Water Pollution Abatement Plan (WPAP)

Berry Creek Crossing
Shared Improvements

CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

September 9th, 2025

HR Green Project No: 2502787

Prepared For:
IH35 SH130, LP
6002 Camp Bullis Road
San Antonio, Texas 78626

Prepared By:
HR Green Development TX, LLC
5508 Highway 290 West, Suite 150
Austin, Texas 78735
TBPE Firm No. F-16384

09/09/2025

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Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Berry Creek Crossing Shared Improvements						**2. Regulated Entity No.:**			
3. Customer Name: IH35 SH130, LP						**4. Customer No.: CN605683812**			
5. Project Type: (Please circle/check one)	New **X**		Modification			Extension		Exception	
6. Plan Type: (Please circle/check one)	WPAP **X**	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	Residential		Non-residential **X**			**8. Site (acres):**		60.75 Legal boundary 5.34 LOC	
9. Application Fee:	$8,000		**10. Permanent BMP(s):**			Batch Detention Ponds			
11. SCS (Linear Ft.):	1,834		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson County		**14. Watershed:**			Berry Creek			

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 ___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.
Christine Campbell Print Name of Customer/Authorized Agent
09/09/2025 Signature of Customer/Authorized Agent Date

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

General Information Form

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Christine Campbell, P.E.

Date: 09/09/2025

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: Berry Creek Crossing Shared Improvements
2. County: Williamson
3. Stream Basin: Brazos River Basin
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Rajeev Puri
   Entity: IH35 SH130, LP
   Mailing Address: 6002 Camp Bullis Road
   City, State: San Antonio, TX Zip: 78257
   Telephone: 210-863-0717 FAX: _____
   Email Address: rpuri@athenadomain.com

8. Agent/Representative (If any):

   Contact Person: Christine Campbell
   Entity: HR Green Development TX, LLC
   Mailing Address: 5508 US Highway 290 West, Suite #150
   City, State: Austin, TX Zip: 78735
   Telephone: 512-872-6696 FAX: _____
   Email Address: christine.campbell@hrgreen.com

9. Project Location:

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

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

    Located on the northeast corner of N IH 35 & SH 130.

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

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

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

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

    ☒ Survey staking will be completed by this date: August 27, 2025

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

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

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

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

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

HRGreen.
DEVELOPMENT TX

5508 HIGHWAY 290 WEST
SUITE 150
AUSTIN, TX 78735
512.872.6696
HRGREEN.COM

TBPE NO: 16384
TBPLS NO: 10194101

BERRY CREEK CROSSING
SHARED IMPROVEMENTS

LOCATION MAP

P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\02_Engineering\Documents\Reports\Engineering Report\Exhibits\Work\Location Map.dwg, August 05, 2025, 3:01 PM, collin.robson

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

GEORGETOWN QUADRANGLE
TEXAS–WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

Edwards Aquifer Recharge Zone

Edwards Aquifer Contributing Zone

Edwards Aquifer Transition Zone

Overall Property Boundary

LAKