITCH, TOGGLE, WALL MOUNTED, THREE WAY, (SINGLE POLE DOUBLE THROW) MOUNT 48" AFF, UON
	EXPLOSION PROOF SWITCH, TOGGLE, WALL MOUNTED, (SINGLE POLE THROW) MOUNT 48" AFF, UON
	SWITCH, MOTOR RATED, WITH THERMAL OVERLOADS
	TERMINAL BOARD
	TELEPHONE OUTLET, PRIVATE, MOUNTED 12" AFF, UON
	WATTHOUR METER
	POLE
	TRANSFORMER, PAD MOUNTED, KVA RATING MAY BE DISPLAYED NEXT TO SYMBOL
	TRANSFORMER, DRY TYPE, KVA RATING MAY BE DISPLAYED INSIDE OF SYMBOL
	ANTENNA
	CONDUIT AND/OR WIRING HOMERUN TO PANEL. TERMINAL BOARD, OR CONTROLLER, USED WITH THE FOUR PRECEDING SYMBOLS. DESTINATION EQUIPMENT IDENTIFIER SHOWN IN POSITION "W" CIRCUIT NUMBER SHOWN IN POSITIONS "X", "Y", OR "Z". THESE CIRCUITS MAY ONLY SHOW ONE CIRCUIT NUMBER
	WIRING CONTINUATION
	FLEXIBLE CONDUIT
	HOMERUN
	CONDUIT CAPPED FOR FUTURE USE
	CONDUIT GOING DOWN
	CONDUIT GOING UP
	CONDUIT RUN UNDERGROUND OR CONCEALED
	CONDUIT RUN EXPOSED
	120V RECEPTACLE FLUSH MOUNTED
	250V RECEPTACLE FLUSH MOUNTED
	WELDING OUTLET
	THERMOSTAT
	PANELBOARD SURFACE MOUNTED

GROUNDING LEGEND

SYMBOL	DESCRIPTION
	GROUNDING RECEPTACLE = A, GROUND TEST WELL = B
	CONDUCTOR BARE UON
	GROUNDING CONNECTION
	GROUND BUS BAR LENGTH AS SHOWN BY SYMBOL LENGTH UON
	COPPERCLAD GROUND ROD
SYMBOL	MODIFIERS
	EXISTING
	WEATHERPROOF
	EXPLOSION PROOF
	GROUND FAULT CIRCUIT INTERRUPTER
	TELEPHONE
	POWER
	FIRE ALARM
	VAPORTIGHT
	WATERTIGHT
	PAINTTIGHT
	PRIMARY
	OVERHEAD
	UNDERGROUND
	SECONDARY
	FIXED TEMPERATURE
	RECESSED
	GROUNDING
	UNGROUNDING

ONE LINE AND CONTROL SCHEMATIC LEGEND

SYMBOL	DESCRIPTION
	GROUNDING CONNECTION, WHEN USED WITH TRANSFORMER SYMBOL IT DENOTES A NEUTRAL GROUNDING CONNECTION
	GROUNDING WYE WINDING CONNECTION
	DELTA WINDING CONNECTION
	RELAY OR CONTACTOR CONTACTS
	SEPARABLE CONNECTOR OR CONNECTION FOR DRAWOUT ASSEMBLIES
	CONDUCTOR CONNECTION
	CIRCUIT BREAKER, MOLDED CASE, TRIP CURRENT AND QUANTITY OF POLES (P) SHOWN NEXT TO SYMBOL
	SWITCH, DISCONNECT, NON-FUSED, LOAD BREAK, CONTINUOUS CURRENT RATING AND QUANTITY OF POLES SHOWN NEXT TO SYMBOL
	SWITCH, DISCONNECT, FUSED, LOAD BREAK, FUSED AMPERE RATING AND FUSE TYPE SHOWN NEXT TO SYMBOL
	FUSE, AMPERE RATING AND FUSE TYPE SHOWN NEXT TO SYMBOL
	MOTOR THERMAL OVERLOAD PROTECTOR
	MOTOR STARTER MAIN CONTACTOR
	CONTACTOR OR RELAY COIL, LETTER(S) INSIDE OF SYMBOL MATCH CONTACTS CONTROLLED
	PRESSURE TRANSMITTER
	EQUIPMENT ENCLOSURE
	VOLTMETER SWITCH
	AMMETER SWITCH
	AMMETER
	VOLTMETER
	CURRENT TRANSFORMER WITH RATIO SHOWN
	MOTOR, 10 HORSEPOWER SHOWN
	LIMIT SWITCH NORMALLY CLOSED
	LIMIT SWITCH NORMALLY OPEN
	MOTOR OPERATED VALVE GEARED LIMIT SWITCH
	PRESSURE SWITCH NORMALLY CLOSED OPENS ON INCREASING PRESSURE
	PRESSURE SWITCH NORMALLY OPEN CLOSING ON INCREASING PRESSURE
	LEVEL SWITCH NORMALLY CLOSED OPENS ON INCREASING LEVEL
	LEVEL SWITCH NORMALLY OPEN CLOSING ON INCREASING LEVEL
	FLOW SWITCH NORMALLY CLOSED OPENS WITH FLOW
	FLOW SWITCH NORMALLY OPEN CLOSING ON LOSS OF FLOW
	SPACE HEATER
	PHASE FAILURE RELAY
	DRAW-OUT CIRCUIT BREAKER
	INSTANTANEOUS/TIME OVERCURRENT RELAY
	NEUTRAL TIME OVERCURRENT RELAY
	CABLE TERMINATOR
	UNDERVOLTAGE/PHASE-SEQUENCE RELAY
	LOCKOUT RELAY
	DESOLVED OXYGEN SENSOR
	FLOW SWITCH
	ANALYTIC INDICATOR
	LEVEL TRANSDUCER
	FLOW METER

2 working days

Call before you Dig.

CALL 811

CONDUIT AND WIRING LEGEND

	NEW
	EXISTING TO BE REMOVED
	EXISTING TO REMAIN
	UNDERGROUND ELECTRICAL
	UNDERGROUND FIBER OPTIC
	UNDERGROUND TELEPHONE
	UNDERGROUND GROUNDING
	OVERHEAD ELECTRICAL

ONE LINE AND CONTROL SCHEMATIC LEGEND (CONT'D)

SYMBOL	DESCRIPTION
	INSTRUMENT TRANSFORMER PT--POTENTIAL TRANSFORMER
	CONTROL POWER TRANSFORMER. VOLTAGE AS SHOWN
	LIGHTNING ARRESTOR
	SWITCH
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	MOMENTARY PUSHBUTTON
	THREE POSITION MAINTAINED CONTACT SWITCH
	MOTOR OPERATED VALVE
	SOLENOID VALVE
	ELAPSED TIME METER
	TIME DELAY RELAY. TIMES OUT AFTER ENERGIZATION
	TIME DELAY RELAY. TIMES OUT AFTER DENERGIZATION
	PILOT LIGHT
	HIGH LEVEL FLOAT SWITCH
	LOW LEVEL CUTOFF FLOAT SWITCH
	MOTOR STARTER
	LEVEL SENSOR TERMINATION ENCLOSURE
	TEMPERATURE SWITCH
	MOISTURE PROBE
	SOLENOID VALVE
	LIMIT SWITCH
	AMMETER SWITCH
	VOLTMETER SWITCH
	PRESSURE SWITCH
	LIGHTING CONTACTOR

ELECTRICAL DRAWING INDEX

- E1.0 ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS
- E1.1 ELECTRICAL SPECIFICATIONS
- E2.0 ELECTRICAL POND SITE PLAN
- E3.0 ELECTRICAL LADDER DIAGRAM
- E4.0 ELECTRICAL DETAILS

ABBREVIATIONS

A	AMPERES OR TRIP AMPERES
AC	ALTERNATING CURRENT
ACT	ABOVE COUNTER TOP
A/C	AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	ASYMMETRICAL AMPS INTERRUPTING CAPACITY
AWG	AMERICAN WIRE GAGE
BD	BOARD
BLDG	BUILDING
C	CONDUIT
CAB	CABINET
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CL	CURRENT LIMITING
CONN	CONNECT OR CONNECTION
CONT'D	CONTINUED
CONTR	CONTRACTOR
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DBL	DOUBLE
DIM	DIMENSION
DISC	DISCONNECT SWITCH
DC	DIRECT CURRENT
EA	EACH
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ELEC	ELECTRICAL
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE CONDUIT
FIX	FIXTURE
GC	GENERAL CONTRACTOR
GALV	GALVANIZED
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HT	HEIGHT
HTR	HEATER
HZ	HERTZ
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT HOURS
LA	LIGHTNING ARRESTOR
L-L	LINE TO LINE
L-N	LINE TO NEUTRAL
LIG	LIGHT OR LIGHTING
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER

ABBREVIATIONS (CONT'D)

MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MSB	MAIN SWITCH BOARD
MTD	MOUNTED
MTG	MOUNTING
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT	NEUTRAL
NIC	NOT IN THIS CONTRACT
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD
OL	OVERLOAD
Ø	PHASE
P	POLE
PC	PHOTOELECTRIC
PEN	PENDANT
PNL	PANELBOARD
PRV	PRESSURE REDUCING VALVE
PVC	POLYVINYL CHLORIDE
R	RELOCATED
RECP	RECEPTACLE
REQ'D	REQUIRED
REQ' MTS	REQUIREMENTS
RM	ROOM
SCH	SCHEDULE
SE	SERVICE ENTRANCE
SM	SURFACE MOUNT
SN	SOLID NEUTRAL
SOV	SOLENOID OPERATED VALVE
SPACE	SPACE(S) ONLY (NO BREAKER OR DEVICE)
SPARE	SPARE BREAKER OR DEVICE
SPD	SURGE PROTECTIVE DEVICE
SPECS	CONTRACT SPECIFICATIONS
SS	STAINLESS STEEL HARDWARE
SWBD	SWITCHBOARD
SW	SWITCH
SWGR	SWITCH GEAR
TB	TELEPHONE BACKBOARD
TIB	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
UE	UNDERGROUND ELECTRIC
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
UT	UNDERGROUND TELEPHONE
VA	VOLT AMPERES
W	WATTS
W/	WITH
WH	WATER HEATER
WP	WEATHER PROOF
XFMR	TRANSFORMER
XMTR	TRANSMITTER
1/C	SINGLE CONDUCTOR CABLE
3/C	THREE CONDUCTOR CABLE

GENERAL NOTES: (APPLICABLE TO ALL ELECTRICAL SHEETS)

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, ALL CITY, COUNTY, AND STATE REGULATIONS, NFPA, ANSI, UL, IEEE, AND THE LOCAL CODE AUTHORITY HAVING JURISDICTION. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND INSPECTIONS.
- ALL ELECTRICIANS SHALL BE LICENSED BY THE APPROPRIATE CITY, STATE, OR LOCAL CODE AUTHORITY HAVING JURISDICTION.
- THE ELECTRICAL CONTRACTOR SHALL FOLLOW ALL OSHA AND OWNER SAFETY RULES AS REQUIRED TO WORK ON THIS SITE.
- ALL INSTALLATIONS SHALL BE DONE IN A NEAT AND WORKMAN LIKE MANNER.
- ALL POWER OUTAGES SHALL BE PERFORMED DURING NON-BUSINESS HOURS. COORDINATE ALL POWER OUTAGES WITH THE OWNER. NOTIFY THE OWNER IN WRITING 10 DAYS PRIOR TO SCHEDULING ANY POWER OUTAGES.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TEMPORARY ELECTRICAL POWER AND LIGHTING REQUIRED FOR THIS PROJECT.
- THE DEMOLITION DRAWINGS (IF APPLICABLE) ARE DIAGRAMMATIC IN NATURE. THE ELECTRICAL CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH THE PROJECT SCOPE OF WORK PRIOR TO SUBMITTING THEIR BID.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY THE ELECTRICAL REQUIREMENTS OF ALL OWNER PROVIDED EQUIPMENT AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- ALL WORK SHOWN ON DRAWINGS IS NEW UNLESS OTHERWISE NOTED.
- ALL GROUNDING SHALL BE PER NEC AND LOCAL CODES.
- ALL ELECTRICAL CONSTRUCTION ON THE PROJECT SHALL CONFORM TO THE NEC AND ALL OTHER AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED AND PAY ALL FEES.
- ALL WIRING SHALL BE FREE OF SHORTS AND GROUNDS. NO CIRCUIT WIRING SHALL BE LOADED BEYOND THE PERMITTED AMPACITIES ALLOWED BY THE NEC. ALL WIRE SIZES ARE FOR COPPER.
- CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING BID.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND MATERIALS NECESSARY TO MAKE A COMPLETE AND WORKABLE JOB INCLUDING FINAL HOOK-UP OF ALL EQUIPMENT.
- FIRE STOP SHALL BE PROVIDED AT ALL LOCATIONS WHERE ELECTRICAL EQUIPMENT OR SYSTEMS PENETRATE FIRE RATED WALLS. SEE ARCHITECTURAL PLANS FOR RATED WALL LOCATIONS. CONTROL WIRING TO MECHANICAL EQUIPMENT IS NOT SHOWN ON THESE SHEETS.
- RISER AND ONE-LINE DIAGRAMS ARE MEANT TO SHOW ONLY VERTICAL AND ELECTRICAL RELATIONSHIPS AND THEREFORE MAY NOT INCLUDE ALL REQUIRED EQUIPMENT, DEVICES AND ACCESSORIES.
- EQUIPMENT INTERRUPTING CAPACITIES SPECIFIED IN THE CONTRACT DOCUMENTS ARE BASED UPON EQUIPMENT CHARACTERISTICS AND IMPEDANCES SHOWN ON THE DRAWINGS. IF ACTUAL INSTALLED EQUIPMENT DEVIATES FROM THESE CHARACTERISTICS OR HAS LOWER IMPEDANCES THE CONTRACTOR SHALL INCREASE THE INTERRUPTING CAPACITIES OF ALL ITEMS ON THE LOAD SIDE OF THE DEVIANT EQUIPMENT IN DIRECT PROPORTION TO THE CHANGED CHARACTERISTICS. INTERRUPTING CAPACITIES SHALL NOT BE REDUCED TO VALUES LESS THAN THOSE REQUIRED BY THE CONTRACT DOCUMENTS.
- EQUIPMENT SIZES ARE AS DESIGNED. CIRCUIT BREAKERS, CONDUIT, MOTOR STARTERS, DISCONNECT SWITCHES, PLUG-IN'S, ETC., SHALL BE ADJUSTED TO THE EQUIPMENT SUBMITTED AND APPROVED FOR INSTALLATION ON THIS PROJECT.
- REFER TO ARCHITECTURAL OR CIVIL DRAWINGS FOR SITE INFORMATION.
- LIGHT FIXTURE MOUNTING HEIGHTS ARE MEASURED BETWEEN THE FLOOR AND THE BOTTOM OF THE FIXTURE.



S. Kanetzky
Engineering, LLC.
14425 Falcon Head Blvd.
Building B, Suite 100
Bee Cave, Texas 78738
(512) 326-3380
www.skaneng.com
TBPE Firm No. F-2356
SKE PROJECT # 2490724

DESIGNED BY: DJM

DRAFTED BY: GWB

DATE

REVISION

SHEET NAME: ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS

JOB NAME: SADDLEBACK AT SANTA RITA PHASE 2 SECTION 1

PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

2490724

STATE OF TEXAS
STEVE L. KANETZKY
84696
LICENSED PROFESSIONAL ENGINEER
6/4/24

DATE: JUNE 2024

JOB NUMBER: 5619

SHEET: 40 OF 44

SHEET NO.: E1.0

ELECTRICAL SPECIFICATIONS

PART 1 -- GENERAL

1.01 WORK INCLUDED

A. ELECTRICAL SYSTEMS

1.02 RELATED WORK

- A. THE WORK COVERED BY THIS SPECIFICATION CONSISTS OF FURNISHING ALL LABOR, SUPPLIES AND MATERIALS, SHOP DRAWINGS AND A LIST OF MAKE AND CATALOG NUMBERS OF ALL EQUIPMENT AND MATERIALS TO BE INSTALLED AND PERFORMING ALL OPERATIONS, INCLUDING INSTALLATION OF LIGHTING FIXTURES, ELECTRICAL EQUIPMENT, CUTTING AND PATCHING, COORDINATION WITH OTHER TRADES ON THE JOB, ETC., NECESSARY FOR THE INSTALLATION OF COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND HEREINAFTER SPECIFIED. THESE SPECIFICATIONS SUPPLEMENT THE GENERAL CONDITIONS AND SPECIFICATIONS.
- B. EXAMINATION OF SITE: THE CONTRACTOR SHALL THOROUGHLY EXAMINE SITE AND SATISFY HIMSELF AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE CONTRACTOR SHALL VERIFY AT THE SITE ALL MEASUREMENTS AFFECTING HIS WORK AND SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF THE SAME. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR EXPENSES DUE TO HIS NEGLECT TO EXAMINE OR FAILURE TO DISCOVER CONDITIONS WHICH AFFECT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCES BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS.
- C. THE AGREEMENT FORMS, GENERAL CONDITIONS AND SUPPLEMENTARY CONDITIONS OF THE SPECIFICATIONS SHALL APPLY TO THE WORK SPECIFIED IN DIVISION 26.

1.03 DEFINITION

- A. "WIRING": WIRE OR CABLE, INSTALLED IN RACEWAY WITH ALL REQUIRED BOXES, FITTINGS, CONNECTORS AND ACCESSORIES, COMPLETELY INSTALLED.
- B. "FEEDER": WIRING TO ANY DEVICE OR EQUIPMENT IN WHICH NUMBER SIX AWG COPPER (#6 CU) OR LARGER CONDUCTORS ARE USED.
- C. "POWER WIRING": WIRING TO ANY DEVICE OR EQUIPMENT SERVED BY A MULTI-POLE BREAKER.

1.04 QUALITY ASSURANCE

- A. CODES: COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ANY OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK.
- B. PERMITS AND INSPECTIONS: PROVIDE ALL PERMITS REQUIRED AND OBTAIN FINAL INSPECTION AND APPROVAL FROM THE INSPECTION DEPARTMENT HAVING JURISDICTION.
- C. WHERE DIFFERENT SECTIONS OF ANY APPLICABLE CODES SPECIFY DIFFERENT MATERIALS, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE SHALL GOVERN.
- D. STANDARDS FOR MATERIAL AND WORKMANSHIP: USE MATERIALS THAT ARE NEW AND LISTED AND LABELED BY UNDERWRITERS LABORATORIES (UL) AS CONFORMING TO ITS STANDARDS, WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL IN QUESTION. EXECUTE WORK IN A WORKMAN LIKE MANNER, TO PRESENT A NEAT AND MECHANICAL APPEARANCE WHEN COMPLETED.

1.05 SUBSTITUTION OF MATERIALS

- A. NO SUBSTITUTION OF MATERIAL IS ALLOWED WITHOUT WRITTEN PRIOR AUTHORIZATION FROM THE ENGINEER AND OWNER. DETERMINATION OF WHAT IS CONSIDERED EQUAL IS AT THE SOLE DISCRETION OF THE ENGINEER AND OWNER.
- B. INCLUDE SUFFICIENT DESCRIPTIVE INFORMATION, INCLUDING MANUFACTURER'S PUBLISHED DATA TO ESTABLISH CONTRACT COMPLIANCE. SUBMIT SAMPLES IF REQUESTED BY ARCHITECT/ENGINEER.

1.06 DRAWINGS AND SPECIFICATIONS

- A. THE WIRING LAYOUTS ARE SCHEMATIC AND DO NOT NECESSARILY SHOW THE EXACT LOCATION OF RACEWAYS, OUTLETS, ETC. REFER TO THE ARCHITECTURAL DRAWINGS FOR ACTUAL DIMENSIONS. FIT WORK TO CONFORM TO THE DETAILS OF BUILDING CONSTRUCTION. COORDINATE ALL WORK TO ASSURE PROPER CLEARANCE.

1.07 AS-BUILT DRAWINGS

- A. AS WORK PROGRESSES, RECORD ON ONE (1) SET OF ELECTRICAL PRINTS ALL CHANGES AND DEVIATIONS FROM THE CONTRACT DOCUMENTS IN SIZE, LOCATIONS AND TYPES OF ALL MATERIALS AND EQUIPMENT. RECORD FINAL LOCATION OF OUTLETS, SWITCHES, STARTERS, UNDERGROUND AND EXPOSED CONDUITS, ETC. TO INDICATE THE FINAL INSTALLATION. MAKE SUFFICIENT MEASUREMENTS TO LOCATE ALL EQUIPMENT AND CONDUITS. PROVIDE AS-BUILT DRAWINGS.
- B. THE CONTRACTOR SHALL PREPARE A TYPED PANEL DIRECTORY FOR EACH PANEL UTILIZED FOR THIS PROJECT. THIS DIRECTORY SHALL IDENTIFY THE CIRCUIT NUMBER, DEVICES SERVED, AND LOCATION OF DEVICES BY ROOM NUMBER. HE SHALL FILE THEM WITH THE BUILDING MANAGER WHEN THE WORK IS COMPLETE.

1.08 MAINTENANCE DATA

- A. FURNISH AND DELIVER TO THE ARCHITECT/ENGINEER TWO (2) COMPLETE COPIES OF ALL DATA PREPARED BY MANUFACTURERS, DETAILING OPERATION AND MAINTENANCE INSTRUCTION FOR ALL EQUIPMENT.

1.09 PENETRATIONS, CUTTING, AND PATCHING

- A. PERFORM CUTTING AND PATCHING IN ACCORDANCE WITH THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THE CONTRACT.
- B. PROVIDE ALL SLEEVES REQUIRED FOR PROPER INSTALLATION OF WORK INCLUDED IN THIS SECTION.
- C. MAKE ALL PENETRATIONS THROUGH WALLS AT 90 DEGREE ANGLES. SEAL ALL PENETRATIONS AT FIRE AND SMOKE PARTITIONS WITH FIRE SAFING MATERIAL. SEAL ALL PENETRATIONS AT SOUND WALLS WITH SOUNDPROOFING MATERIAL.

1.10 SUBMITTALS

- A. SHOP DRAWINGS AND MATERIAL BROCHURES: FURNISH AN ELECTRONIC SET OF SHOP DRAWINGS AND PRODUCT DATA IN PDF FORMAT TO THE ARCHITECT/ENGINEER ON THE FOLLOWING MATERIALS:
- RACEWAYS
 - CONDUCTORS
 - CONTROL PANELS
 - INSTRUMENTATION

1.11 COOPERATION

- A. THE CONTRACTOR SHALL SCHEDULE HIS WORK, AND IN EVERY WAY POSSIBLE, COOPERATE WITH ALL OTHER TRADES IN THE JOB TO AVOID DELAYS, INTERFERENCES AND UNNECESSARY WORK. HE SHALL COOPERATE WITH THEM IN PROVIDING FOR THE INSTALLATION OF THIS WORK AND COORDINATE WITH WORK OF OTHER TRADES TO ASSURE PROPER CLEARANCE OF PIPING, DUCTWORK, CONDUIT, ETC. WHEN SUCH IS REQUIRED.

1.12 WIRING WORKMANSHIP

- A. RUN WIRING IN ALL BRANCH CIRCUIT PANELBOARDS AND TERMINAL CABINETS PARALLEL OR AT RIGHT ANGLES TO THE SIDES OR TOP OF THE EQUIPMENT HOUSING.
- B. GROUP AND HARNESS CONDUCTORS TOGETHER USING LOCKING TYPE CABLE TIES. CABLE TIES: AS MANUFACTURED BY THE PANDUIT CORPORATION OR THOMAS AND BETTS.

1.13 STORAGE MATERIALS

- A. KEEP THE BUILDING AND PREMISES CLEAN AND CLEAR OF SCRAP MATERIALS AT ALL TIMES. STORE MATERIALS AND EQUIPMENT IN DESIGNATED STORAGE AREAS.

1.14 ORDERING OF MATERIALS

- A. ORDER MATERIALS AND EQUIPMENT SO AS NOT TO JEOPARDIZE PROGRESS OF CONSTRUCTION OR COMPLETION DATE.

1.15 SAFETY PRECAUTIONS AND PROGRAMS

- A. IT SHALL BE THE DUTY AND RESPONSIBILITY OF THE CONTRACTOR AND ALL OF ITS SUBCONTRACTORS TO BE FAMILIAR AND COMPLY WITH ALL REQUIREMENTS OF PUBLIC LAW 91-96, 29 U.S.C. SECS. 651 ET. SEQ., THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSHA), AND ALL AMENDMENTS THERETO AND TO ENFORCE AND COMPLY WITH ALL OF THE PROVISIONS OF THIS ACT. IN ADDITION, ON PROJECTS IN WHICH TRENCH EXCAVATION WILL EXCEED A DEPTH OF FIVE FEET (5'), THE CONTRACTOR AND ALL OF ITS SUBCONTRACTORS SHALL COMPLY WITH ALL REQUIREMENTS OF 29 C.F.R., SECS. 1926.652 AND 1926.653, OSHA SAFETY AND HEALTH STANDARDS.

1.16 WARRANTY

- A. GUARANTEE ALL WORK UNDER THIS SECTION FOR WORKMANSHIP, LABOR AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE.

PART 2 -- PRODUCTS AND EXECUTION

2.01 CONDUIT

- A. EXCEPT AS OTHERWISE NOTED, SPECIFIED OR REQUIRED, INSTALL ALL WIRES USED IN THIS PROJECT IN CONDUIT AS HEREINAFTER SPECIFIED:
- BELOW GRADE: SCHEDULE 40 PVC
ABOVE GRADE (OUTSIDE): ALUMINUM RIGID
ABOVE GRADE (INSIDE): ALUMINUM RIGID
ELBOWS: PVC COATED RIGID STEEL
- B. INSTALL CONDUITS CONTINUOUS FROM OUTLET TO OUTLET, FROM OUTLET TO CABINET, JUNCTION BOX AND PULL BOX. SECURE CONDUITS TO ALL BOXES, ETC., IN SUCH A MANNER THAT EACH SYSTEM WILL BE ELECTRICALLY CONTINUOUS FROM SERVICE TO ALL OUTLETS. TERMINATE ALL CONDUIT RUNS FROM CABINETS AND JUNCTION BOXES IN APPROVED OUTLET BOXES. INSTALL CONDUITS AS HIGH AS POSSIBLE UP AGAINST STRUCTURE ABOVE. AVOID ROUTING CONFLICTS WITH HVAC EQUIPMENT/DUCTWORK, SANITARY WASTE, VENT PIPING, AND DOMESTIC WATER PIPING.
- C. INSTALL A NYLON PULL WIRE (200 LB. TEST) AND TIE ENDS IN ALL CONDUIT LINES LEFT EMPTY FOR FUTURE USE.
- D. TRAPPED OR INACCESSIBLE JUNCTION BOXES, OUTLETS, ETC. ARE NOT ALLOWED.
- E. GENERALLY, CONCEAL ALL CONDUITS UNLESS OTHERWISE DIRECTED OR INDICATED ON THE DRAWINGS.
- F. NO BENDS PERMITTED WITH A RADIUS LESS THAN SIX (6) TIMES THE DIAMETER OF THE CONDUIT OR MORE THAN 900.
- G. PROVIDE JUNCTION BOXES OR PULL BOXES TO AVOID EXCESSIVE RUNS OR TOO MANY BENDS BETWEEN OUTLETS.
- H. INCREASE CONDUIT SIZES SHOWN ON THE PLANS AS REQUIRED FACILITATING PULLING OF CONDUCTORS.
- I. RUN ALL CONDUITS PARALLEL TO OR AT RIGHT ANGLES TO THE BUILDING WALLS AND SUPPORT FROM WALLS OR CEILINGS AT INTERVALS REQUIRED BY CODE WITH APPROVED CLAMPS OR HANGERS.
- J. INSTALL APPROVED APPLETON, CROUSE HINDS, OR O.Z. MANUFACTURING CO. EXPANSION FITTINGS IN ALL EMT RUNS WHICH PASS THROUGH EXPANSION JOINTS IN THE BUILDING. OTHER METHODS TO PROVIDE FOR THIS EXPANSION MUST BE APPROVED BY THE ARCHITECT/ENGINEER.

2.02 WIRING

- A. INSTALL WIRING AS FOLLOWS:
- FEEDERS AND POWER WIRING: CONDUCTORS IN RIGID ALUMINUM RIGID CONDUIT WHEN INSTALLED IN DRY LOCATION ABOVE GRADE. SCHEDULE 40 PVC WHEN INSTALLED BELOW GRADE. USE PVC COATED RIGID ELBOWS.
 - BRANCH CIRCUITS: INSTALL CONDUCTORS IN ALUMINUM RIGID CONDUIT.
 - INSTALL ALL WIRING IN CONDUIT. USE ONLY UL LISTED LUBRICANTS IN PULLING THE CONDUCTORS.
 - INSTALL CONDUCTORS CONTINUOUS FROM OUTLET TO OUTLET AND FROM OUTLET TO JUNCTION BOX OR PULL BOX. INSTALL SPLICES AND JOINTS CAREFULLY AND SECURELY TO BE MECHANICALLY AND ELECTRICALLY SOLID WITH PRESSURE TYPE CONNECTORS. USE 3M "SCOTCHLOCK" OR IDEAL "WING NUT" OR EQUAL TWIST-ON CONNECTORS FOR #10 AND SMALLER CONDUCTORS.
 - CONNECT CONDUCTORS FOR LIGHTING AND RECEPTACLE CIRCUITS TO THE PANEL AS DETAILED WITH COLOR CODED JACKET. COLOR CODE ALL WIRES WITH THE TYPE, SIZE, MAKE AND VOLTAGE MARKED ON IT. COLOR CODE WIRING WITH THE SAME COLOR BEING USED WITH ITS RESPECTIVE PHASE AS FOLLOWS, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

	120/240 VOLT DELTA	120/208 VOLT WYE	480/277 VOLT WYE
PHASE A	RED	RED	BROWN
PHASE B	ORANGE	BLACK	YELLOW
PHASE C	BLACK	BLUE	PURPLE
NEUTRAL	WHITE	WHITE	GRAY
GROUND	GREEN	GREEN	GREEN

6. BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN NO. 12 AWG. INCREASE THE WIRE SIZES UP ONE (1) SIZE WHEREVER THE RUN DISTANCE EXCEEDS 200 FEET.

7. ALL WIRING AND CABLE INCLUDING FIBER OPTIC, ELECTRICAL, DATA, TELECOMMUNICATIONS, TEMPERATURE CONTROLS, SECURITY, FIRE PROTECTION, ETC. SHALL BE RUN IN CONDUIT.

8. ELECTRICAL CONTRACTOR MAY GROUP WIRES WITH SAME VOLTAGE FOR FIELD DEVICES IN CONDUIT AS HE DEEMS BEST APPROPRIATE.

9. ANALOG AND LOW VOLTAGE SIGNALS SHALL NOT RUN IN SAME CONDUIT AS 120VAC AND 480VAC CIRCUITS.

2.03 CONDUCTORS

- A. COPPER OF 98% CONDUCTIVITY.
- B. NO. 10 AND SMALLER: SOLID TYPE SIMPULL XHHW-2, EXCEPT AS OTHERWISE NOTED.
- C. NO. 8 AND LARGER: STRANDED, TYPE SIMPULL XHHW-2, EXCEPT AS OTHERWISE NOTED.
- D. MINIMUM SIZE CONDUCTORS USED SHALL BE NO. 12 AWG FOR ALL APPLICATIONS EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE (A.C. CONTROLS, ETC.).
- E. USE WIRE AND CABLE FROM ONE (1) MANUFACTURER. DELIVER IN THE ORIGINAL WRAPPING BEARING THE UNDERWRITERS LABORATORIES (UL) LABEL.

2.04 OUTLETS

- A. USE GALVANIZED STEEL OR CAST TYPE BOXES AT ALL OUTLETS FOR LIGHTING FIXTURES, WALL SWITCHES, WALL RECEPTACLES, ETC.
- B. SECURELY ATTACH OUTLET BOXES FOR FIXTURES AND DEVICES TO THE BUILDING CONSTRUCTION WITH EXPANSION BOLTS.
- C. FLUSH MOUNT ALL OUTLET BOXES, REGARDLESS OF WALL OR CEILING CONSTRUCTION, UNLESS THEY ARE SPECIFICALLY SHOWN AS BEING USED WITH EXPOSED CONDUIT. IF SURFACE MOUNTED, USE CAST TYPE AS SPECIFIED ABOVE. UTILITY BOXES ARE NOT ALLOWED.

2.05 INSTALLATION

- A. INSTALL RACEWAYS EXPOSED. SUPPORT EXPOSED RACEWAYS AT INTERVALS NOT EXCEEDING TEN FEET (10') WITH MACHINE SCREWS FOR METAL CONSTRUCTION AND EXPANSION BOLTS FOR CONCRETE CONSTRUCTION.
- B. INSTALL THE EDGES OF ALL OUTLET BOXES FLUSH WITH THE SURFACE IN WHICH THEY ARE RECESSED. SCREW ATTACH INTERNAL DEVICES BEFORE ATTACHING COVERPLATE. DO NOT USE COVERPLATES AS A MEANS OF TIGHTENING THE DEVICES IN PLACE.

2.06 DISCONNECT AND FEEDER SWITCHES

- A. FEEDER SWITCHES AND DISCONNECT SWITCHES: HEAVY DUTY, EXCEPT AS OTHERWISE NOTED. IN DAMP LOCATIONS OR EXPOSED TO THE WEATHER, USE NEMA 3R, RAINTIGHT.
- B. DISCONNECT SWITCHES: FACTORY INSTALLED PROVISION FOR PADLOCKING IN EITHER THE "ON" OR "OFF" POSITION.

2.07 FUSES

- A. FUSES: BUSSMANN OR APPROVED EQUAL.

2.08 LABELING

- A. LABEL ALL PANELS, CONTROL POINTS, SWITCHES, AND MOTORS, AS DIRECTED. IDENTIFY PANELS BY PANEL NUMBER. LABEL SWITCHES, INDICATING THE EQUIPMENT WHICH THEY CONTROL. ALL LABELS SHALL BE ENGRAVED. PANEL DIRECTORIES TO BE TYPED. COORDINATE ALL EQUIPMENT NUMBERING WITH MECHANICAL CONTRACTOR.
- B. INSTALL ARC FLASH HAZARD LABELS ON ALL NEW SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES AND MOTOR CONTROL CENTERS PER NEC 110.16. PANDUIT #PPS0305W2100 OR EQUAL.

2.09 GROUNDING

- A. PROVIDE GROUNDING FOR ELECTRICAL SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC)

2.10 COVERPLATES

- A. WHERE WIRING DEVICES ARE FLUSH MOUNTED, INSTALL STAINLESS STEEL COVERPLATES.
- B. WHERE WIRING DEVICES ARE SURFACE MOUNTED, INSTALL FORMED STEEL COVERPLATES WITH CADMIUM PLATING.
- C. WHERE WEATHERPROOF COVERPLATES ARE REQUIRED, MEET UL "WET LOCATION COVER CLOSED" REQUIREMENTS. USE COVERPLATES THAT ARE HINGED AND GASKETED WITH SPRING LOADED CLOSER.
- D. INSTALL FINISHED COVERPLATES ON ALL JUNCTION BOXES, OUTLET BOXES, SECTIONAL SWITCH BOXES, UTILITY BOXES, ETC.
- E. WHERE MORE THAN ONE (1) DEVICE IS INDICATED AT A LOCATION, MOUNT DEVICES IN COMBINED SECTION GANG BOXES, COVERED BY A COMMON PLATE.

2.11 RECEPTACLES

- A. DUPLEX RECEPTACLES: 20 AMPERE, 125 VOLT, SELF OR AUTOMATIC GROUNDING, GFCI.
- B. SPECIAL MOUNTING HEIGHTS ARE NOTED ON THE ARCHITECTURAL DRAWINGS. UNLESS OTHERWISE INDICATED ON THE ELECTRICAL DRAWINGS, MOUNT DEVICES AT THE FOLLOWING HEIGHTS ABOVE FINISHED FLOOR:
- | | |
|-------------------------------|-----|
| 1. DUPLEX RECEPTACLE | 18" |
| 2. WALL SWITCHES | 48" |
| 3. VOICE & VOICE/DATA OUTLETS | 18" |
| 4. WALL TELEPHONE OUTLETS | 48" |

2.12 SWITCHES

- A. PROVIDE HEAVY-DUTY, AC, QUIET SWITCHES. THE SWITCHES SHALL BE HUBBELL 1221 OR EQUAL, 120-277 VOLT, 20 AMPERES, SPECIFICATION GRADE. SWITCHES SHALL BE SINGLE POLE, DOUBLE POLE, THREE WAY, FOUR WAY, OR KEY OPERATED AS SCHEDULED ON THE DRAWINGS AND SHALL BE THE SELF GROUNDING TYPE. COLOR SHALL BE IVORY.

2.13 LIGHTING FIXTURES

- A. PROVIDE ALL LIGHTING FIXTURES, AS SCHEDULED ON DRAWINGS, COMPLETE WITH LAMPS AND HARDWARE. INSTALL COMPLETELY WIRED, CONNECTED AND IN OPERATING ORDER.
- B. CONFIRM ALL CEILING CONDITIONS, CLEARANCES AND OPERATING VOLTAGES BEFORE ORDERING LIGHTING FIXTURES.
- C. SUBMIT SHOP DRAWINGS.

2.13.1 LAMPS

- A. INSTALL SCHEDULED LAMPS MANUFACTURED BY GENERAL ELECTRIC, PHILLIPS, OR APPROVED EQUAL.

2.13.2 FIXTURES

- A. PROVIDE LIGHTING FIXTURES WHICH HAVE BEEN TESTED AND CERTIFIED FOR PROPER OPERATION BY THE FIXTURE'S MANUFACTURER.
- B. PROVIDE LIGHTING FIXTURES WITH TRIM COMPATIBLE WITH CEILING OR SURFACE ON OR IN WHICH INSTALLED.
- C. EACH LUMINAIRE SHALL HAVE TWO SUPPORT WIRES INSTALLED, ONE ON EACH END, AT DIAGONAL CORNERS. LUMINAIRES IN FIRE RATED CEILINGS SHALL BE SUPPORTED ON ALL FOUR CORNERS.
- D. SUPPORT AND SECURELY ATTACH WITH GALVANIZED FASTENERS IN A LEVEL POSITION.
- E. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- F. FIRE RATED ASSEMBLIES, COMPLY WITH DETAILS OF LISTED ASSEMBLY.

2.14 TEMPORARY POWER

- A. PROVIDE TEMPORARY POWER (SMALL TOOL) AND LIGHTING PER OSHA REQUIREMENTS.



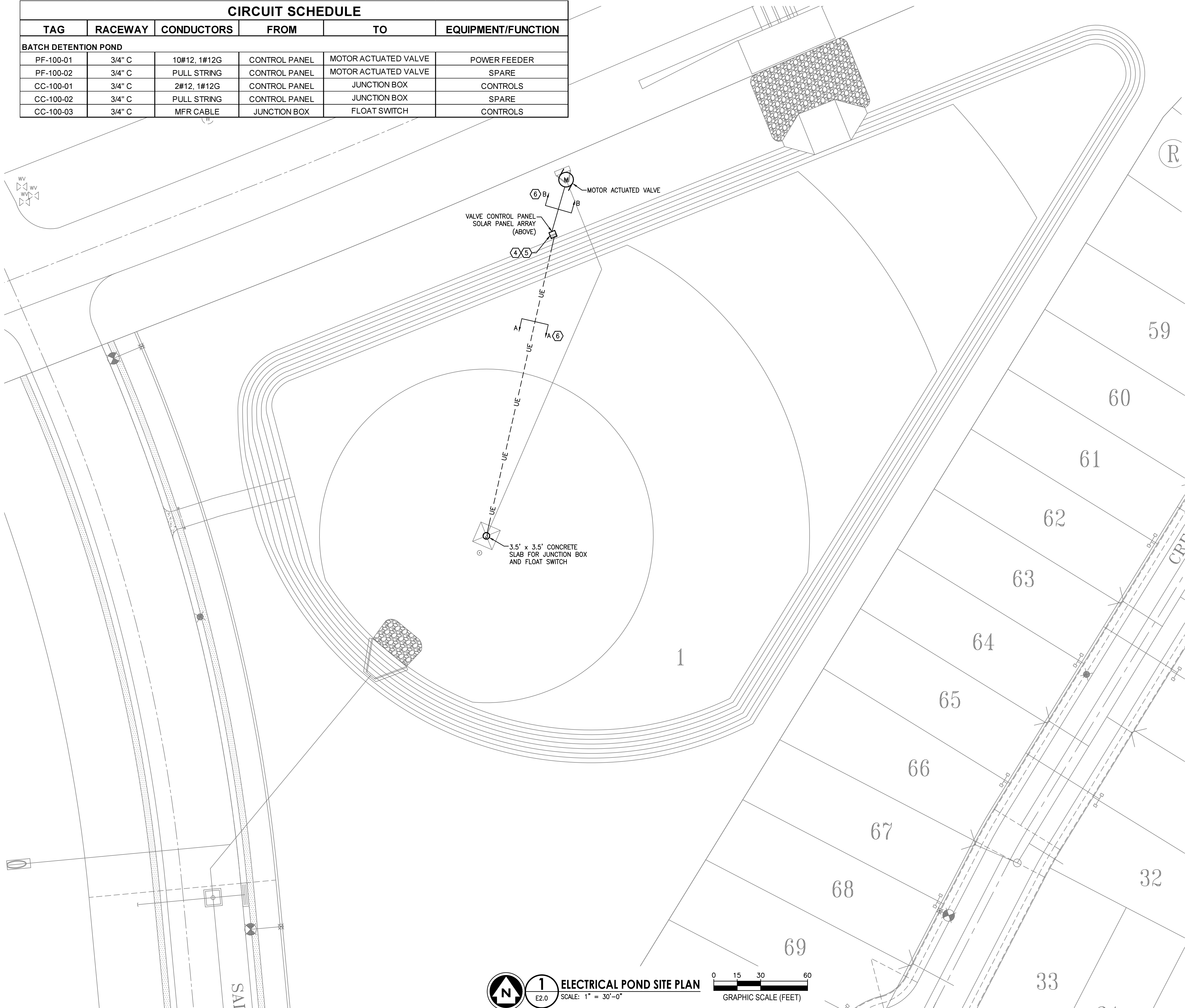
S. Kanetzky
Engineering, LLC.
14425 Falcon Head Blvd.
Building B, Suite 100
Bee Cave, Texas 78738
(512) 326-3380
www.skaneng.com
TBPE Firm No. F-2356
SKE PROJECT # 2490724

DESIGNED BY: DJM	DRAFTED BY: GWB
DATE	
REVISION	
SHEET NAME: ELECTRICAL SPECIFICATIONS	
JOB NAME: SADDLEBACK AT SANTA RITA	
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS	
DATE: JUNE 2024	
JOB NUMBER: 5619	
SHEET: 41 OF 44	
SHEET NO. E1.1	



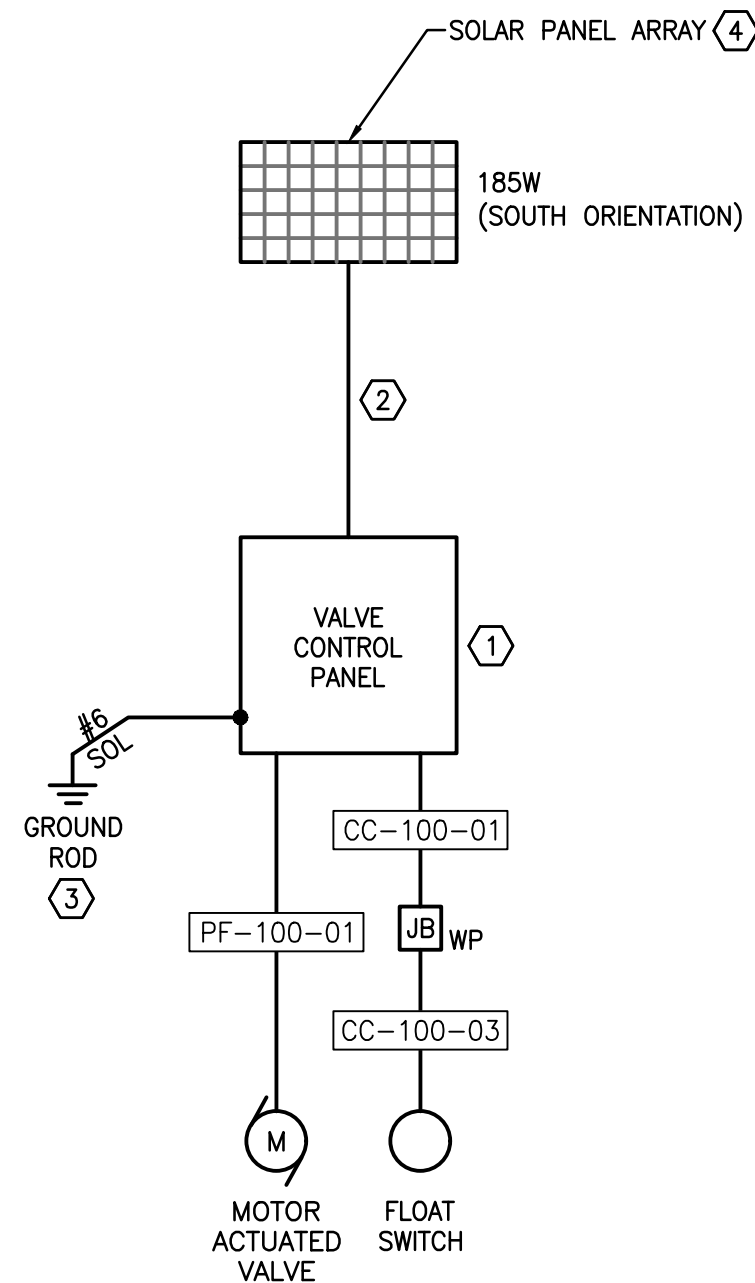
FILE PATH:K:\Projects\2024\2490724-CBD-Saddleback SRR Ph 2 Sec 1 BDP SS\01 Design Phase\ CAD\2490724-E20.dwg -- Jun 19, 2024 -- 10:39am

CIRCUIT SCHEDULE					
TAG	RACEWAY	CONDUCTORS	FROM	TO	EQUIPMENT/FUNCTION
BATCH DETENTION POND					
PF-100-01	3/4" C	10#12, 1#12G	CONTROL PANEL	MOTOR ACTUATED VALVE	POWER FEEDER
PF-100-02	3/4" C	PULL STRING	CONTROL PANEL	MOTOR ACTUATED VALVE	SPARE
CC-100-01	3/4" C	2#12, 1#12G	CONTROL PANEL	JUNCTION BOX	CONTROLS
CC-100-02	3/4" C	PULL STRING	CONTROL PANEL	JUNCTION BOX	SPARE
CC-100-03	3/4" C	MFR CABLE	JUNCTION BOX	FLOAT SWITCH	CONTROLS

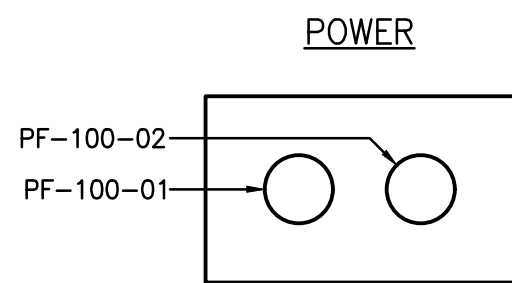


REFERENCE NOTES

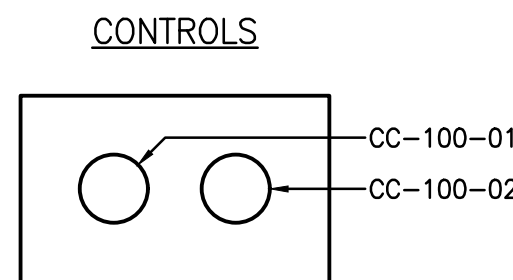
- ELECTRICAL CONTRACTOR SHALL PROVIDE SOLAR POWERED VALVE CONTROL PANEL. SOLAR POWERED VALVE CONTROL PANEL AND SOLAR ARRAY TO BE PROVIDED BY ELECTRICAL CONTRACTOR. SEE SHEET E3.0 FOR VALVE CONTROL PANEL DETAILS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL TYPE USE-2 SOLAR POWER CABLE IN 3/4" CONDUIT FROM SOLAR ARRAY TO VALVE CONTROL PANEL. PROVIDE AND INSTALL WEATHERPROOF MULTI CONTACT CONNECTOR MC-4 AT SOLAR ARRAY.
- PROVIDE AND INSTALL GROUND ROD PER DETAIL 4/E4.0.
- VALVE CONTROL PANEL'S SOLAR PANEL SHALL NOT BE BLOCKED BY TREES OR SHADE. SOLAR PANEL SHALL BE POINTED TOWARDS SOUTH.
- PROVIDE AND INSTALL RACK PER DETAIL 2/E4.0.
- REFER TO TRENCH SECTION DETAIL 1/E4.0 FOR CONSTRUCTION INFORMATION, TYPICAL.



4 ONE-LINE DIAGRAM - BATCH DETENTION
E2.0 SCALE: NTS



3 DETAIL - TRENCH SECTION B-B
E2.0 SCALE: NTS



2 DETAIL - TRENCH SECTION A-A
E2.0 SCALE: NTS



S. Kanetzky
Engineering, LLC.
14425 Falcon Head Blvd.
Building B, Suite 100
Bee Cave, Texas 78738
(512) 326-3380
www.skaneng.com
TBPE Firm No. F-2356
SKE PROJECT # 2490724

DESIGNED BY: DJM	DRAFTED BY: GWB
DATE	
REVISION	
SHEET NAME: ELECTRICAL POND SITE PLAN	
JOB NAME: SADDLEBACK AT SANTA RITA	
PROJECT: STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS	
DATE: JUNE 2024	
JOB NUMBER: 5619	
SHEET: 42 OF 44	
SHEET NO.: E2.0	

Carlson, Brigrance & Doering, Inc.

Civil Engineering

Surveying

FIRM ID #E3791

North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750

Phone No. (512) 280-5160 Fax No. (512) 280-5165

2490724

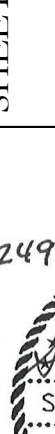
STATE OF TEXAS

STEVE L. KANETZKY

84696

PROFESSIONAL ENGINEER

6/4/24

SHEET NAME: JOB NAME: PROJECT:	ELECTRICAL DETAILS SADDLEBACK AT SANTA RITA PHASE 2 SECTION 1		SHEET NO. E4.0
	STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS		
			
	DATE JUNE 2024		
JOB NUMBER 5619			
SHEET 44 OF 44			
DESIGNED BY: DJM DRAFTED BY: GWB			
DATE			
REVISION			
Carlson, Brigrance & Doering, Inc. Civil Engineering ♦ Surveying FIRM ID #13791 Main Office: 12129 RR (20) N., Ste. 600 Austin, Texas 78750 North Office: 5501 West William Cannon Dr. Austin, Texas 78750 Phone No. (512) 280-5160 Fax No. (512) 280-5165			

SADDLEBACK AT SANTA RITA RANCH
AMENITY CENTER
GRADING, DRAINAGE, AND UTILITIES

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:

Steven P. Cates

7-1-2024

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

DATE

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

WILLIAMSON COUNTY CERTIFICATE OF
COMPLIANCE PERMIT NUMBER

DATE

WILLIAMSON COUNTY DRIVEWAY
PERMIT NUMBER

DATE

XX/XX/2024

WILLIAMSON COUNTY M.U.D. #19H

DATE

ACCEPTED FOR CONSTRUCTION:

CITY OF GEORGETOWN
(WATER SYSTEM ONLY)

DATE

DAVID THOMISON, PUBLIC WORKS DIRECTOR
(WASTEWATER SYSTEM PLAN)

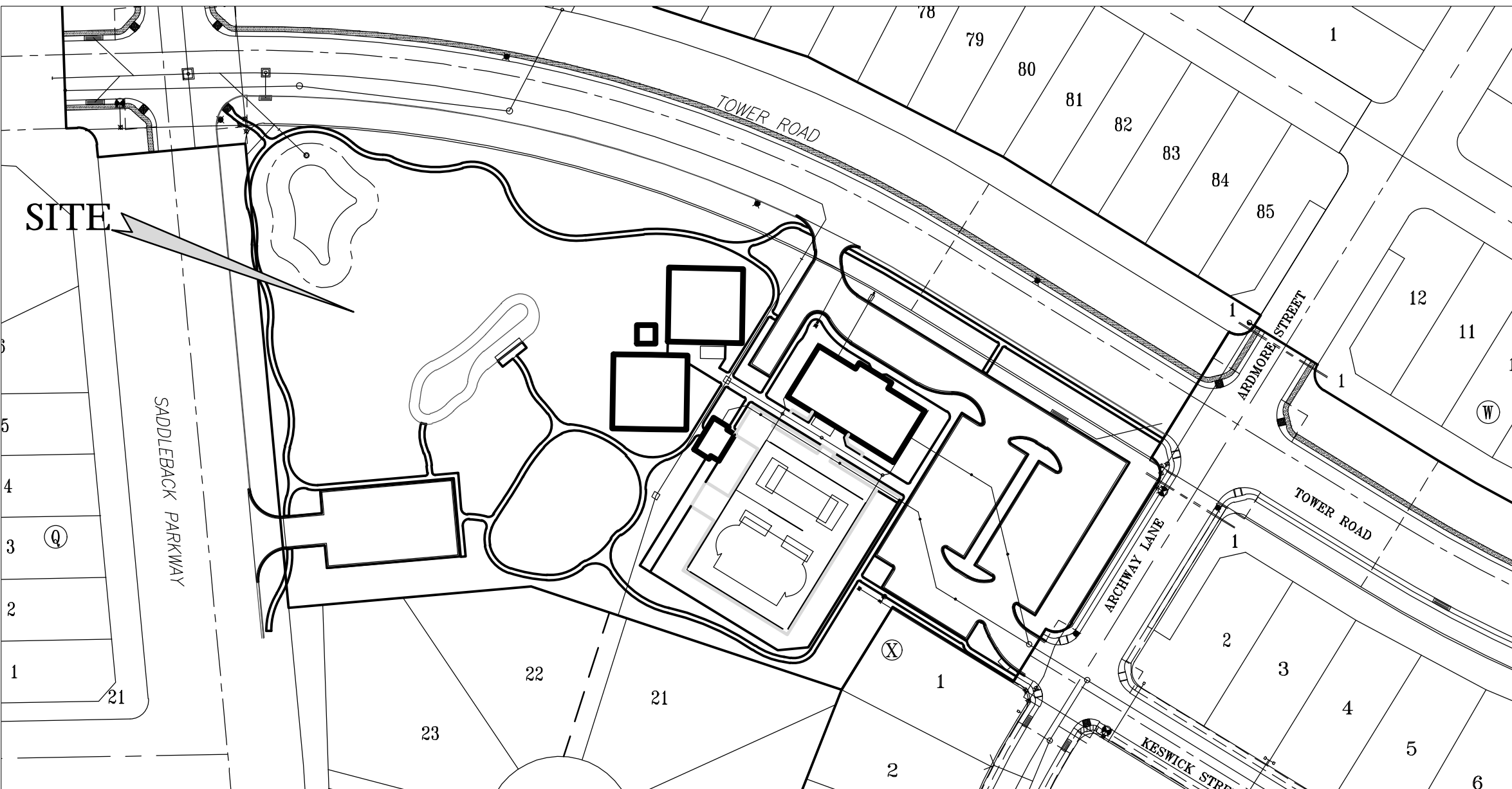
DATE

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.

WILLIAMSON COUNTY, TEXAS
CONSTRUCTION PLANS



LOCATION MAP
SCALE: 1" = 100'

OWNER:

PULTE HOMES OF TEXAS, LP
9401 AMBERGLEN BLVD.
BLDG. I, SUITE 150
AUSTIN, TX. 78729

SADDLEBACK AT SANTA RITA RANCH PHASE 2 SECTION 1
LOT 34 BLOCK X
LIBERTY HILL, TX, 78642
TOTAL ACREAGE: 17.139 ac.

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

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 INDEX

Sheet Number	Sheet Title
1	COVER
2	GENERAL NOTES
3	FINAL PLAT (1 of 2)
4	FINAL PLAT (2 of 2)
5	EROSION CONTROL PLAN
6	EROSION CONTROL NOTES AND DETAILS
7	EXISTING HYDROLOGY MAP
8	DEVELOPED OVERALL HYDROLOGY MAP
9	DEVELOPED SITE HYDROLOGY MAP
10	TCEQ PROJECT AND DRAINAGE AREA MAP
11	OVERALL SITE PLAN
12	SITE DIMENSION PLAN (1 OF 2)
13	SITE DIMENSION PLAN (2 OF 2)
14	SIGNAGE AND STRIPING PLAN
15	OVERALL GRADING PLAN
16	GRADING PLAN (1 OF 2)
17	GRADING PLAN (2 OF 2)
18	DRAINAGE PLAN (1 OF 2)
19	DRAINAGE PLAN (2 OF 2)
20	OVERALL STORM SEWER PLAN
21	SSLN A AND SSLN B
22	SSLN B LATERALS
23	SSLN D AND SSLN F
24	POND PLAN
25	OVERALL WATER PLAN
26	OVERALL WASTEWATER PLAN
27	WASTEWATER LINE PROFILES
28	CURB AND SIDEWALK DETAILS
29	STORM DETAILS (1 OF 2)
30	STORM DETAILS (2 OF 2)
31	WATER DETAILS
32	WASTEWATER DETAILS



Know what's below.
Call before you dig.

DESIGNED BY: SPC	DRAFTED BY: IDS
DATE	
REVISION	
Carlson, Brigance & Doering, Inc. Civil Engineering & Surveying FIRM ID #E3791 Main Office: 5501 West William Cannon Dr., Austin, Texas 78750 Mobile Office: 12129 RR (20) N. Sec. 600, Austin, Texas 78750 Phone No. (512) 280-5160 Fax No. (512) 280-5165	
COVER	
SHEET NAME: SADDLEBACK AT SANTA RITA RANCH AMENITY CENTER	PROJECT: GRADING, DRAINAGE, AND UTILITIES
STATE OF TEXAS STEVEN P. CATES 93648 LICENSED PROFESSIONAL ENGINEER CARLSON, BRIGANCE & DOERING, INC. ID# F3791 7-1-2024	
DATE	JUNE 2024
JOB NUMBER	5618
SHEET	1 OF 32
SHEET NO.	1

FILE PATH: J:\CADD\BRAWNS\BRAWNS-GENERAL NOTES.dwg - Jun 21, 2024 - 3:38pm

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 MJA GEOTECHNICAL, DATED MAY 15, 2024. THE PAVING SECTIONS ARE TO BE CONSTRUCTED AS FOLLOWS:

RECOMMENDATIONS PAVEMENT THICKNESS SECTIONS

Expected Traffic	Average Daily Truck Traffic	Hot Mix Asphaltic Concrete, in	Crushed Limestone Base, in
Local Streets	Subgrade PI > 20	2.0	8
Local Streets	Subgrade PI > 20	2.0	10

- Notes:
1. These pavement thickness designs are intended to transfer the load from the anticipated traffic conditions.
 2. The responsibility of assigning street classification to the streets in this project is left to the civil engineer.
 3. If pavement designs other than those listed above are desired, please contact MJA Geotechnical.

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

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 P_t 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 PELLETTIZED 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 SUBGRADE 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 DRY DENSITY 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" | 0 |
| 1 3/4" | - |
| 7/8" | 10% - 35% |
| 3/8" | 30% - 65% |
| #4 | 45% - 75% |
| #10 | 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 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 B, USE 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.

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 DEPOSITS AND EASEMENTS 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 CONFINES 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 OR 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.

- 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 (10G) 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 DEVELOPMENT, 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-228-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-FFOR MIXTURES DESIGNED WITH A TEXAS GYRATORY COMPACTOR (10G), 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 SOC 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% LOSSIN 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 (QCQ) TEST REPORTS SHALL BE SUBMITTED TO THE COUNTY ENGINEER ON A DAILY BASIS. AS A MINIMUM, DAILY QCQ TESTING ON THE PRODUCED MIX SHALL INCLUDE: SIEVE ANALYSIS TEX-200-F, ASPHALT CONTENT TEX-236-F, HYDRA 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 MOULDED FOR EVERY 500 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 ROAD NAMES 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 TxDOT "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 TxDOT 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 TxDOT AND THE CONSTRUCTION COST SHALL BE BORNE BY THE OWNER.

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 214, 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 ACTIONS 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 CONSTRUCTION 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 § 215.19 (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 TO THE ED TO ANY PART OF TITLE 30, TAC, CHAPTERS 213 AND 214, 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 MATERIALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFF-SITE.
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 TEMPORARY 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) 338-2929
FAX (512) 339-9795

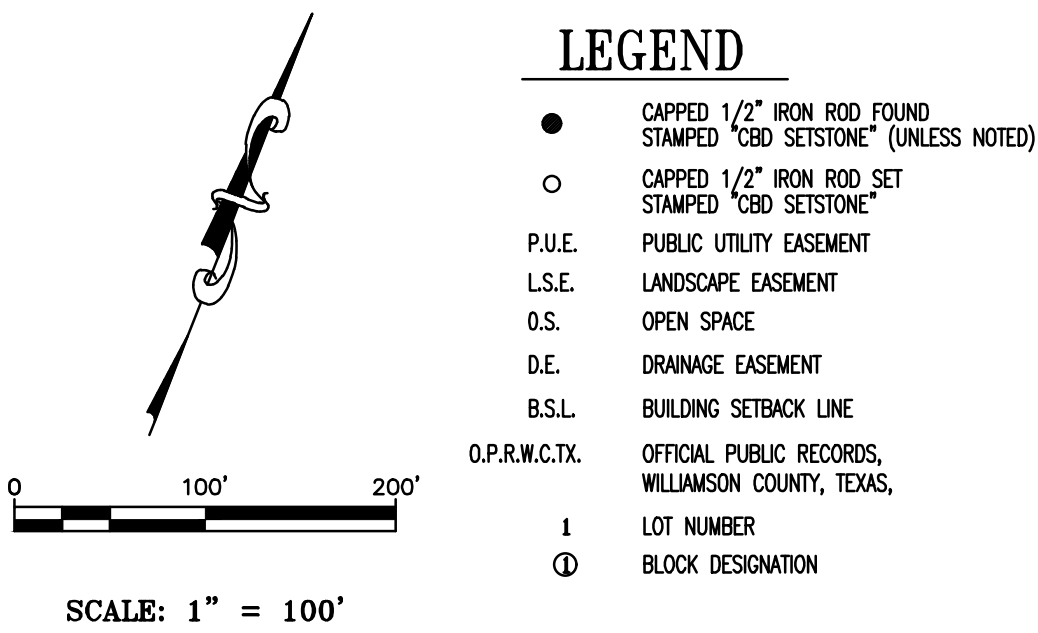
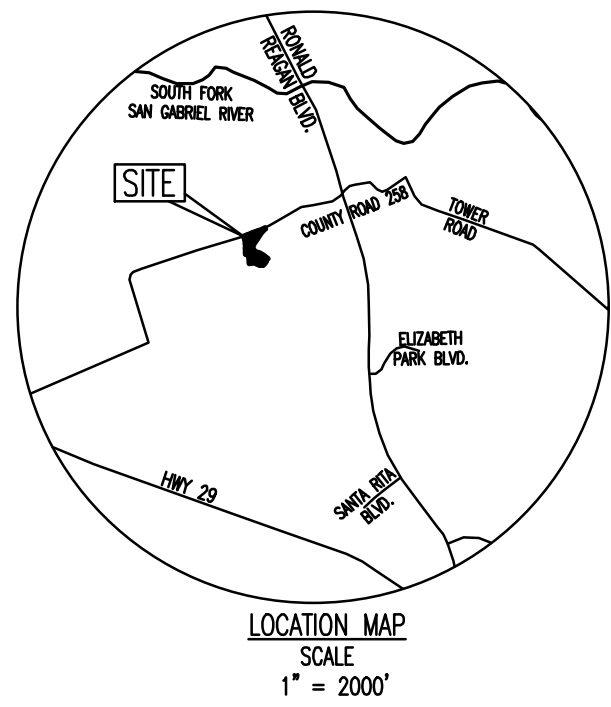
SAN ANTONIO REGIONAL OFFICE
14250 JUDSON ROAD
SAN ANTONIO, TEXAS 78233-4480
PHONE (210) 490-3096
FAX (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.
TCEQ-4586 (REV. JULY 15, 2018)

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, ANALYZE 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-HAS 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 DRAINWAY 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 DRAINWAY 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.
 - 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 DRAINWAY C

SADDLEBACK AT SANTA RITA RANCH PHASE 2, SECTION 1
FINAL PLAT



TOTAL ACREAGE: 17.226 ACRES
SURVEY: B. MANLOVE SURVEY, ABSTRACT NO. 417

DATE: MAY 14, 2024

OWNER AND DEVELOPER:
PULTE HOMES OF TEXAS, L.P.,
9401 AMBERGLEN BLVD.,
BLDG. 1, SUITE 150
AUSTIN, TEXAS 78729
PHONE: (512) 532-3300

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

TOTAL LOTS: 2
NO. OF O.S., P.U.E., L.S.E., & AMENITIES LOTS: 1
NO. OF OS, PUE, LSE, & D.E. LOTS: 1

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

BENCHMARKS:
BM-1: 1/2 INCH IRON ROD FOUND STAMPED "CONTROL"
N: 10218801.22
E: 3075900.79
ELEV: 974.82

BM-2: 1/2 INCH IRON ROD FOUND STAMPED "CONTROL"
N: 10218001.86
E: 3076299.186
ELEV: 969.17

ROAD TABLE					
STREET NAMES	LINEAR FOOTAGE	R.O.W. WIDTH	PAVEMENT WIDTH	DESIGN SPEED	DESIGNATION CLASSIFICATION
TOWER ROAD	1007'	120' R.O.W.	48' FOC-FOC	45 M.P.H.	PUBLIC ARTERIAL
SADDLEBACK PARKWAY	788'	120' R.O.W.	48' FOC-FOC	45 M.P.H.	PUBLIC ARTERIAL
TOTAL	1,795'				

SHEET NO. 1 OF 3

Carlson, Brigrance & Doering, Inc.

FIRM ID #F3791 REG. # 10024900

Civil Engineering 5501 West William Cannon Austin, Texas 78749 Phone No. (512) 280-5160

Surveying Austin, Texas 78749 Fax No. (512) 280-5165

J:\AC3D\5619\dwg\5619-FINAL PLAT STEVE

SADDLEBACK AT SANTA RITA RANCH PHASE 2, SECTION 1
FINAL PLAT

METES AND BOUNDS
BEING ALL OF THAT CERTAIN 17.226 ACRE TRACT OF LAND SITUATED IN THE B. MANLOVE SURVEY, ABSTRACT NUMBER 417, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF A CALLED 311.079 ACRE TRACT OF LAND CONVEYED TO PULTE HOMES OF TEXAS, LP BY DEED RECORDED IN DOCUMENT NUMBER 2022032756, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, SAID 17.226 ACRE TRACT OF LAND BEING MORE FULLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS,

BEGINNING, AT A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT THE SOUTHWEST CORNER OF LOT 1, BLOCK X, AND THE NORTHWEST CORNER OF LOT 2, BLOCK X, SADDLEBACK AT SANTA RITA RANCH PHASE 1, SECTION 2A, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2023072615, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, FOR THE SOUTHEAST CORNER AND THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT,

THENCE, OVER AND ACROSS SAID 311.079 ACRE TRACT OF LAND, THE FOLLOWING EIGHT (8) COURSES AND DISTANCES, NUMBERED 1 THROUGH 8,

- 1) N71°37'21"W, A DISTANCE OF 264.72 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 2) S84°57'14"W, A DISTANCE OF 196.87 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 3) N05°19'09"W, A DISTANCE OF 377.57 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 4) S84°40'51"W, A DISTANCE OF 120.00 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 5) N05°19'09"W, A DISTANCE OF 10.18 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
- 6) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 22.63 FEET, AND A CHORD THAT BEARS N48°32'49"W, A DISTANCE OF 20.55 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 7) S88°13'28"W, A DISTANCE OF 9.29 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, AND
- 8) N01°46°31"W, A DISTANCE OF 120.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" ON THE WEST LINE OF SAID 311.079 ACRE TRACT OF LAND, FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,

THENCE, WITH THE WEST LINE OF SAID 311.079 ACRE TRACT OF LAND AND OVER AND ACROSS A CALLED 318.642 ACRE TRACT OF LAND CONVEYED TO HFIC - SP INVESTMENTS, LP BY DEED RECORDED IN DOCUMENT NUMBER 2021034780, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, THE FOLLOWING FOUR (4) COURSES AND DISTANCES, NUMBERED 1 THROUGH 4,

- 1) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 24.49 FEET, AND A CHORD THAT BEARS N41°27'10"E, A DISTANCE OF 21.86 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 2) N05°19'09"W, A DISTANCE OF 280.45 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
- 3) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 1,020.00 FEET, AN ARC LENGTH OF 325.80 FEET, AND A CHORD THAT BEARS N14°28'11"W, A DISTANCE OF 324.42 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, AND
- 4) N23°37'13"W, A DISTANCE OF 4.25 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" ON THE NORTH LINE OF SAID 311.079 ACRE TRACT OF LAND, BEING ON THE NORTH LINE OF SAID 318.642 ACRE TRACT OF LAND, SAME BEING ON THE SOUTH RIGHT-OF-WAY LINE OF COUNTY ROAD 258 (R.O.W. VARIES), FOR THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND,

THENCE, WITH THE COMMON LINE OF SAID 311.079 ACRE TRACT AND SAID COUNTY ROAD 258, THE FOLLOWING FOUR (4) COURSES AND DISTANCES, NUMBERED 1 THROUGH 4,

- 1) N68°43'11"E, A DISTANCE OF 201.93 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "WALKER" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT,
- 2) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 4,070.57 FEET, AN ARC LENGTH OF 143.43 FEET, AND A CHORD THAT BEARS N67°42'13"E, A DISTANCE OF 143.42 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "WALKER" FOR CORNER,
- 3) N66°41'43"E, A DISTANCE OF 316.65 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "WALKER" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LEFT, AND
- 4) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 4,070.57 FEET, AN ARC LENGTH OF 298.09 FEET, AND A CHORD THAT BEARS N64°36'44"E, A DISTANCE OF 298.03 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR THE NORTHEAST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND,

THENCE, OVER AND ACROSS SAID 311.079 ACRE TRACT OF LAND, THE FOLLOWING NINE (9) COURSES AND DISTANCES, NUMBERED 1 THROUGH 9,

- 1) S32°17'28"E, A DISTANCE OF 57.17 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 2) S43°08'25"W, A DISTANCE OF 206.81 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 3) S31°37'06"W, A DISTANCE OF 664.21 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 4) S00°14'10"W, A DISTANCE OF 107.14 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 5) S37°41'34"E, A DISTANCE OF 158.87 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 6) S71°54'38"E, A DISTANCE OF 188.86 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 7) S62°56'22"E, A DISTANCE OF 177.65 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER,
- 8) S58°22'54"E, A DISTANCE OF 244.88 FEET TO A CAPPED 1/2 INCH IRON ROD SET STAMPED "CBD SETSTONE" FOR CORNER, AND
- 9) S31°37'06"W, A DISTANCE OF 10.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" AT THE NORTHWEST CORNER OF SAID SADDLEBACK AT SANTA RITA RANCH PHASE 1, SECTION 2A, CORNER, BEING AT THE NORTHWEST TERMINUS CORNER OF TOWER ROAD (120' R.O.W.), BEING AT THE BEGINNING OF A CURVE TO THE RIGHT, FOR CORNER,

THENCE, WITH THE WEST LINE OF SAID SADDLEBACK AT SANTA RITA RANCH PHASE 1, SECTION 2A, AND OVER AND ACROSS SAID 311.079 ACRE TRACT OF LAND, THE FOLLOWING EIGHT (8) COURSES AND DISTANCES, NUMBERED 1 THROUGH 8,

- 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 S76°37'06"W, A DISTANCE OF 21.21 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 2) S31°37'06"W, A DISTANCE OF 120.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 3) S13°22'54"E, A DISTANCE OF 21.21 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 4) S31°37'06"W, A DISTANCE OF 132.40 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE RIGHT,
- 5) ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 15.00 FEET, AN ARC LENGTH OF 23.57 FEET, AND A CHORD THAT BEARS S76°38'13"W, A DISTANCE OF 21.22 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 6) S31°37'06"W, A DISTANCE OF 50.00 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER,
- 7) N58°22'54"W, A DISTANCE OF 114.99 FEET TO A CAPPED 1/2 INCH IRON ROD FOUND STAMPED "CBD SETSTONE" FOR CORNER, AND
- 8) S31°37'06"W, A DISTANCE OF 78.65 FEET TO THE POINT OF BEGINNING AND CONTAINING 17.139 ACRES OF LAND.

GENERAL:

1. BEARINGS AND COORDINATES 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 PLATING 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 PURPOSE ROADWAY AND EASEMENTS AS SHOWN ON THIS PLAT ARE FREE OF LIENS.
5. THE H.O.A. WILL OWN AND MAINTAIN THE FOLLOWING LOTS:
LOT 1, BLOCK R, AND LOT 34, BLOCK X

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. THIS CERTIFICATE IS VALID UNTIL SUCH TIME AS FEMA REVISES OR NEWLY ADOPTS FLOODPLAIN BOUNDARIES IN THIS AREA.
3. 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.

WATER AND WASTEWATER:

1. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTION IS MADE TO AN APPROVED PUBLIC SEWER SYSTEM. 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 19H/GEORGETOWN UTILITY SYSTEMS.
4. WASTEWATER SERVICE IS PROVIDED BY: WILLIAMSON COUNTY MUD 19H/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 ALONG & ADJACENT TO ALL STREET RIGHT-OF-WAY, AND A TWO AND ONE-HALF (2.5') FOOT WIDE PUBLIC UTILITY EASEMENT IS DEDICATED ALONG ALL SIDE LOT LINES.

SURVEYOR NOTES:

- 1) SUBJECT TRACT IS AFFECTED BY THE THE POTABLE WATER LINE EASEMENT RECORDED IN VOLUME 1233, PAGE 608, DEED RECORDS OF WILLIAMSON COUNTY, TEXAS, AND ASSIGNED IN VOLUME 2168, PAGE 44, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS. (BLANKET TYPE, 15' CENTERED AS INSTALLED)

SHEET NO. 2 OF 3

Carlson, Brigrance & Doering, Inc.

FIRM ID #F3791 REG. # 10024900

Civil Engineering 5501 West William Cannon Austin, Texas 78749 Phone No. (512) 280-5160

Surveying Austin, Texas 78749 Fax No. (512) 280-5165

J:\AC3D\5619\dwg\5619-FINAL PLAT

SADDLEBACK AT SANTA RITA RANCH PHASE 2, SECTION 1
FINAL PLAT

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

1. STEPHEN ASHLOCK, VICE PRESIDENT, PUTITE HOMES OF TEXAS, LP, OWNER OF THAT CALLED 311.079 ACRE TRACT OF LAND CONVEYED IN DOCUMENT NUMBER 2022032756, OFFICIAL PUBLIC RECORDS OF WILLAMSON COUNTY, TEXAS, AND DO HEREBY SUBDIVIDE SAID 171.39 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 WILLAMSON 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,

THE COUNTY ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF REPRESENTATIONS BY OTHER PARTIES IN THIS PLAT. FLOOD PLAIN DATA IN PARTICULAR, MAY CHANGE DEPENDING ON SUBSEQUENT DEVELOPMENT. 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 STREETS IN THE SUBDIVISION HAVE FINALLY BEEN ACCEPTED FOR MAINTENANCE BY THE COUNTY.

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.

"SADDLEBACK AT SANTA RITA RANCH PHASE 2,
SECTION 1 FINAL PLAT"

PAUL BRANDENBURG, CITY MANAGER
CITY OF LIBERTY HILL, TEXAS

BY: STEPHEN ASHLOCK, VICE PRESIDENT
PULTE HOMES OF TEXAS, L.P.
9401 AMBERGLEN BLVD., BLDG. I, SUITE 150
AUSTIN, TEXAS 78729
PHONE: (512) 532-3300

ROAD NAME AND ADDRESS ASSIGNMENTS VERIFIED THIS THE ____ DAY OF _____, 20__ AD.

WILLIAMSON COUNTY ADDRESSING COORDINATOR
WILLIAMSON COUNTY, TEXAS

PRINTED NAME: _____

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

I, BILL GRAVELL, JR., COUNTY JUDGE OF WILLIAMSON COUNTY, TEXAS, DO HEREBY CERTIFY THAT THIS MAP OR PLAT, WITH FIELD NOTES HEREON, THAT A SUBDIVISION HAVING BEEN FULLY PRESENTED TO THE COMMISSIONER'S COURT OF WILLIAMSON COUNTY, TEXAS, AND BY THE SAID COURT DULY CONSIDERED, WERE ON THIS DAY APPROVED AND 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
WILLIAMSON COUNTY, TEXAS

DATE

STATE OF TEXAS: §
COUNTY OF WILLIAMSON: §

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED STEPHEN ASHLOCK, 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 _____ DAY OF _____, 20____, A.D.

NOTARY PUBLIC IN AND FOR TRAVIS COUNTY, TEXAS

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.

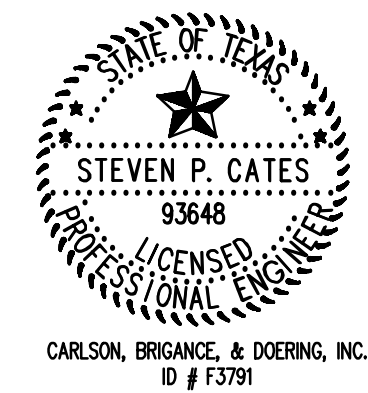
THIS STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF ENGINEER OR SURVEYOR.

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, P.E. NO. 93648 DATE
CARLSON, BRIGANCE & DOERING, INC.
5501 WEST WILLIAM CANNON DRIVE,
AUSTIN, TEXAS 78749



STATE OF TEXAS: §
COUNTY OF TRAVIS: §

I, ERIC J. DANNHEIM, 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 LISTED ON TITLE REPORT ISSUED BY TITLE RESOURCES GUARANTY COMPANY, G.F. NO. 2160726-COM, EFFECTIVE DATE SEPTEMBER 17, 2021, WHICH AFFECT THE SUBJECT PLAT ARE SHOWN OR NOTED ON THE PLAT.

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

FOR REVIEW ONLY.	
SURVEYED BY:	DATE
ERIC J. DANNHEIM, R.P.L.S. NO. 6075 CARLSON, BRIGANCE & DOERING, INC. 5501 WEST WILLIAM CANNON DRIVE, AUSTIN, TEXAS 78749 EDANNHEIM@CBDENG.COM	

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 _____ DAY OF _____, 20____, A.D., AT _____ O'CLOCK, ____M., IN THE PLAT RECORDS OF SAID COUNTY IN INSTRUMENT NUMBER _____.

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



J: \AC3D\5619\dwg\5619-FINAL PLAT

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.

LEGEND

TP TREE PROTECTION AREA

SF SILT FENCE

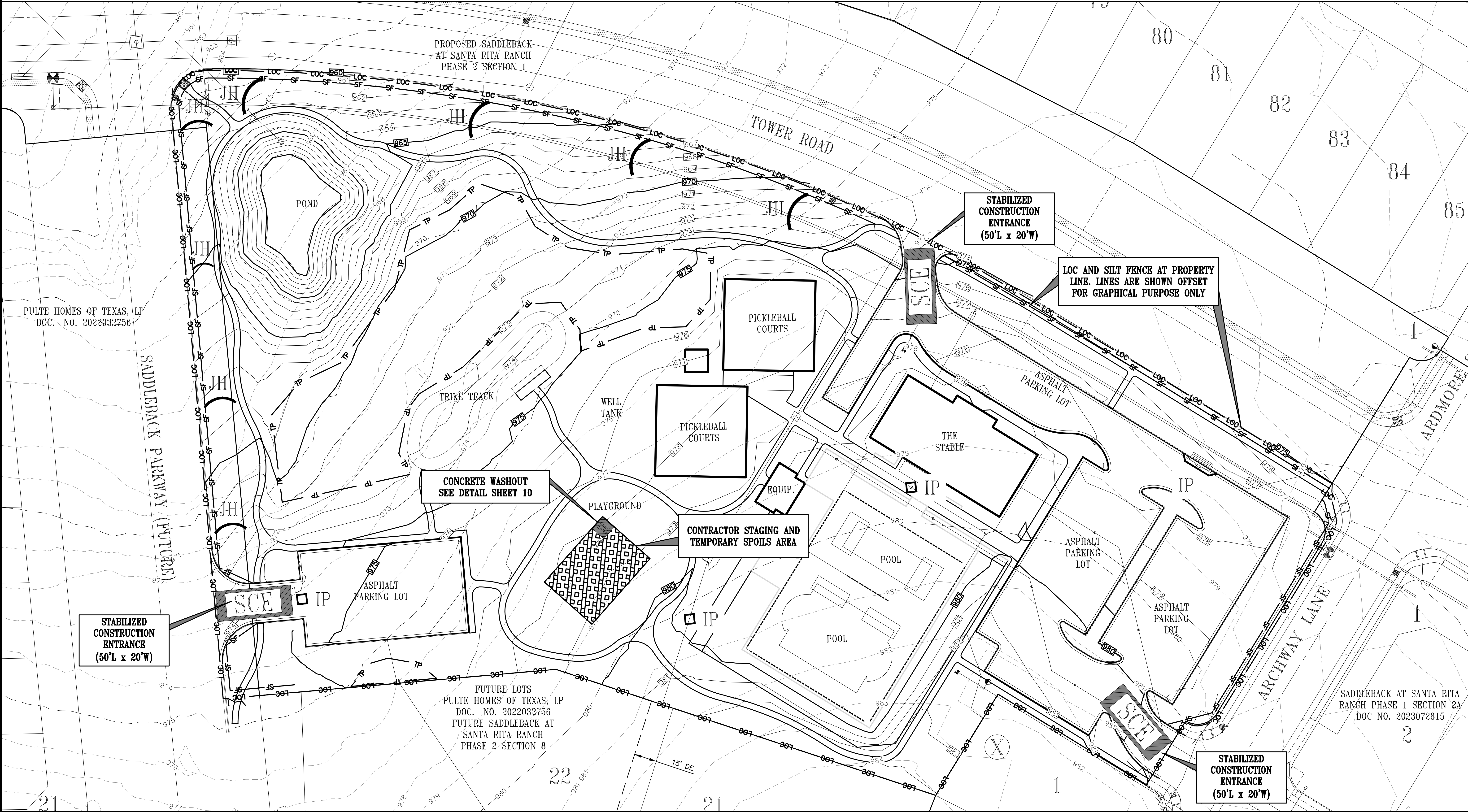
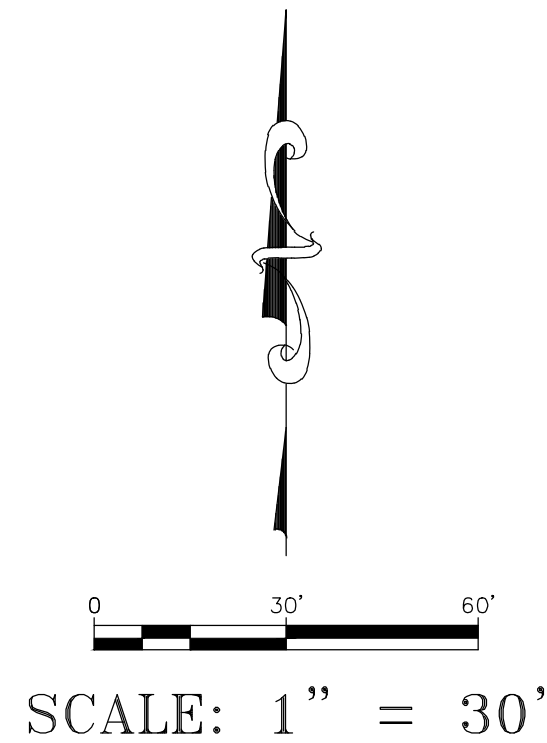
LOC LIMITS OF CONSTRUCTION

JH SILT FENCE J-HOOK

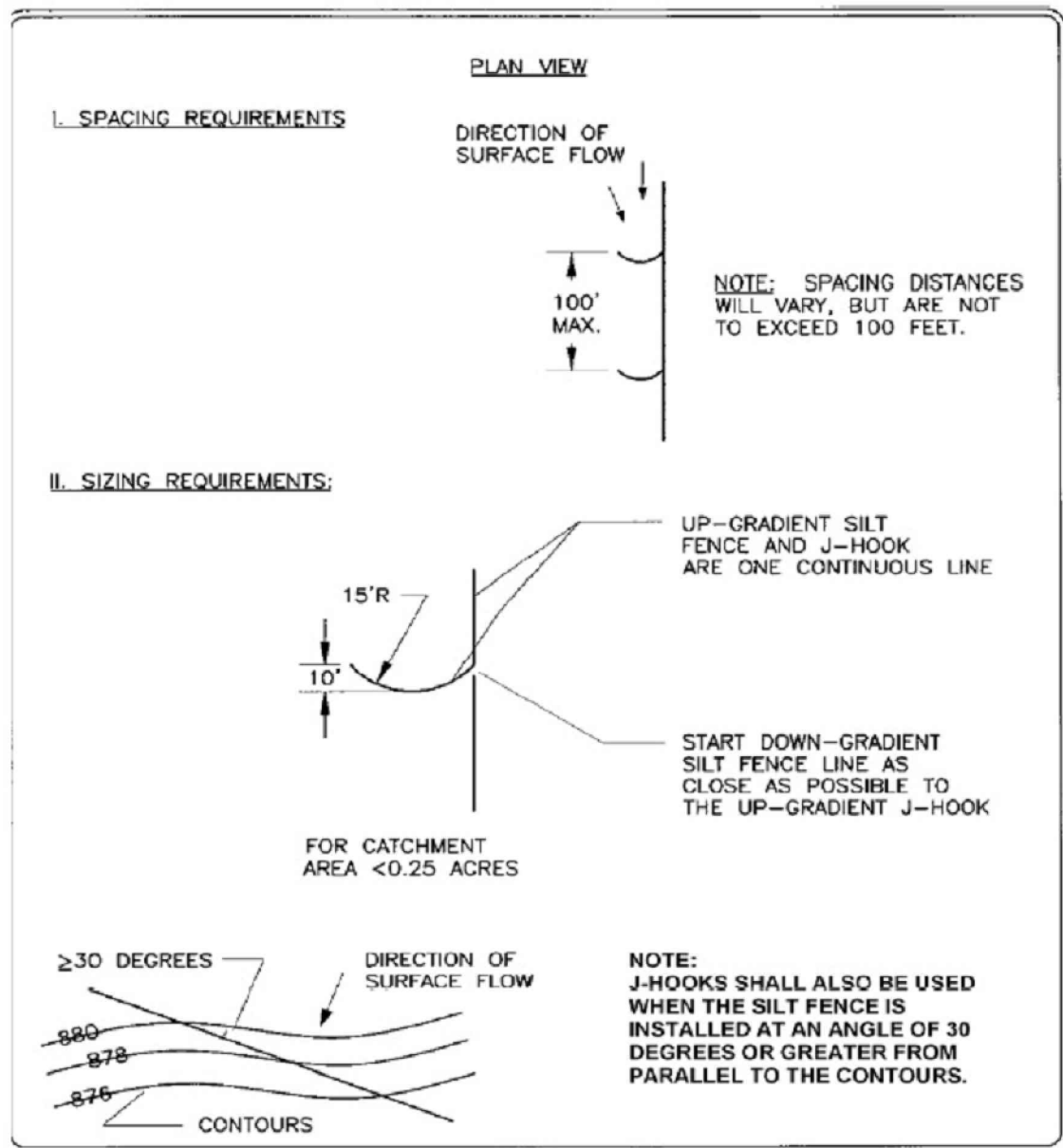
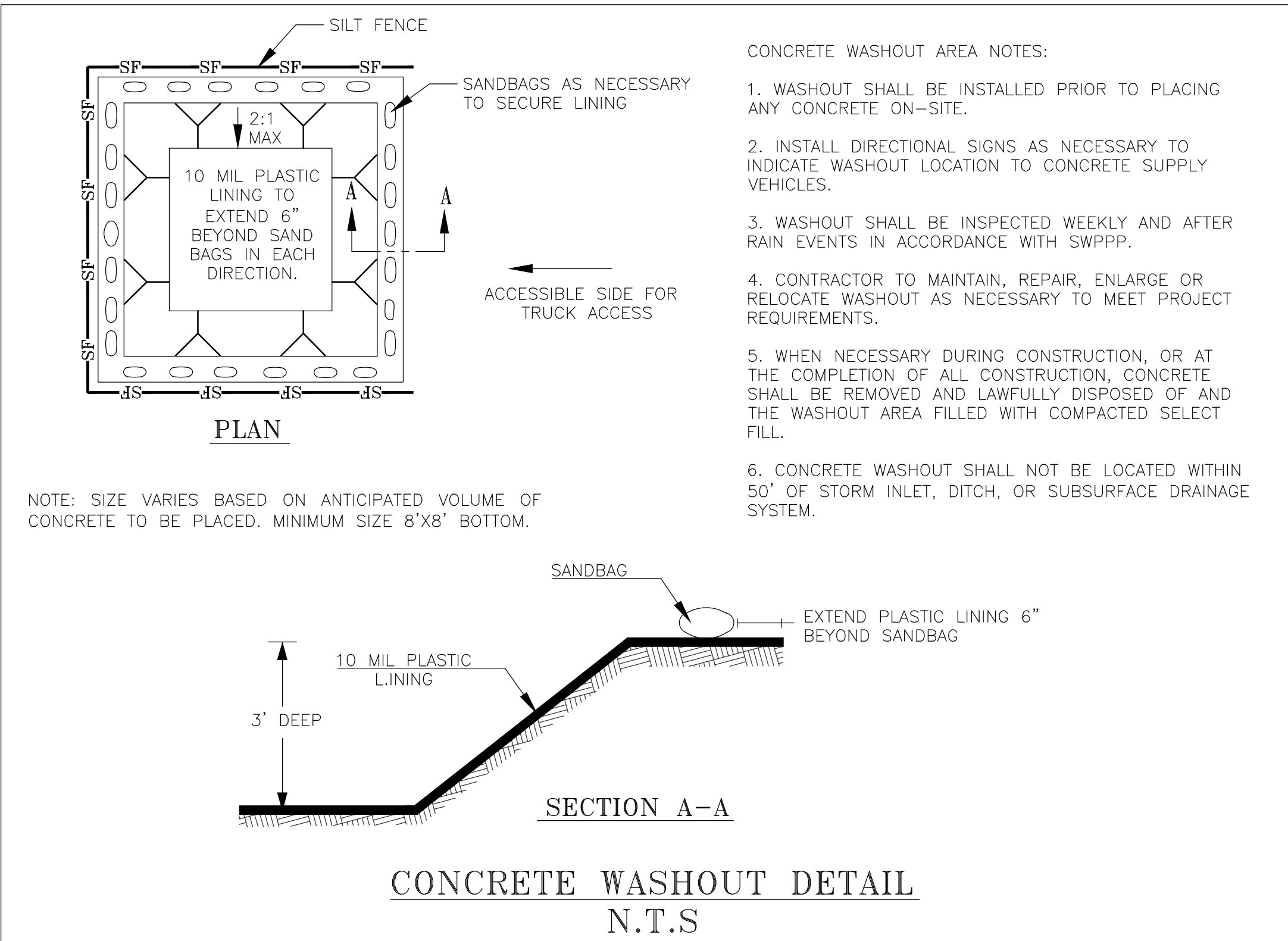
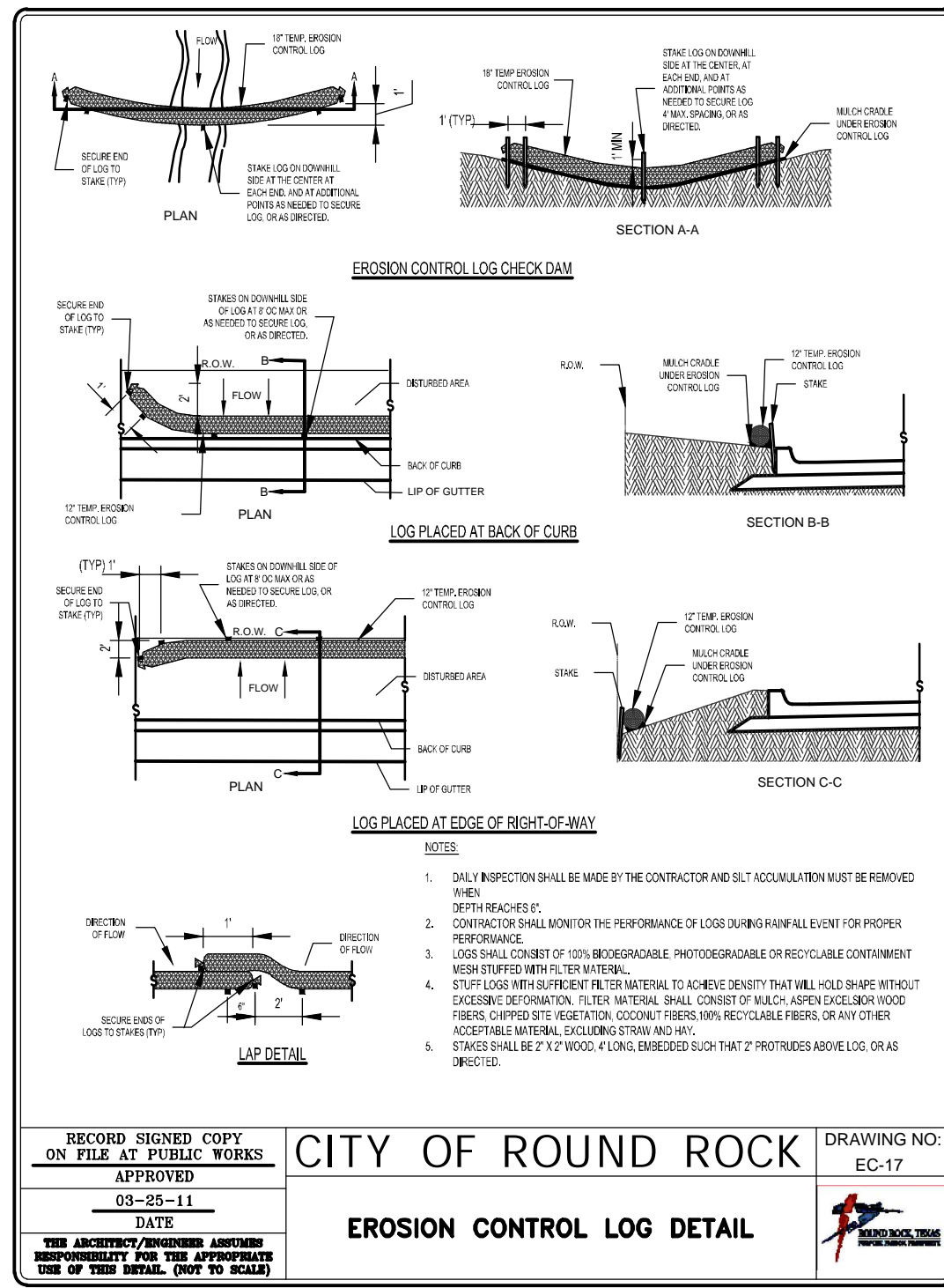
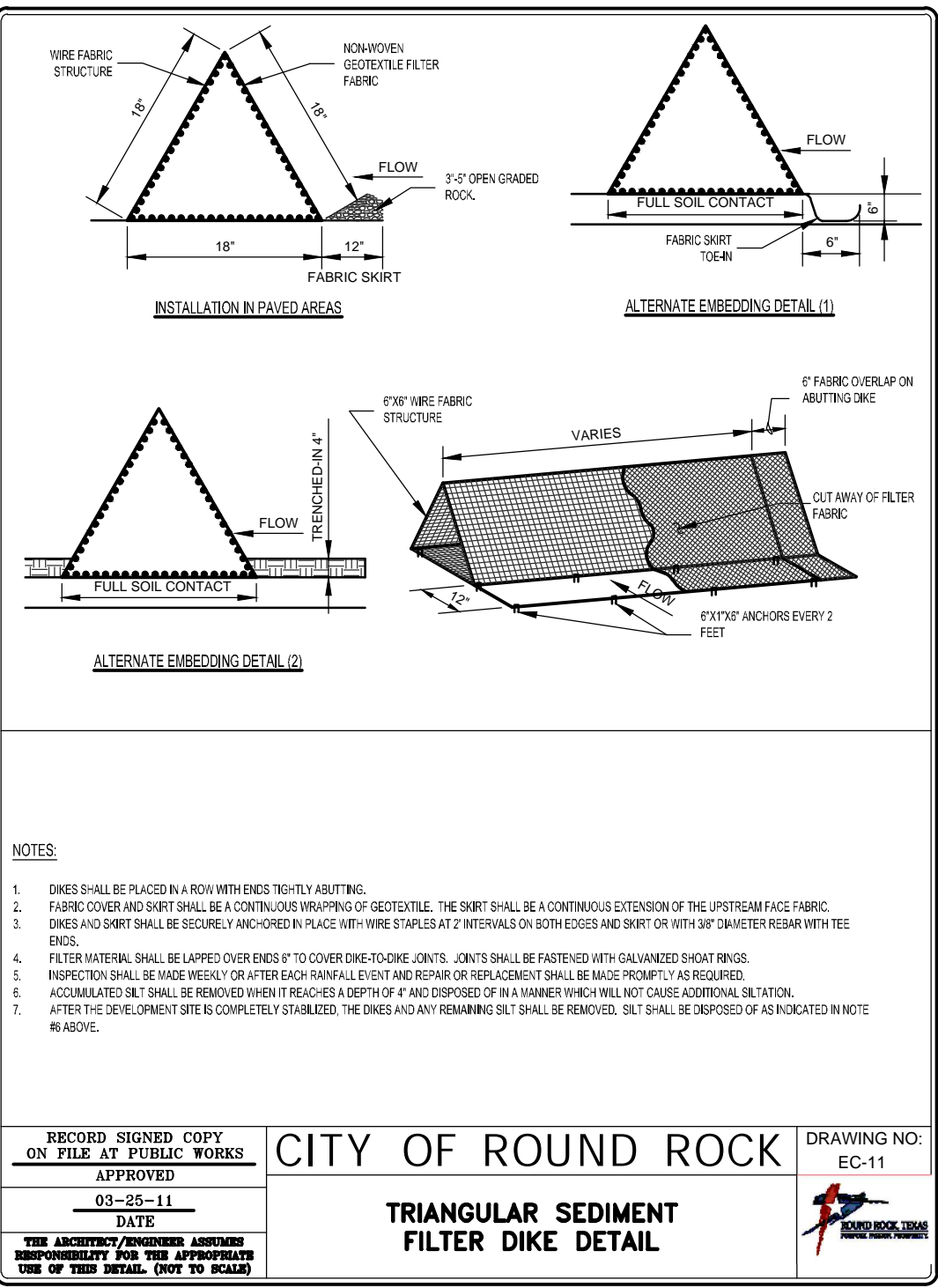
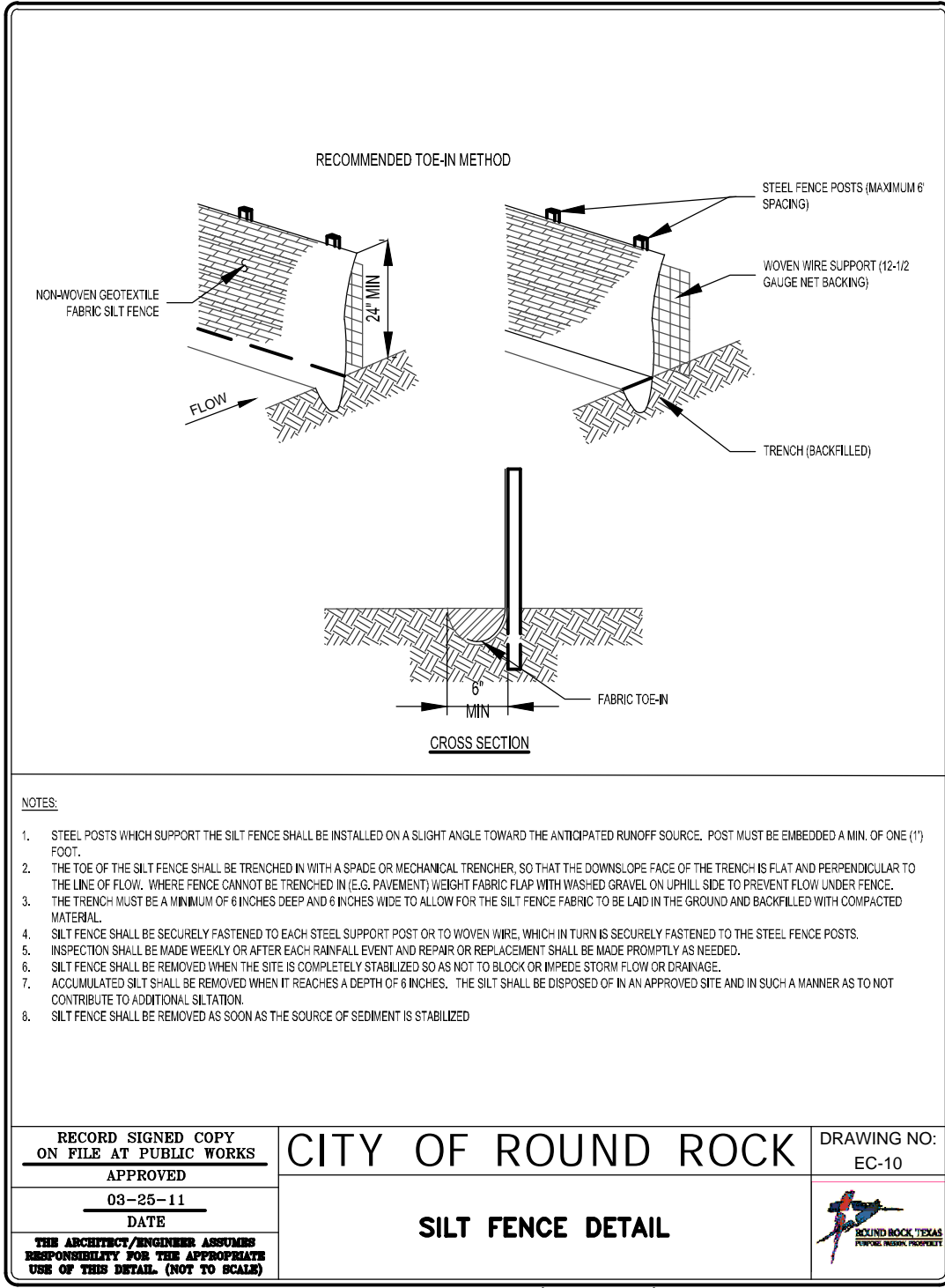
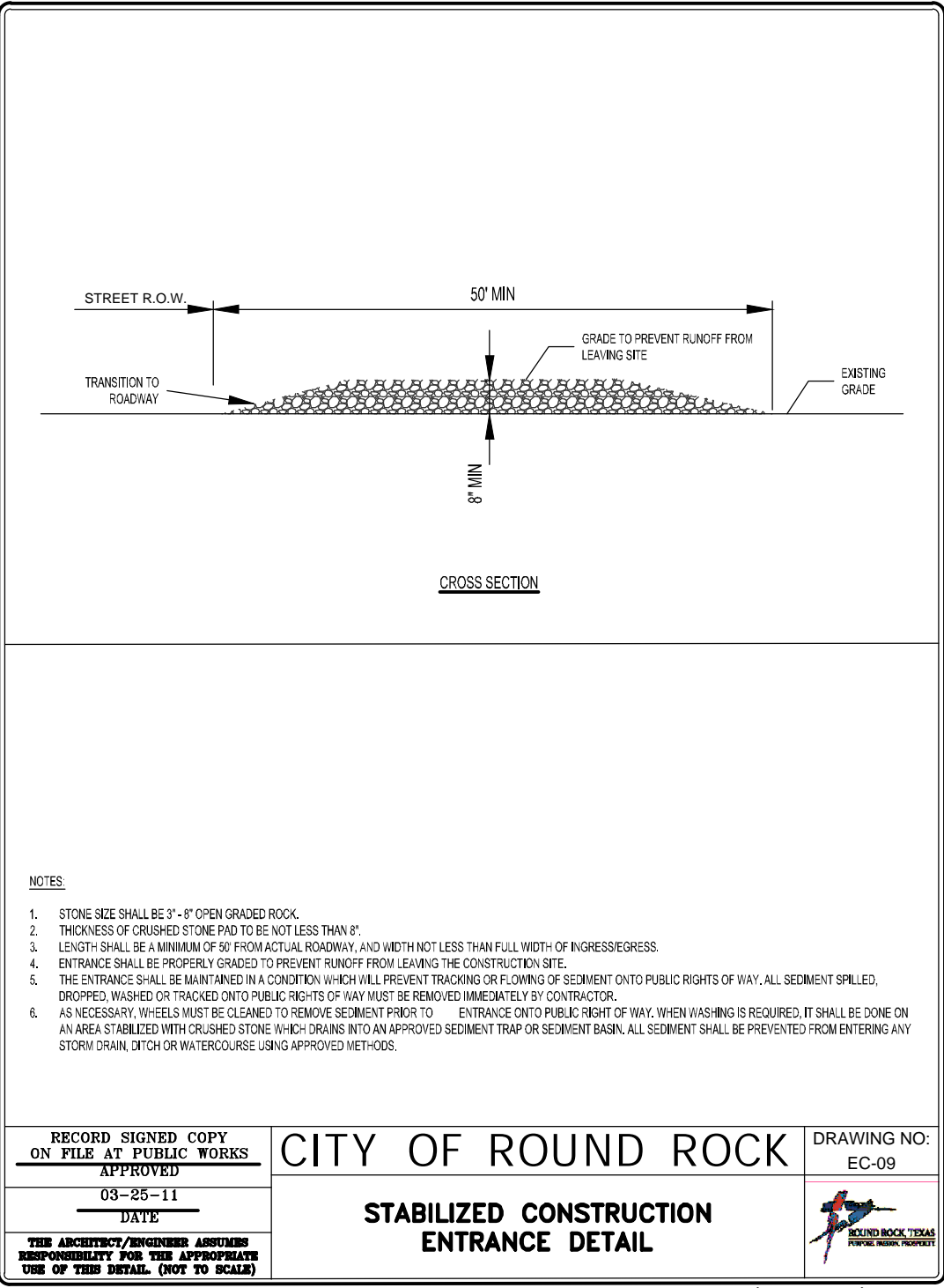
SCE STABILIZED CONSTRUCTION ENTRANCE

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



DESIGNED BY: SPC	DRAFTED BY: IDS
DATE	
REVISION	
Carlson, Brigrance & Doering, Inc. Civil Engineering ♦ Surveying FIRM ID #E3791 Main Office: 12129 RR (20) N. Ste. 600 Austin, Texas 78750 Phone No. (512) 286-5160 Fax No. (512) 286-5165	
EROSION CONTROL PLAN	
SADDLEBACK AT SANTA RITA RANCH	
AMENITY CENTER	
GRADING, DRAINAGE, AND UTILITIES	
7-1-2024	
DATE	
JOB NUMBER	
5618	
SHEET	
5 OF 32	
SHEET NO.	
5	



DESIGNED BY: SPC	DRAFTED BY: IDS
DATE	
REVISION	
Carlson, Brigrance & Doering, Inc. Civil Engineering & Surveying FIRM ID #E3791 Main Office: 5501 West Williams Canyon Dr., Austin, Texas 78750 North Office: 12129 RR (20) N. St. 600 Austin, Texas 78750 Phone No. (512) 286-5160 Fax No. (512) 286-5165	
SHEET NAME: EROSION CONTROL NOTES AND DETAILS	
JOB NAME: SADDLEBACK AT SANTA RITA RANCH AMENITY CENTER	
PROJECT: GRADING, DRAINAGE, AND UTILITIES	
 STEVEN P. CATES 93648 PROFESSIONAL ENGINEER STATE OF TEXAS Carlson, Brigrance & Doering, Inc. ID# F3791 7-1-2024	
DATE: JUNE 2024	
JOB NUMBER: 5618	
SHEET: 6 OF 32	
SHEET NO. 6	

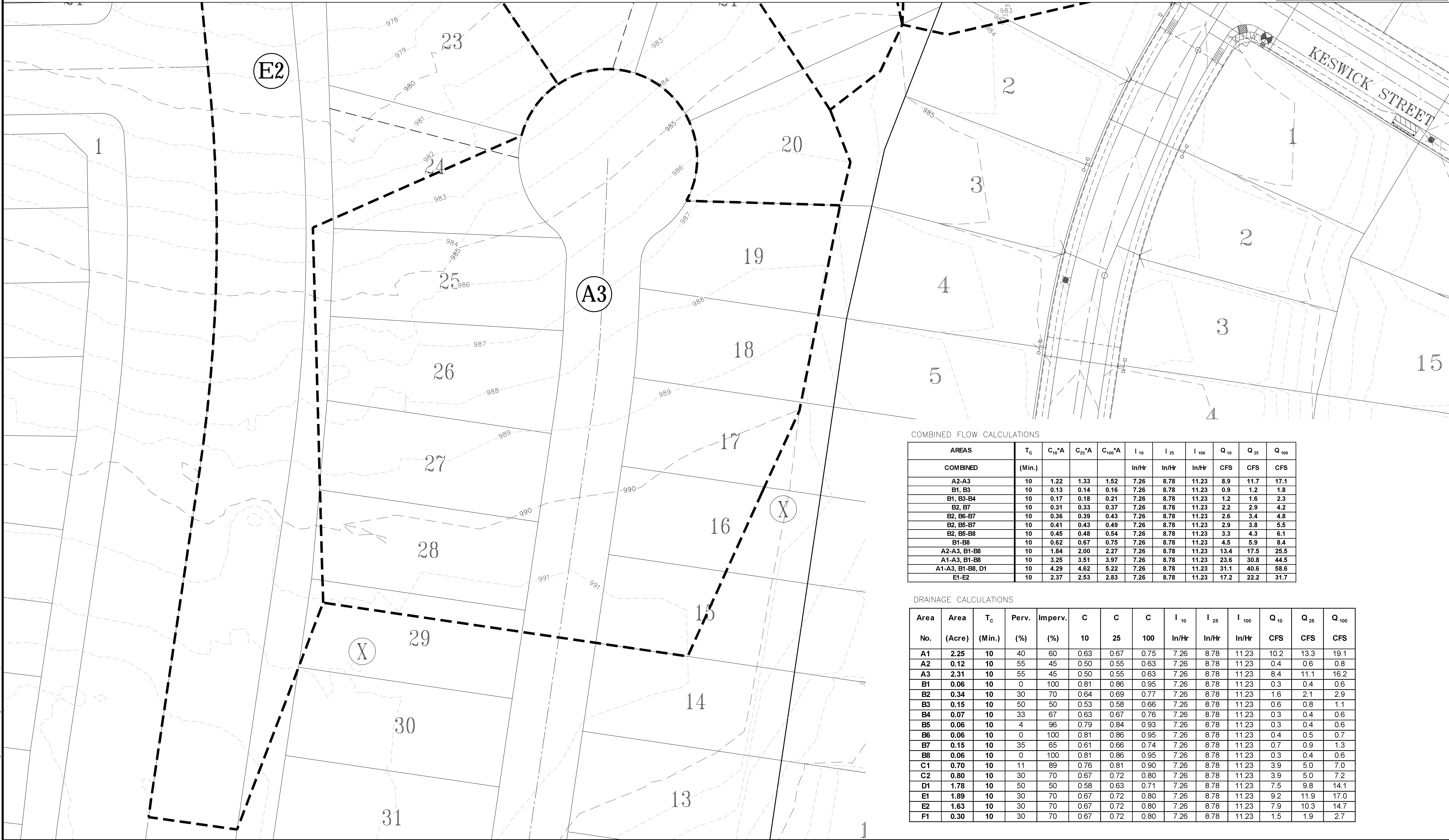
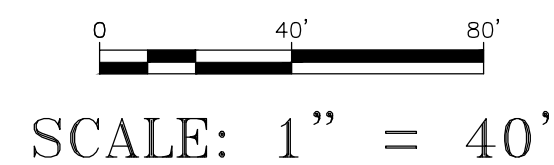


LEGEND

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




DESIGNED BY: SPC	DRAFTED BY: IDS
DATE	
REVISION	
Carlson, Brigrance & Doering, Inc. Civil Engineering ♦ Surveying FIRM ID #E3791 Main Office: 5501 West William Canyon Dr., Austin, Texas 78750 North Office: 12129 RR (20) N. Ste. 600, Austin, Texas 78750 Phone No. (512) 286-5160 Fax No. (512) 286-5165	
SHEET NAME: DRAINAGE PLAN (1 OF 2)	
JOB NAME: SADDLEBACK AT SANTA RITA RANCH AMENITY CENTER	
PROJECT: GRADING, DRAINAGE, AND UTILITIES	
DATE: JUNE 2024	
JOB NUMBER: 5618	
SHEET: 18 OF 32	
SHEET NO.: 18	

FILE PATH: J:\AC\SD\5618\ANG\5618-DRAINAGE.dwg - Jun 21, 2024 - 3:42pm

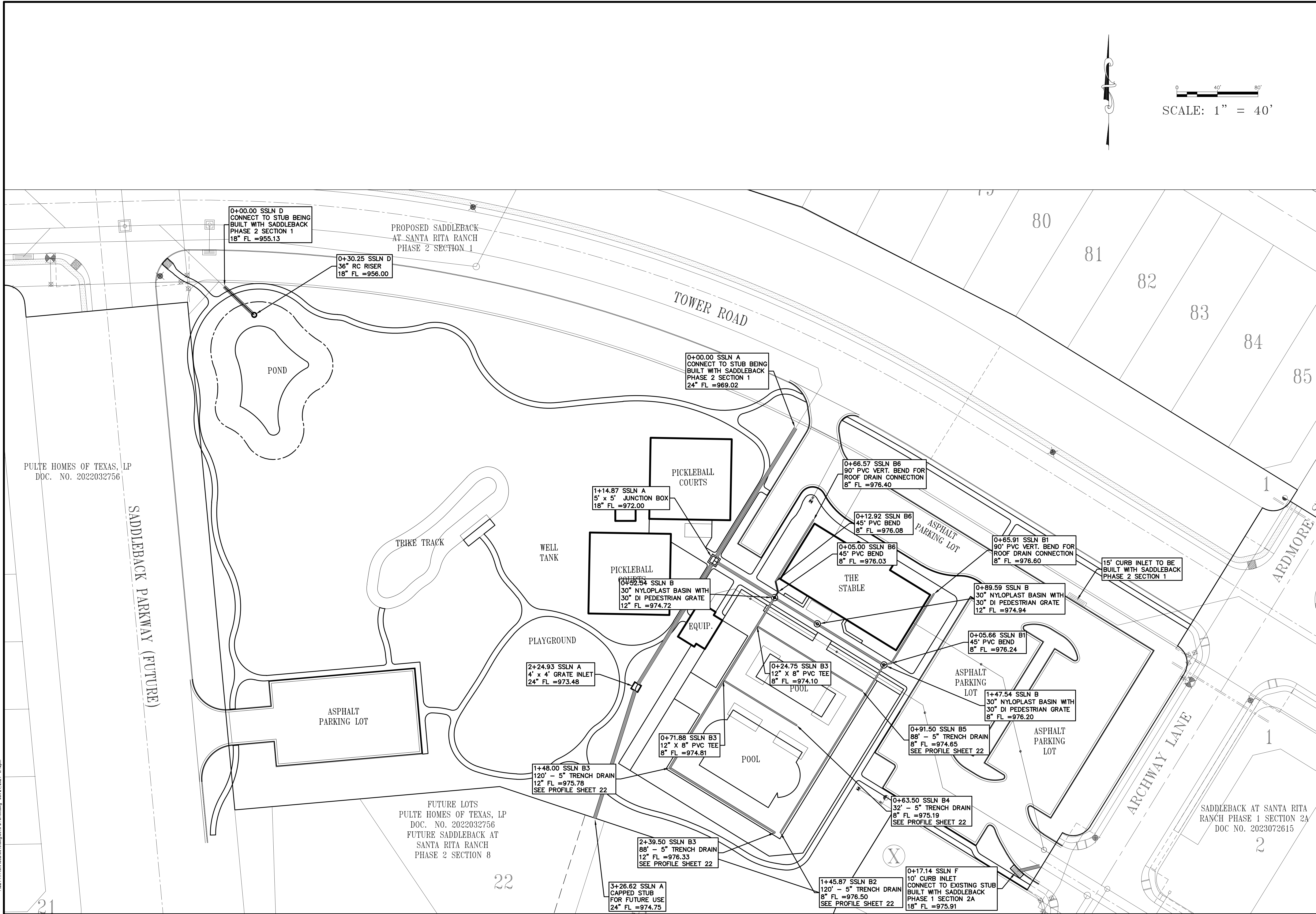


AREAS	T _C	C ₁₀ *A	C ₂₅ *A	C ₁₀₀ *A	I ₁₀	I ₂₅	I ₁₀₀	Q ₁₀	Q ₂₅	Q ₁₀₀
COMBINED	(Min.)				ln/Hr	ln/Hr	ln/Hr	CFS	CFS	CFS
A2-A3	10	1.22	1.33	1.52	7.26	8.78	11.23	8.9	11.7	17.1
B1, B3	10	0.13	0.14	0.16	7.26	8.78	11.23	0.9	1.2	1.8
B1, B3-B4	10	0.17	0.18	0.21	7.26	8.78	11.23	1.2	1.6	2.3
B2, B7	10	0.31	0.33	0.37	7.26	8.78	11.23	2.2	2.9	4.2
B2, B6-B7	10	0.36	0.39	0.43	7.26	8.78	11.23	2.6	3.4	4.8
B2, B5-B7	10	0.41	0.43	0.49	7.26	8.78	11.23	2.9	3.8	5.5
B2, B5-B8	10	0.45	0.48	0.54	7.26	8.78	11.23	3.3	4.3	6.1
B1-B8	10	0.62	0.67	0.75	7.26	8.78	11.23	4.5	5.9	8.4
A2-A3, B1-B8	10	1.84	2.00	2.27	7.26	8.78	11.23	13.4	17.5	25.5
A1-A3, B1-B8	10	3.25	3.51	3.97	7.26	8.78	11.23	23.6	30.8	44.5
A1-A3, B1-B8, D1	10	4.29	4.62	5.22	7.26	8.78	11.23	31.1	40.6	58.6
E1-E2	10	2.37	2.53	2.83	7.26	8.78	11.23	17.2	22.2	31.7

Area	Area	T _c	Perv.	Imperv.	C	C	C	I ₁₀	I ₂₅	I ₁₀₀	Q ₁₀	Q ₂₅	Q ₁₀₀
No.	(Acre)	(Min.)	(%)	(%)	10	25	100	In/Hr	In/Hr	In/Hr	CFS	CFS	CFS
A1	2.25	10	40	60	0.63	0.67	0.75	7.26	8.78	11.23	10.2	13.3	19.1
A2	0.12	10	55	45	0.50	0.55	0.63	7.26	8.78	11.23	0.4	0.6	0.8
A3	2.31	10	55	45	0.50	0.55	0.63	7.26	8.78	11.23	8.4	11.1	16.2
B1	0.06	10	0	100	0.81	0.86	0.95	7.26	8.78	11.23	0.3	0.4	0.6
B2	0.34	10	30	70	0.64	0.69	0.77	7.26	8.78	11.23	1.6	2.1	2.9
B3	0.15	10	50	50	0.53	0.58	0.66	7.26	8.78	11.23	0.6	0.8	1.1
B4	0.07	10	33	67	0.63	0.67	0.76	7.26	8.78	11.23	0.3	0.4	0.6
B5	0.06	10	4	96	0.79	0.84	0.93	7.26	8.78	11.23	0.3	0.4	0.6
B6	0.06	10	0	100	0.81	0.86	0.95	7.26	8.78	11.23	0.4	0.5	0.7
B7	0.15	10	35	65	0.61	0.66	0.74	7.26	8.78	11.23	0.7	0.9	1.3
B8	0.06	10	0	100	0.81	0.86	0.95	7.26	8.78	11.23	0.3	0.4	0.6
C1	0.70	10	11	89	0.76	0.81	0.90	7.26	8.78	11.23	3.9	5.0	7.0
C2	0.80	10	30	70	0.67	0.72	0.80	7.26	8.78	11.23	3.9	5.0	7.2
D1	1.78	10	50	50	0.58	0.63	0.71	7.26	8.78	11.23	7.5	9.8	14.1
E1	1.89	10	30	70	0.67	0.72	0.80	7.26	8.78	11.23	9.2	11.9	17.0
E2	1.63	10	30	70	0.67	0.72	0.80	7.26	8.78	11.23	7.9	10.3	14.7
F1	0.30	10	30	70	0.67	0.72	0.80	7.26	8.78	11.23	1.5	1.9	2.7

DESIGNED BY:	SPC	DATE	REVISION	DRAFTED BY:	IDS
			Carlson, Brigrance & Doering, Inc. Civil Engineering • Surveying FIRM ID #F3791 Main Office: North Office 5501 West Alamo Station Dr. 12129 RR 620 N. Apt. 660 Atlanta, Texas 76749 Atlanta, Texas 76750 Phone No. (512) 280-5160 Fax No. (512) 280-5165		
DRAINAGE PLAN (2 OF 2)			SADDLEBACK AT SANTA RITA RANCH AMENITY CENTER		
PROJECT:			GRADING, DRAINAGE, AND UTILITIES		
					
CARLSON, BRIGRANCE & DOERING, INC. ID# F3791  7-1-2024					
DATE: JUNE 2024					
JOB NUMBER: 5618					
SHEET: 19 OF 32					
SHEET NO. 19					

FILE PATH: J:\ACCS\0518\ANGS18-8-STORM.dwg - Jun 21, 2024 - 3:42pm



PULTE HOMES OF TEXAS, LP
DOC. NO. 2022032756

SADDLEBACK PARKWAY (FUTURE)

PROPOSED SADDLEBACK
AT SANTA RITA RANCH
PHASE 2 SECTION 1

TOWER ROAD

0+00.00 SSL A
CONNECT TO STUB BEING
BUILT WITH SADDLEBACK
PHASE 2 SECTION 1
24" FL = 969.02

1+14.87 SSL A
5' x 5' JUNCTION BOX
18" FL = 972.00

PICKLEBALL
COURTS
0+42.54 SSL B
30" NYLOPLAST BASIN WITH
30" DI PEDESTRIAN GRATE
12" FL = 974.72

2+24.93 SSL A
4' x 4' GRATE INLET
24" FL = 973.48

PLAYGROUND

1+48.00 SSL B3
120' - 5" TRENCH DRAIN
12" FL = 975.78
SEE PROFILE SHEET 22

FUTURE LOTS
PULTE HOMES OF TEXAS, LP
DOC. NO. 2022032756
FUTURE SADDLEBACK AT
SANTA RITA RANCH
PHASE 2 SECTION 8

2+39.50 SSL B3
88' - 5" TRENCH DRAIN
12" FL = 976.33
SEE PROFILE SHEET 22

3+26.62 SSL A
CAPPED STUB
FOR FUTURE USE
24" FL = 974.75

PICKLEBALL
COURTS

EQUIP.

POOL

0+24.75 SSL B3
12" x 8" PVC TEE
8" FL = 974.10

0+71.88 SSL B3
12" x 8" PVC TEE
8" FL = 974.81

POOL

0+66.57 SSL B6
90" PVC VERT. BEND FOR
ROOF DRAIN CONNECTION
8" FL = 976.40

0+12.92 SSL B6
45" PVC BEND
8" FL = 976.08

0+05.00 SSL B6
45" PVC BEND
8" FL = 976.03

THE STABLE

0+65.91 SSL B1
90" PVC VERT. BEND FOR
ROOF DRAIN CONNECTION
8" FL = 976.60

0+89.59 SSL B
30" NYLOPLAST BASIN WITH
30" DI PEDESTRIAN GRATE
12" FL = 974.94

0+05.66 SSL B1
45" PVC BEND
8" FL = 976.24

1+47.54 SSL B
30" NYLOPLAST BASIN WITH
30" DI PEDESTRIAN GRATE
8" FL = 976.20

0+91.50 SSL B5
88' - 5" TRENCH DRAIN
8" FL = 974.65
SEE PROFILE SHEET 22

0+63.50 SSL B4
32' - 5" TRENCH DRAIN
8" FL = 975.19
SEE PROFILE SHEET 22

0+17.14 SSL F
10' CURB INLET
CONNECT TO EXISTING STUB
BUILT WITH SADDLEBACK
PHASE 1 SECTION 2A
18" FL = 975.91

1+45.87 SSL B2
120' - 5" TRENCH DRAIN
8" FL = 976.50
SEE PROFILE SHEET 22



0 40' 80'
SCALE: 1" = 40'

DESIGNED BY: SPC	DRAFTED BY: IDS
DATE	
REVISION	
SHEET NAME: OVERALL STORM SEWER PLAN	
JOB NAME: SADDLEBACK AT SANTA RITA RANCH AMENITY CENTER	
PROJECT: GRADING, DRAINAGE, AND UTILITIES	
DATE JUNE 2024	
JOB NUMBER 5618	
SHEET 20 OF 32	
SHEET NO. 20	

DESIGNED BY:
SPC

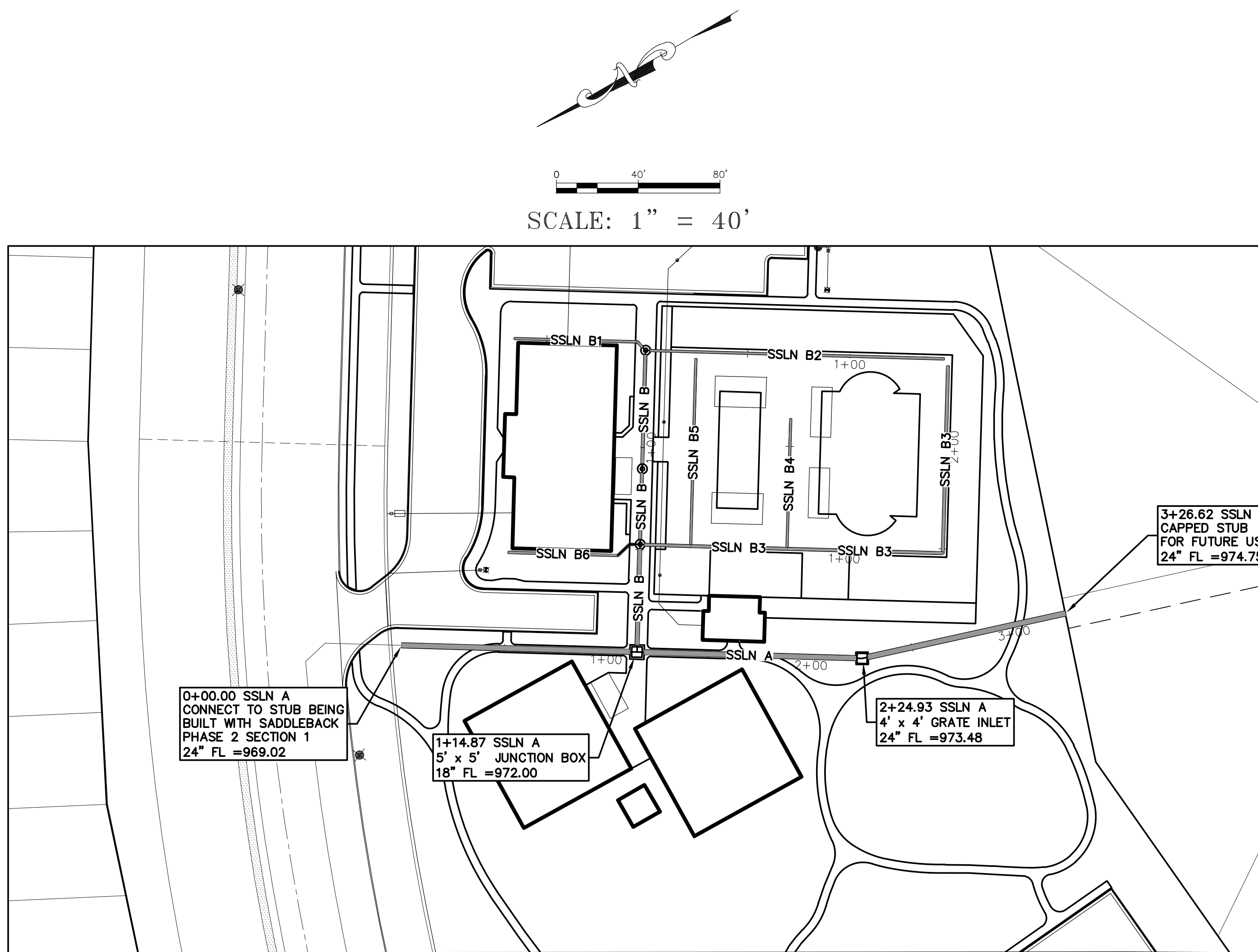
DRAFTED BY:
IDS

DATE

REVISION

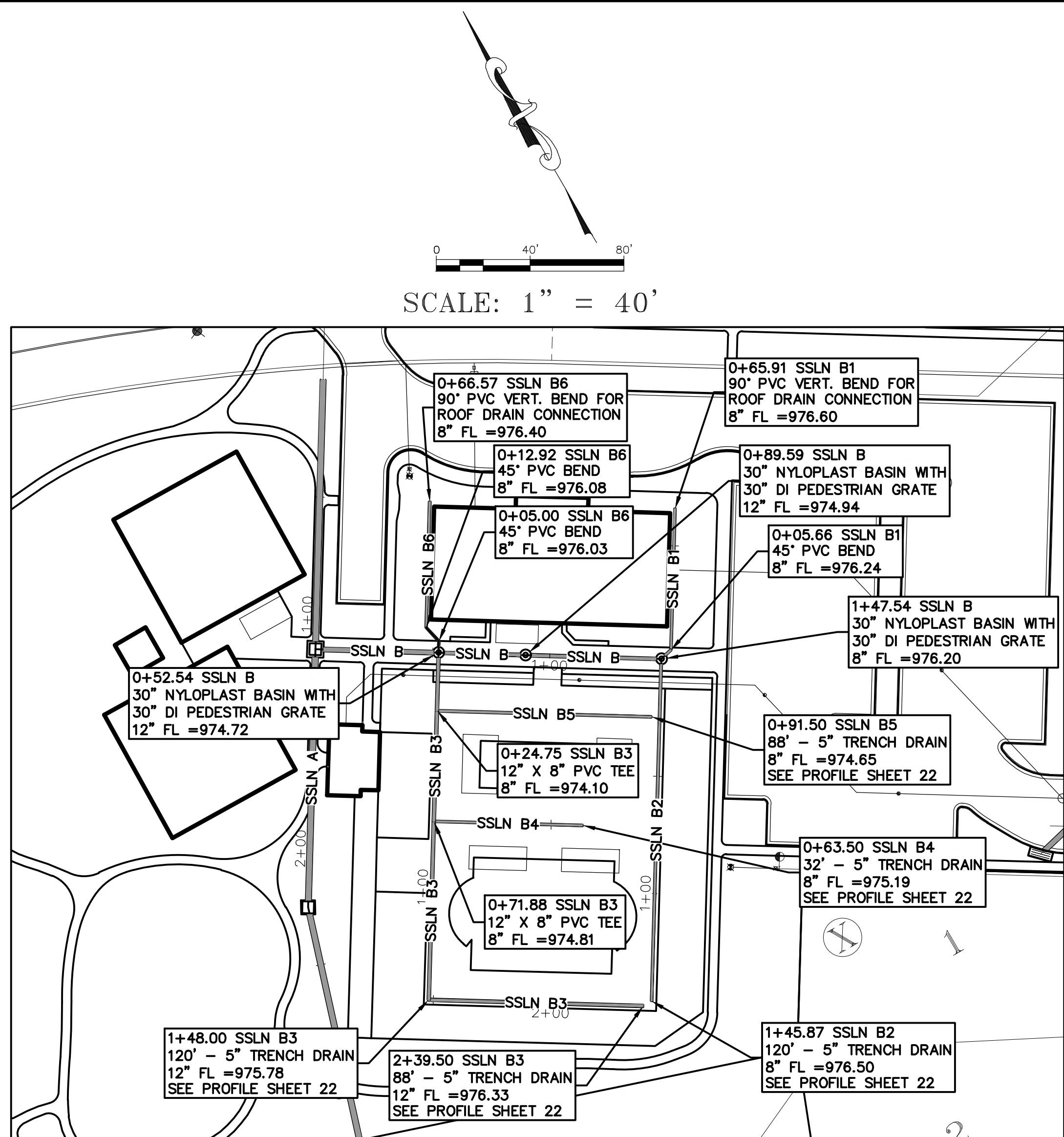
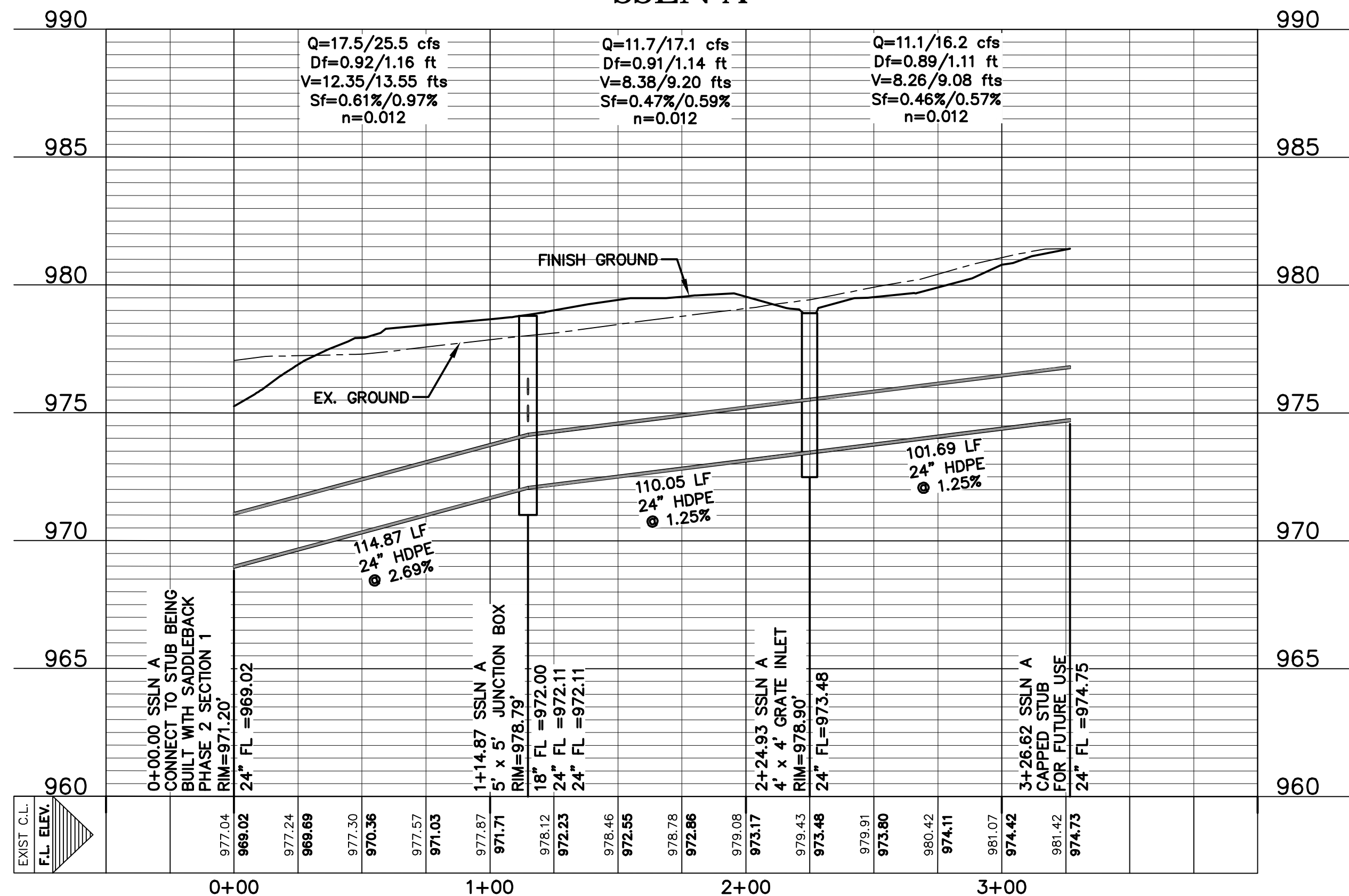
Carlson, Brigrance & Doering, Inc.
Civil Engineering & Surveying
FIRM ID #E3791
Main Office: 5501 West William Canyon Dr., Austin, Texas 78750
Austin Office: 12129 RK (20) N. Ste. 600, Austin, Texas 78750
Phone No. (512) 280-5160 Fax No. (512) 280-5165

FILE PATH: J:\ACCS\0518\Ang18\Storm.dwg - Jun 21, 2024 - 3:42pm



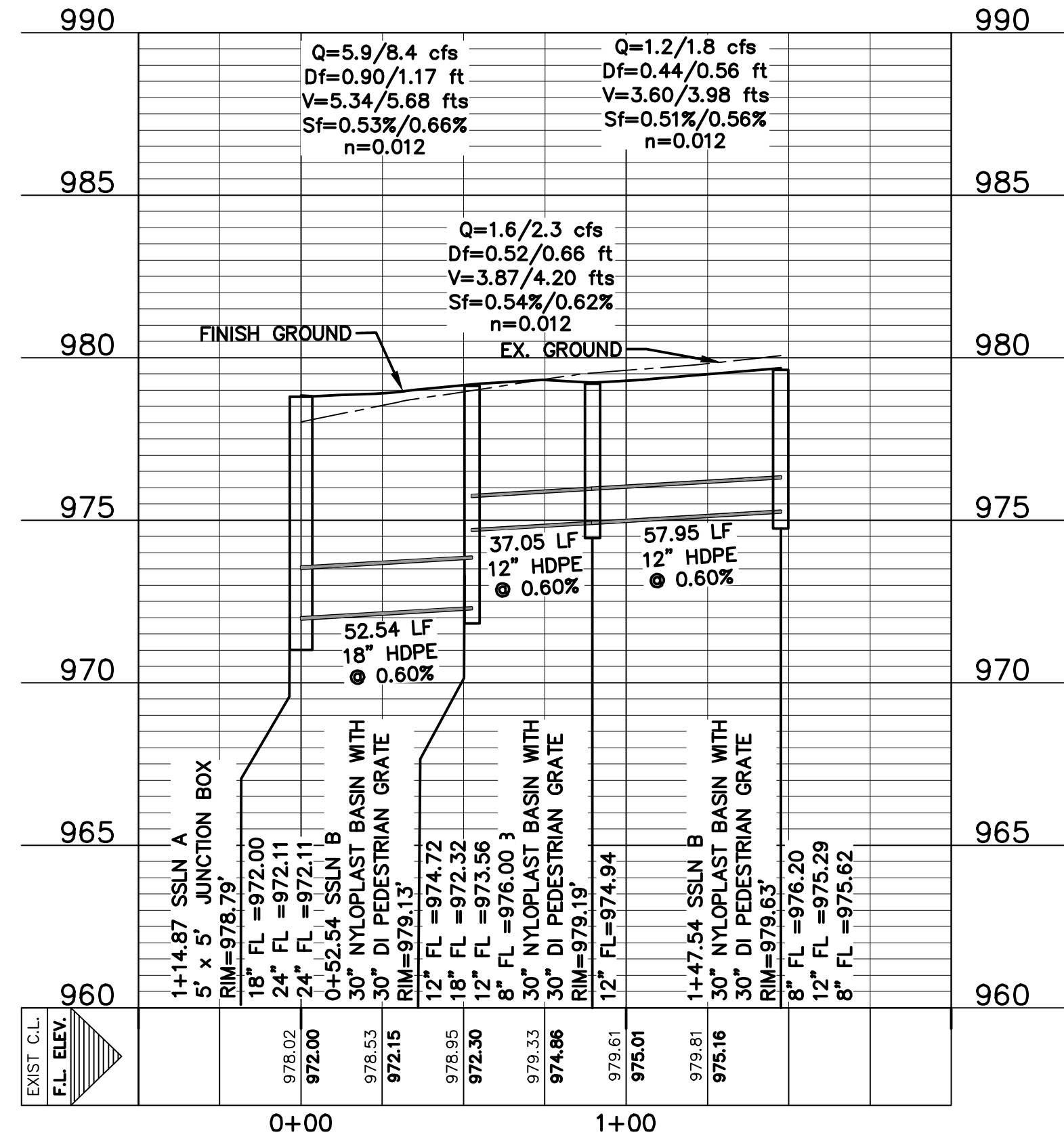
PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

SSLN A



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

SSLN B



DESIGNED BY: SPC	DRAFTED BY: JDS
DATE	
REVISION	
SHEET NAME: SSLN A AND SSLN B	
JOB NAME: SADDLEBACK AT SANTA RITA RANCH AMENITY CENTER	
PROJECT: GRADING, DRAINAGE, AND UTILITIES	
SHEET 21 OF 32	
SHEET NO. 21	

Carlson, Brigrance & Doering, Inc.
Civil Engineering ♦ Surveying

CD

FIRM ID #E3791
Main Office: 12129 RR (20) N. Ste. 600
Austin, Texas 78750
Phone No. (512) 286-5160 Fax No. (512) 286-5165

STATE OF TEXAS
STEVEN P. CATES
93648
PROFESSIONAL ENGINEER

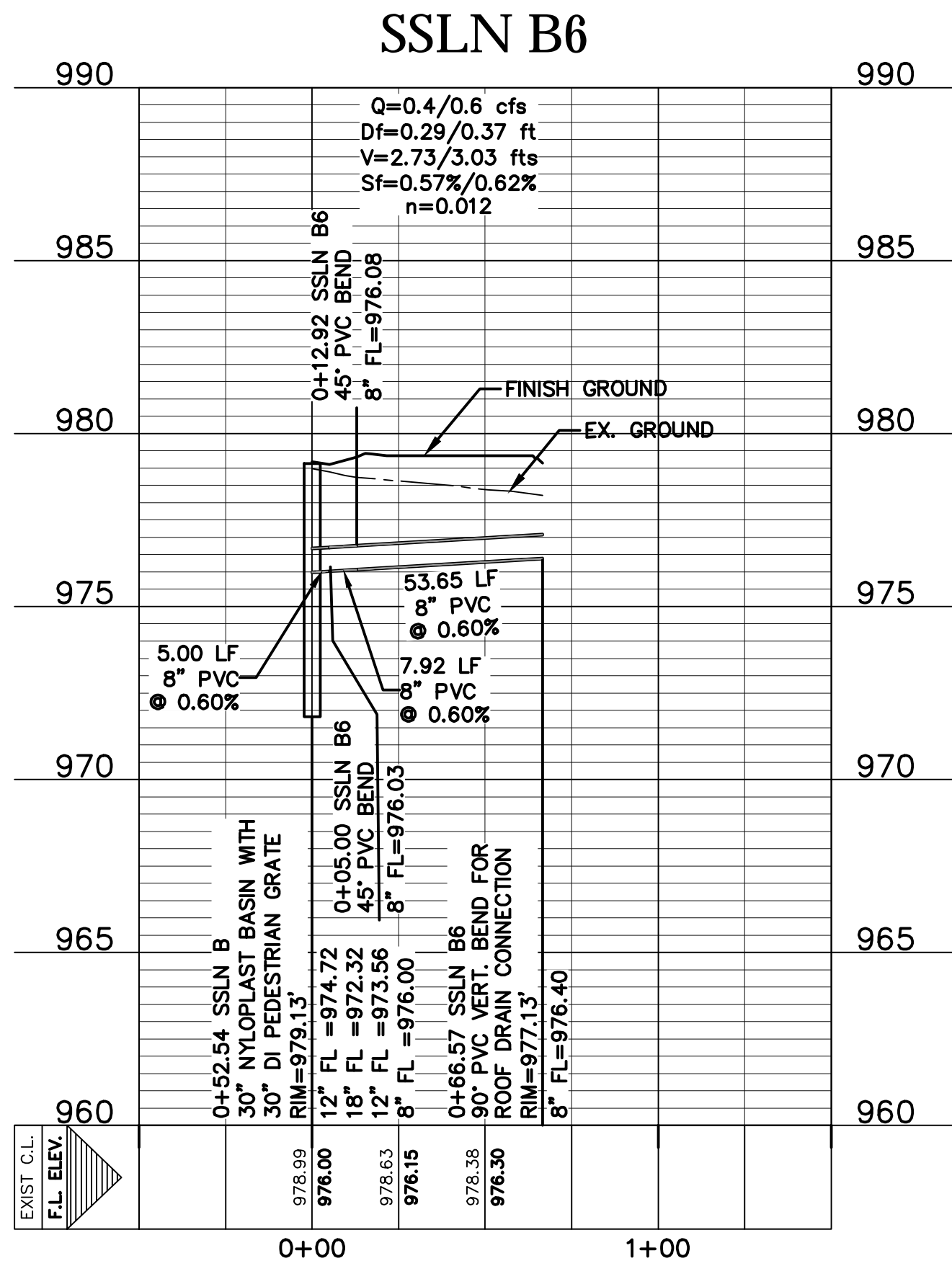
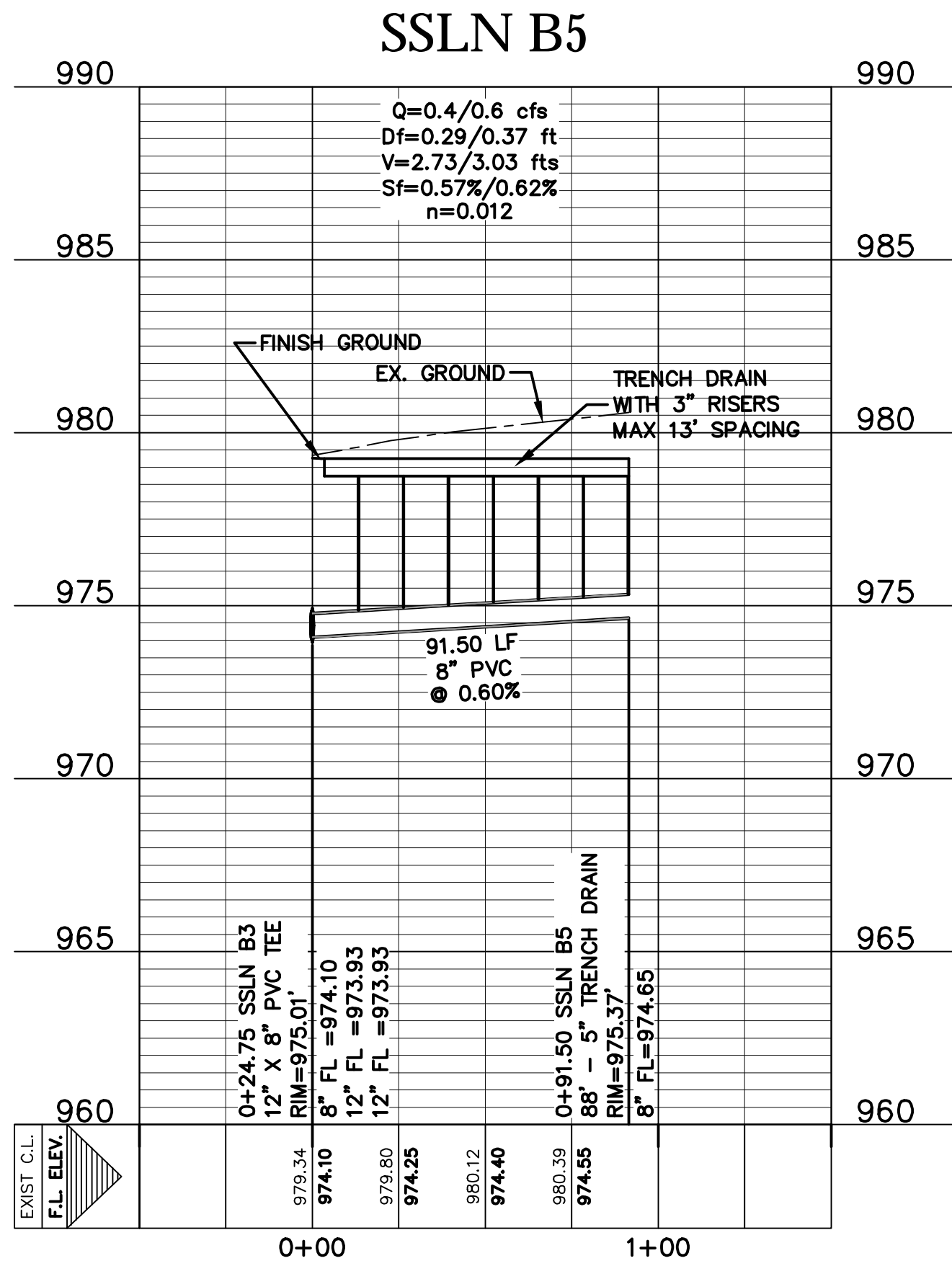
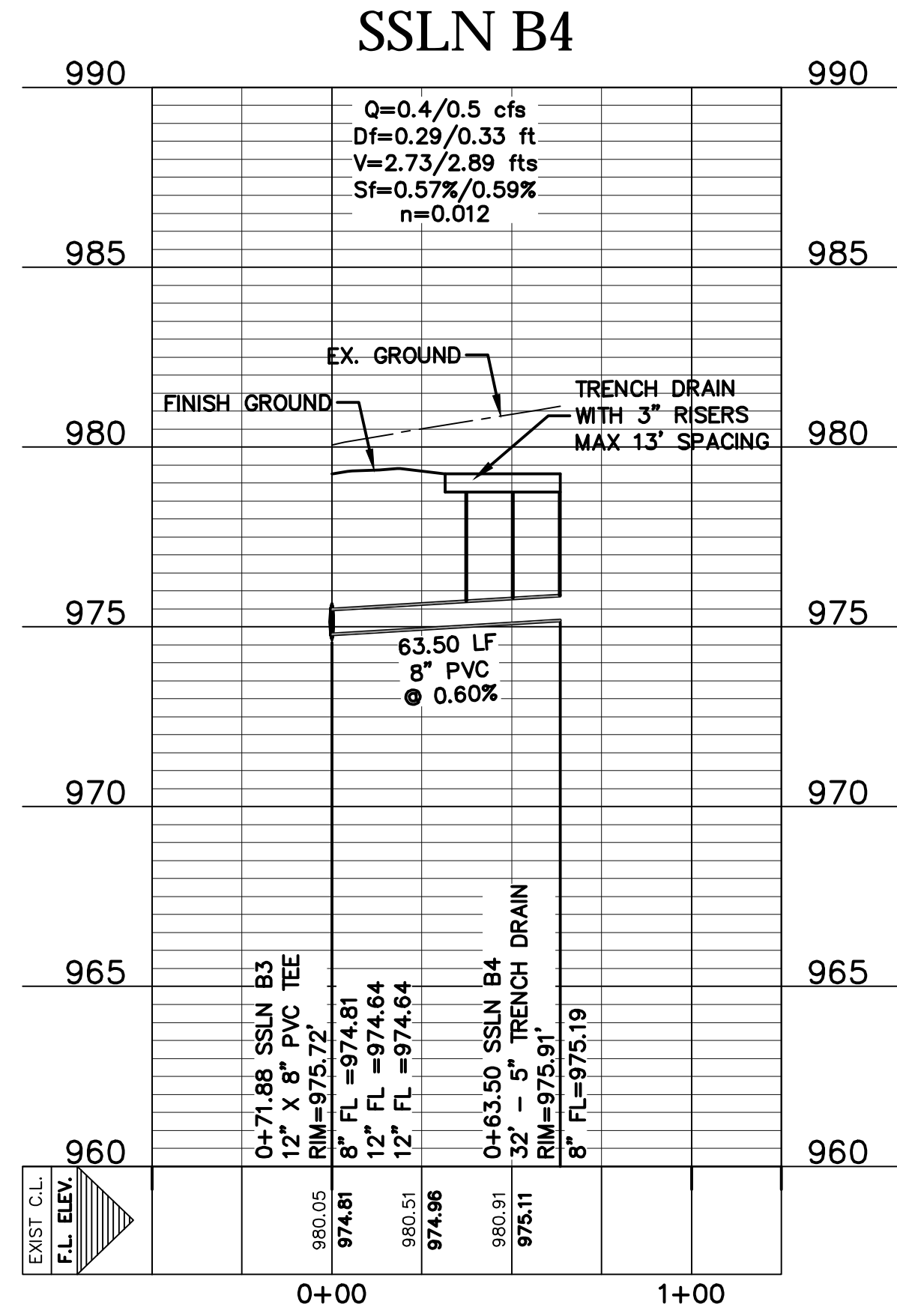
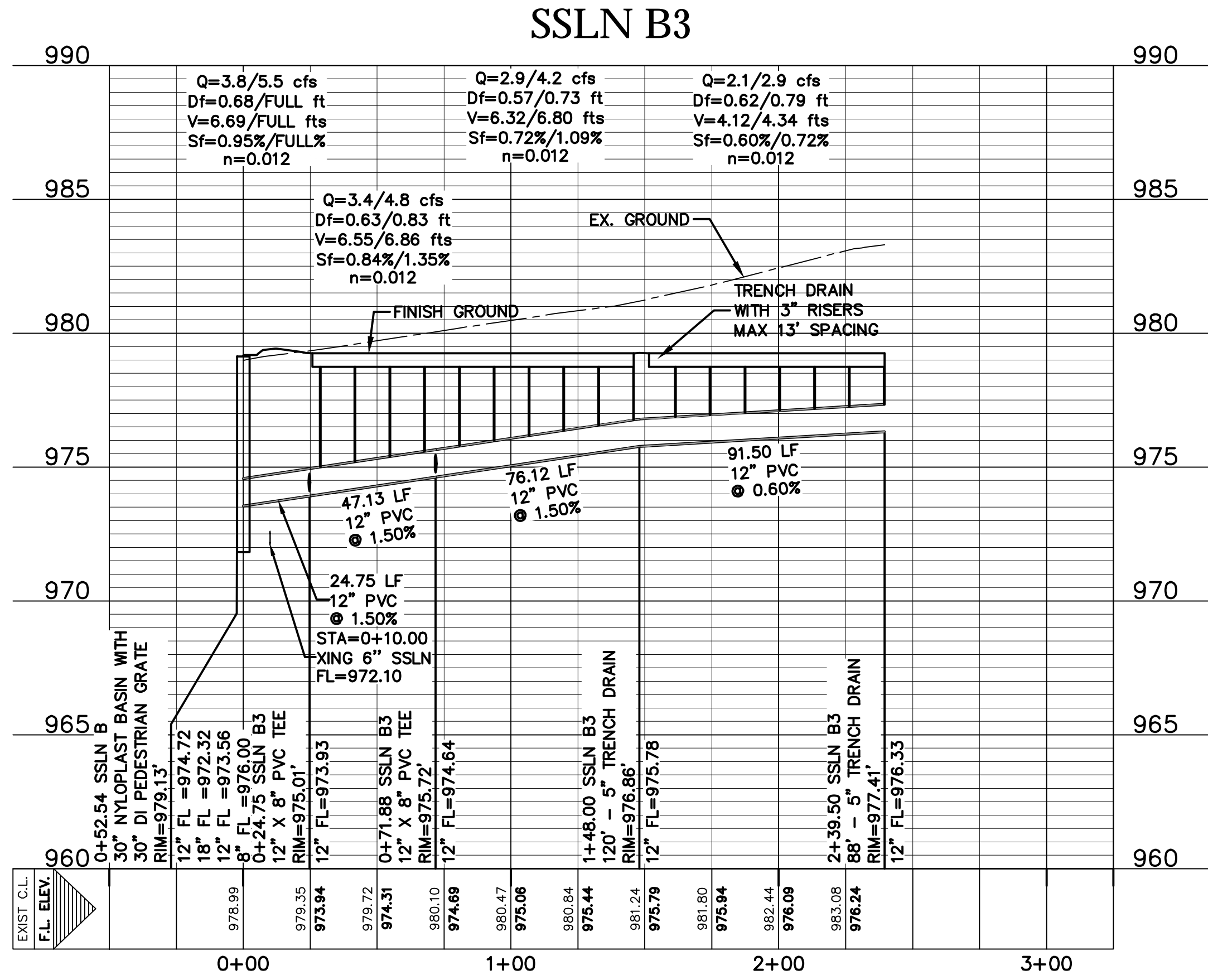
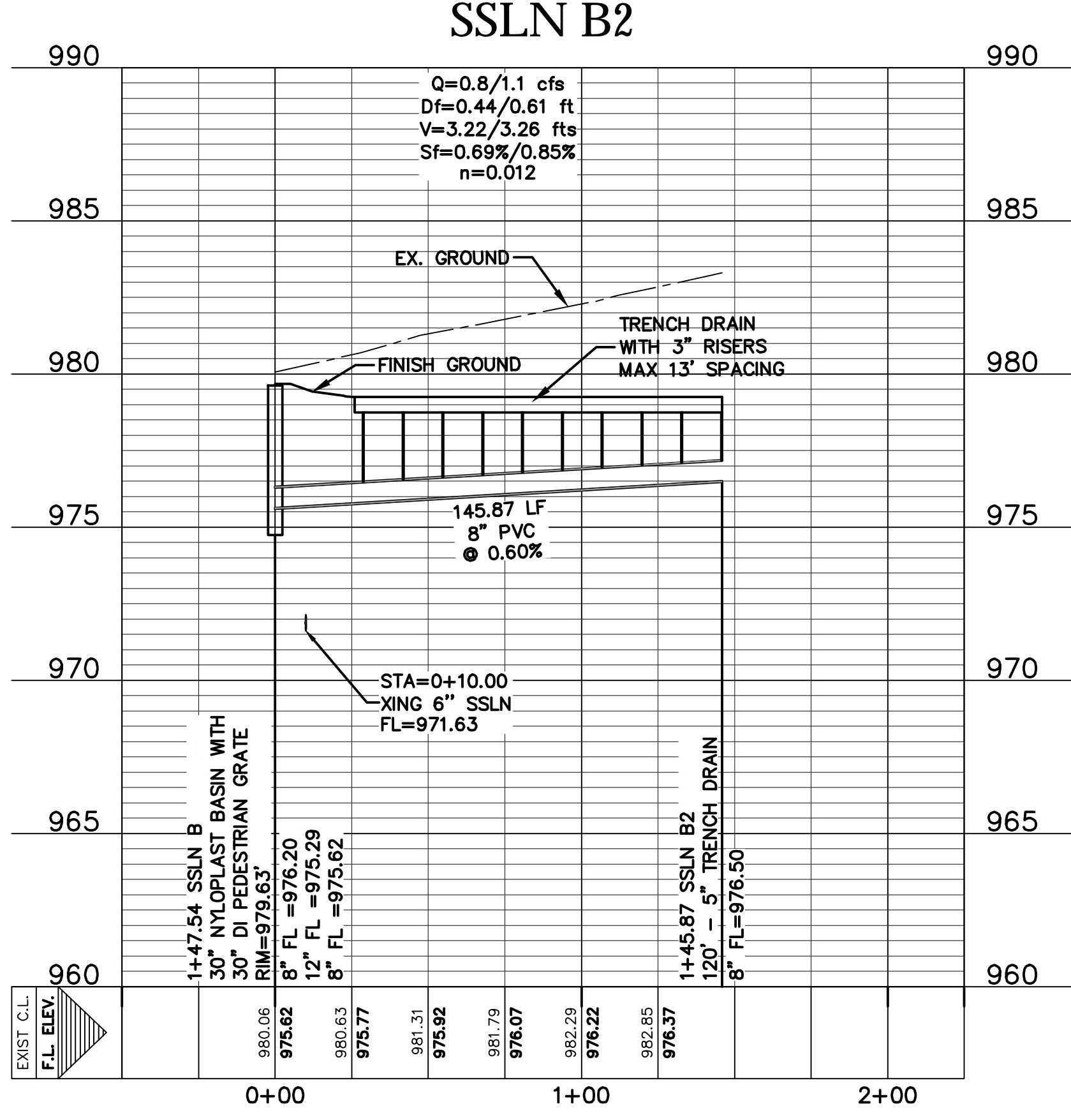
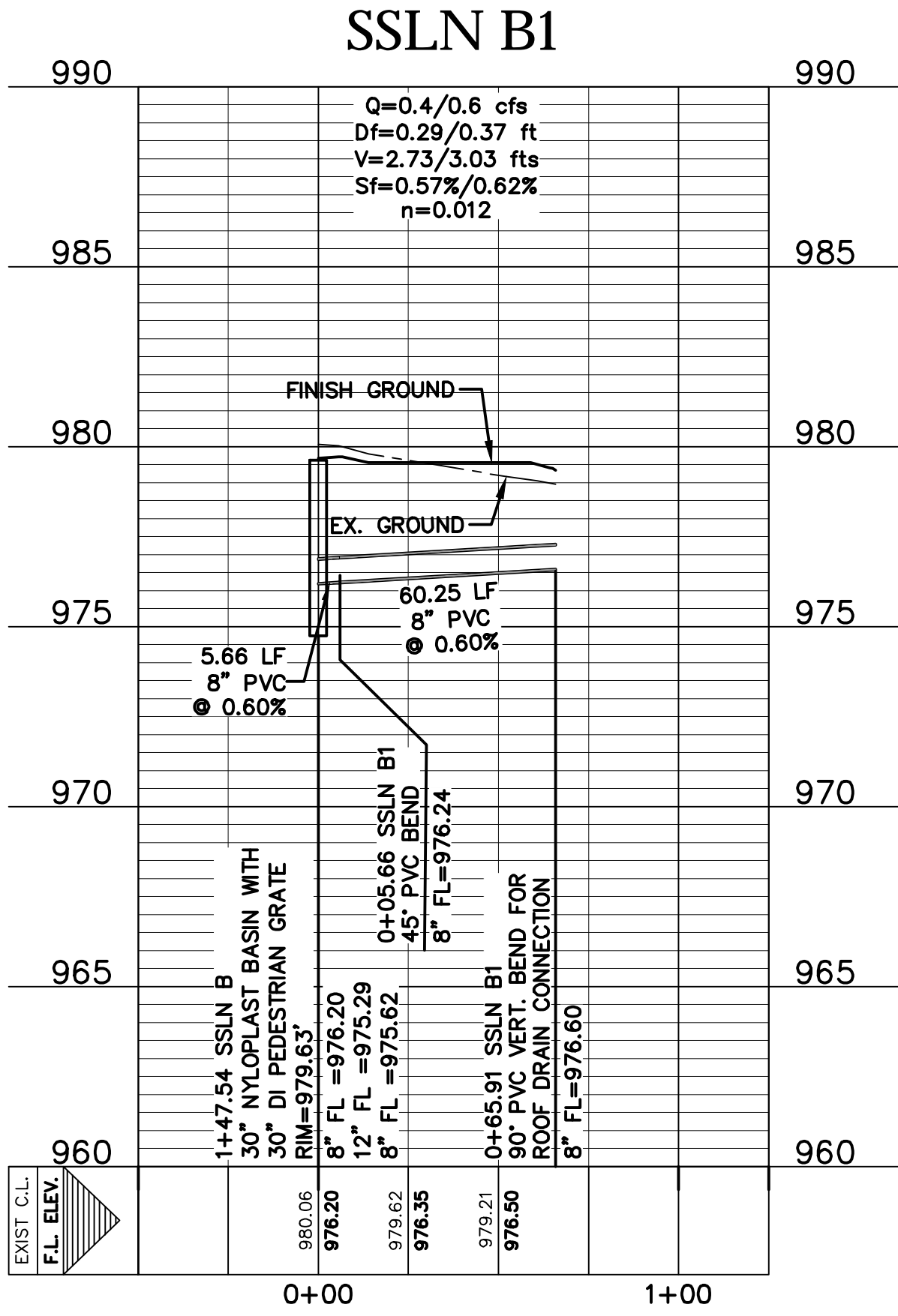
CARLSON, BRIGRANCE & DOERING, INC.
ID# F3791

7-1-2024

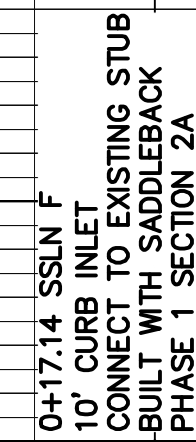
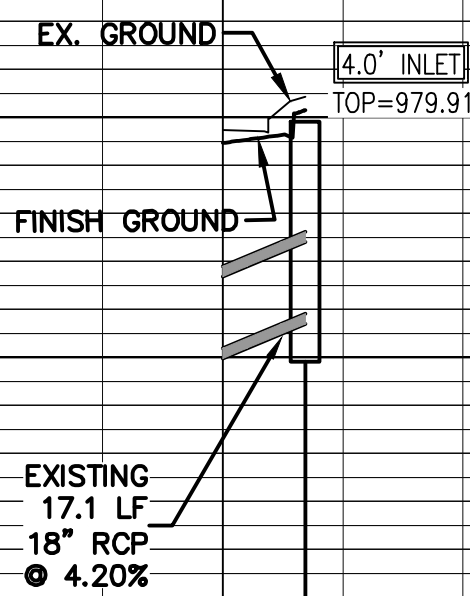
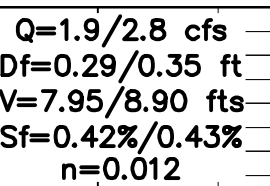
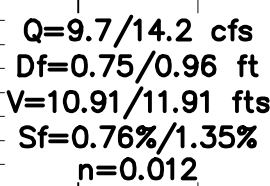
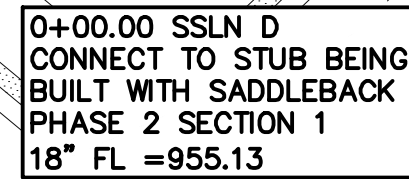
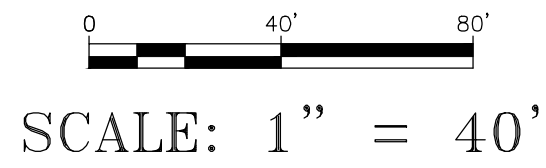
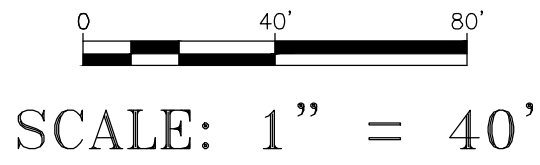
DATE: JUNE 2024
JOB NUMBER: 5618

FILE PATH: J:\ACAD\SSB\SSB18-STORM.DWG - Jun 21, 2024 - 3:42pm

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



DESIGNED BY: SPC	DRAFTED BY: IDS
DATE	
REVISION	
SHEET NAME: SSLN B LATERALS	
JOB NAME: SADDLEBACK AT SANTA RITA RANCH AMENITY CENTER	
PROJECT: GRADING, DRAINAGE, AND UTILITIES	
STATE OF TEXAS STEVEN P. CATES 93648 LICENSED PROFESSIONAL ENGINEER CARLSON, BRIGANCE & DOERING, INC. IDA F3791 7-1-2024	
DATE JUNE 2024	
JOB NUMBER 5618	
SHEET 22 OF 32	
SHEET NO. 22	



Carlson, Brigrance & Doering, Inc.
Civil Engineering ♦ Surveying
FIRM ID #F3791

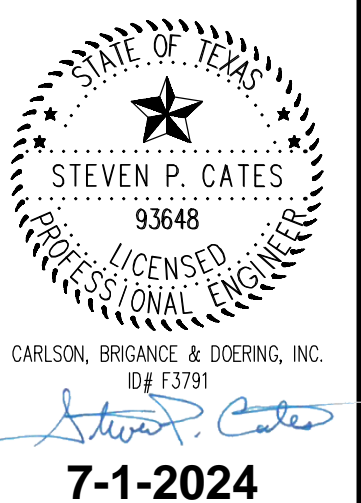
C B D

Main Office
5501 West William Canyon Dr.
Austin, Texas 78750

North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750

Phone No. (512) 280-5160 Fax No. (512) 280-5165

SHEET NAME:	SSLN D AND SSLN F
JOB NAME:	SADDLEBACK AT SANTA RITA RANCH AMENITY CENTER
PROJECT:	GRADING, DRAINAGE, AND UTILITIES



DATE	JUNE 2024		
DOB NUMBER	5618		
SHEET	23	OF	32
SHEET NO.	23		

IMPERMEABLE LINER NOTES

IMPERMEABLE LINERS SHOULD BE USED FOR WATER QUALITY BASINS (RETENTION, EXTENDED DETENTION, SAND FILTERS, WET PONDS, CONSTRUCTED WETLANDS, AND BATCH DETENTION PONDS) LOCATED OVER THE RECHARGE ZONE AND IN AREAS WITH THE POTENTIAL FOR GROUNDWATER CONTAMINATION. IMPERMEABLE LINERS MAY BE CLAY, CONCRETE OR GEOMEMBRANE. IF GEOMEMBRANE IS USED, SUITABLE GEOTEXTILE FABRIC SHOULD BE PLACED ON THE TOP AND BOTTOM OF THE MEMBRANE FOR PUNCTURE PROTECTION AND THE LINERS COVERED WITH A MINIMUM OF 6 INCHES OF COMPACTED TOPSOIL. THE TOPSOIL SHOULD BE STABILIZED WITH APPROPRIATE VEGETATION. CLAY LINERS SHOULD MEET THE SPECIFICATIONS IN TABLE 3-6 AND HAVE A MINIMUM THICKNESS OF 12 INCHES.

TABLE 3-6 CLAY LINER SPECIFICATIONS (COA, 2004)			
PROPERTY	TEST METHOD	UNIT	SPECIFICATION (MIN.)
PERMEABILITY	ASTM D-2434	%	1×10^{-6}
PLASTICITY INDEX OF CLAY	ASTM D-423 & D-424	%	NOT LESS THAN 15
LIQUID LIMIT OF CLAY	ASTM D-2216	%	NOT LESS THAN 30
CLAY PARTICLES PASSING	ASTM D-422	%	NOT LESS THAN 30
CLAY COMPACTION	ASTM D-2216	%	95% OF STANDARD PROCTOR DENSITY

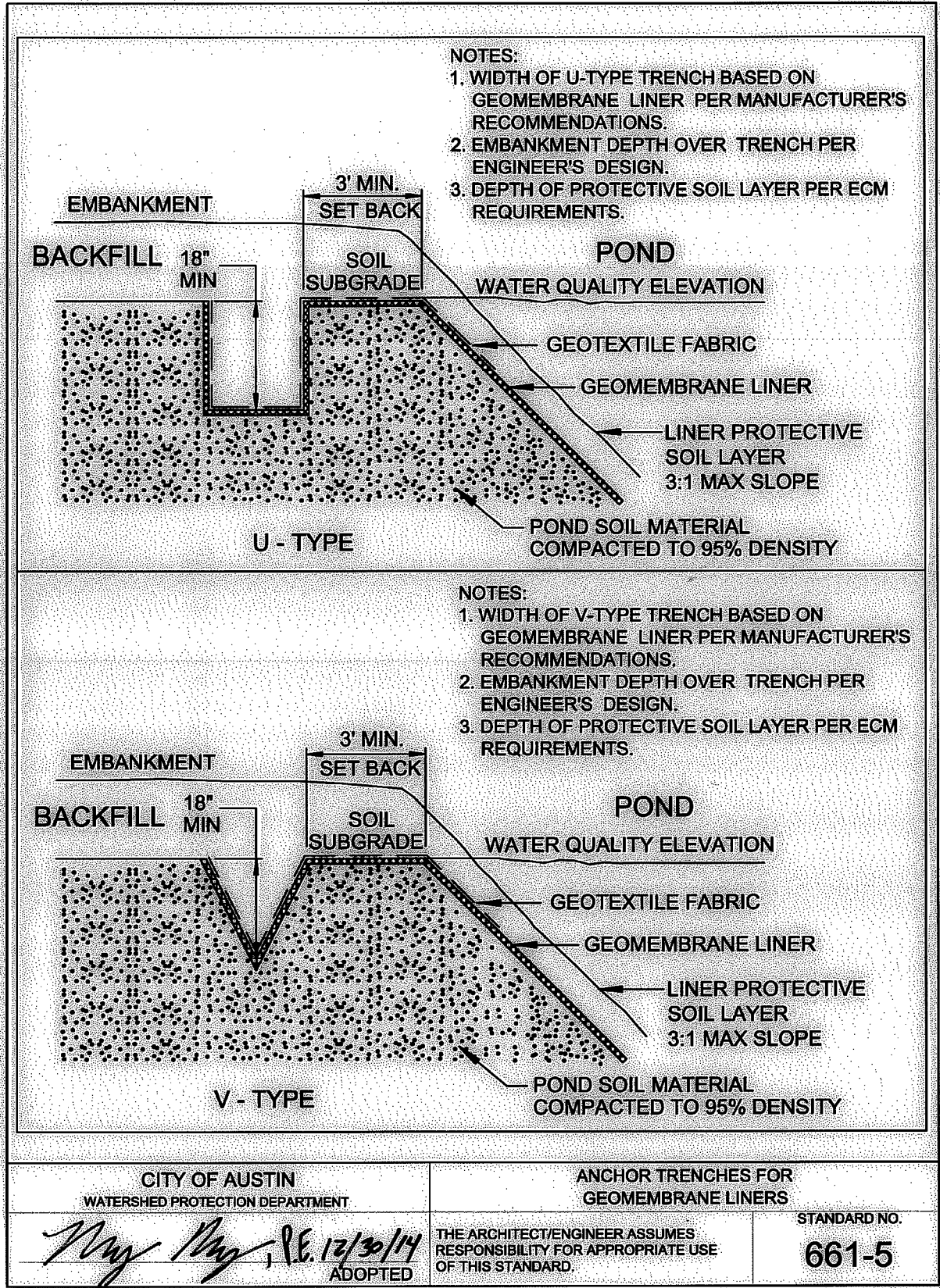
IF A GEOMEMBRANE LINER IS USED IT SHOULD HAVE A MINIMUM THICKNESS OF 30 MILS AND BE ULTRAVIOLET RESISTANT. THE GEOTEXTILE FABRIC (FOR PROTECTION OF GEOMEMBRANE) SHOULD BE NONWOVEN GEOTEXTILE FABRIC AND MEET THE SPECIFICATIONS IN TABLE 3-7.

TABLE 3-7 GEOTEXTILE FABRIC SPECIFICATIONS (COA, 2004)			
PROPERTY	TEST METHOD	UNIT	SPECIFICATION (MIN.)
UNIT WEIGHT		OZ/YD ²	8
FILTRATION RATE		IN/SEC	0.0800
PUNCTURE STRENGTH	ASTM D-751*	lb	125
MULLEN BURST STRENGTH	ASTM-D751	psi	400
TENSILE STRENGTH	ASTM D-1682	lb	200
EQUIV. OPENING SIZE	US STANDARD SIEVE	No.	80
	*MODIFIED		

PROTECTIVE SOIL LAYER NOTES

THE WET AND BATCH DETENTION PONDS WILL BE CONSTRUCTED WITH A MINIMUM OF 12" OF A PROTECTION SOIL LAYER ABOVE THE SELECTED IMPERMEABLE LINER SO THAT PLANTINGS CAN BE PROPERLY INSTALLED ABOVE THE LINER AND LINER INTEGRITY CAN BE MAINTAINED.

MATERIAL PLACED OVER LINER TO CONSIST OF SOIL THAT CLASSIFIES PER USDA STANDARDS AS A SANDY CLAY LOAM, SANDY CLAY, OR CLAY LOAM. THE SOIL SHALL BE FREE OF ORGANICS AND ANGULAR/SHARP MATERIALS, AND SHALL CONTAIN NO MATERIALS GREATER THAN 1" IN DIAMETER. MATERIAL TO BE PLACED AND COMPACTED IN TWO UNIFORM LIFTS.



NOTE:

1. THIS POND IS AN AMENITY FEATURE AND IS NOT BEING USED FOR WATER QUALITY TREATMENT OR DETENTION

TOP RISER
EL. = 961.00

POND SLOPE
3:1 MAX

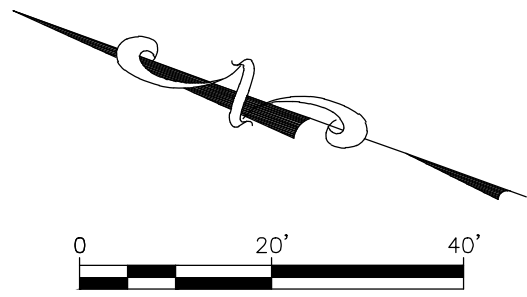
INVERT
EL. = 956.00

36" DIAMETER CONCRETE RISER

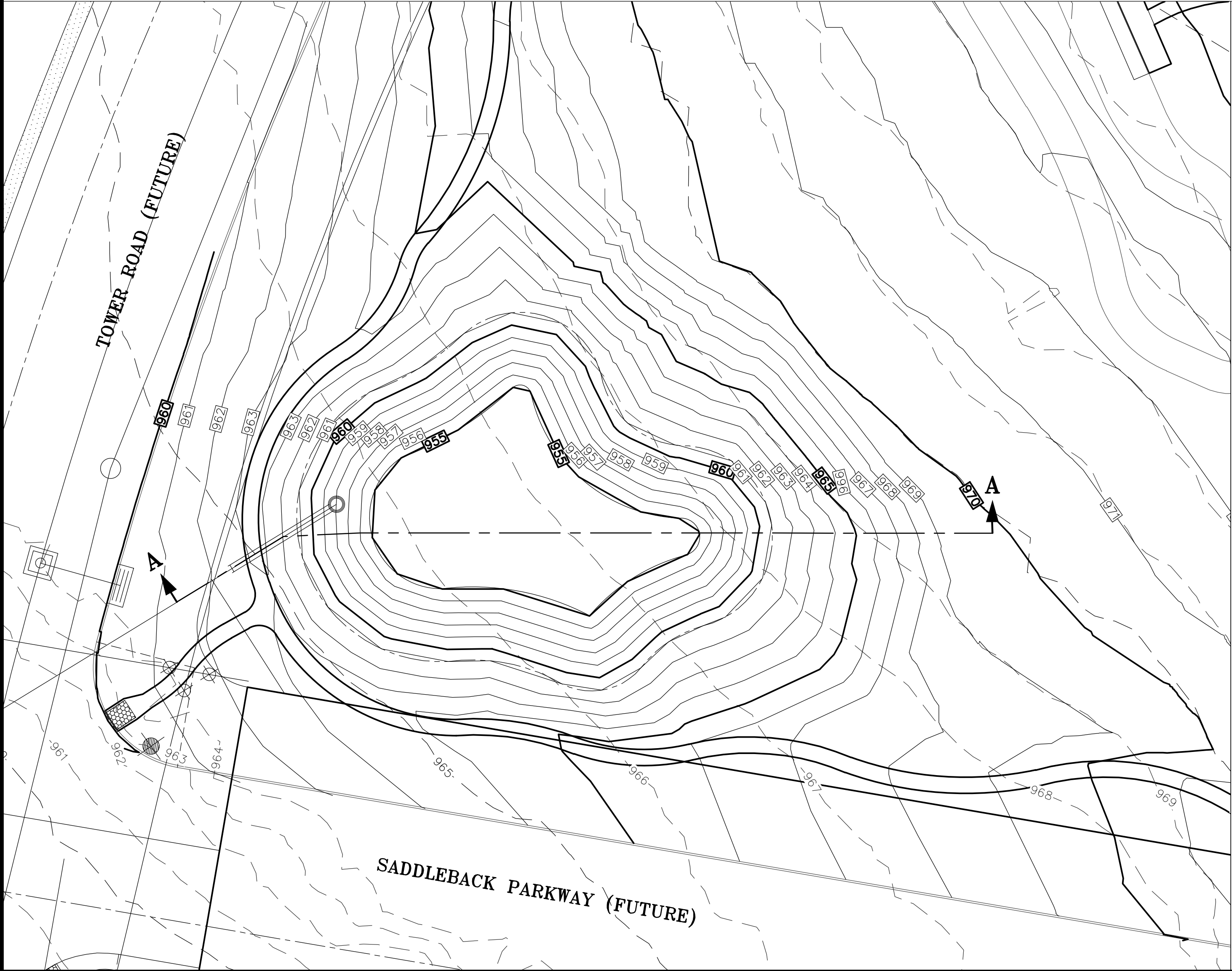
1" = 1'

LEGEND

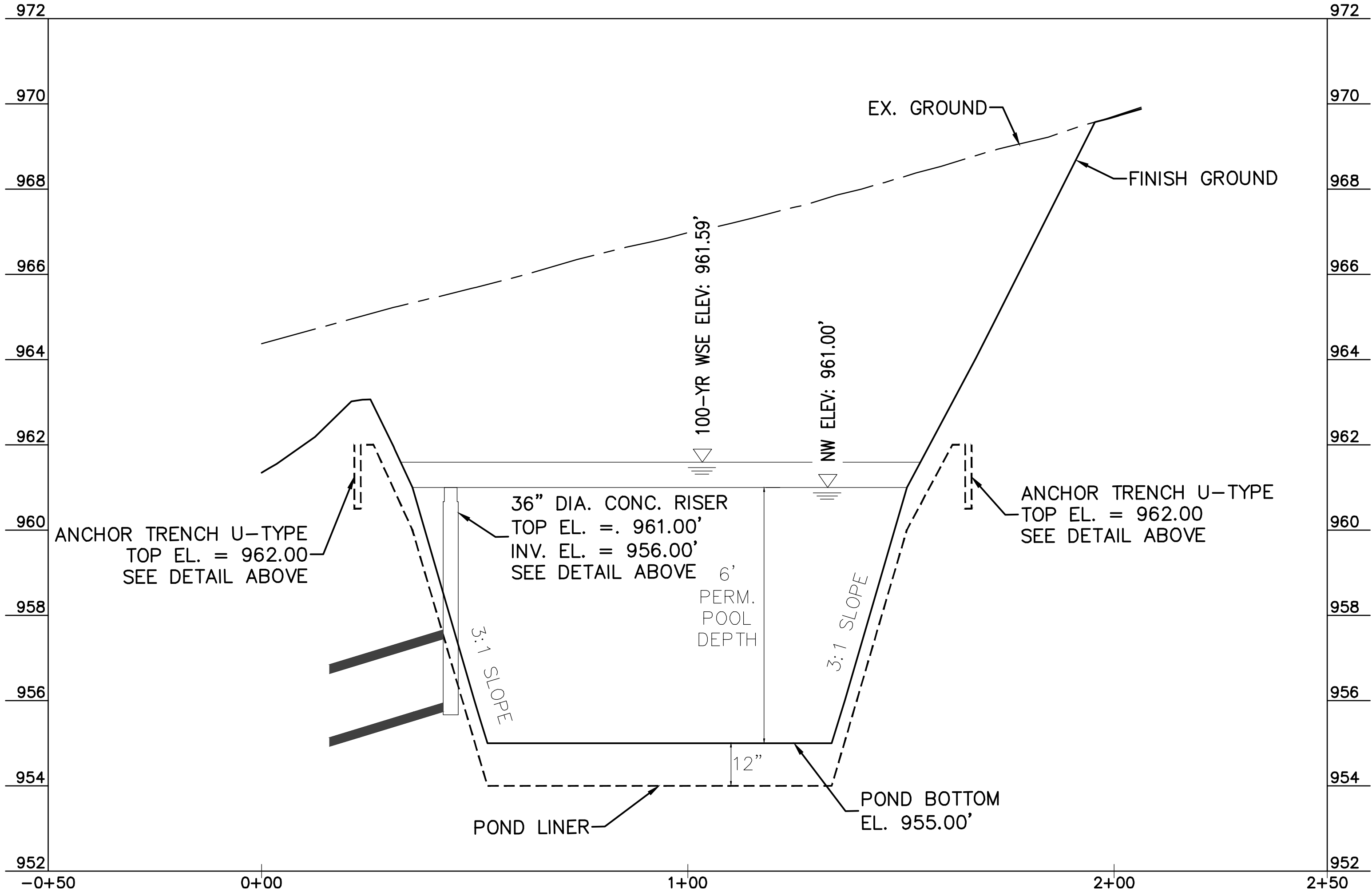
- 936 --- EXISTING MAJOR CONTOUR
- --- EXISTING MINOR CONTOUR
- 930 --- PROPOSED MAJOR CONTOUR
- --- PROPOSED MINOR CONTOUR
- FLOW ARROW



SCALE: 1" = 20'



Section A-A
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=2'



DESIGNED BY: SPC	DRAFTED BY: IDS
DATE	
REVISION	
Carlson, Brigrance & Doering, Inc. Civil Engineering ♦ Surveying FIRM ID #E3791 Main Office: 5501 West William Canyon Dr., Austin, Texas 78750 North Office: 12129 RR (20) N. St. 600, Austin, Texas 78750 Phone No. (512) 280-5160 Fax No. (512) 280-5165	
POND PLAN SHEET NAME: JOB NAME: SADDLEBACK AT SANTA RITA RANCH AMENITY CENTER PROJECT: GRADING, DRAINAGE, AND UTILITIES	
 DATE: JUNE 2024 JOB NUMBER: 5618 SHEET: 24 OF 32 SHEET NO.: 24	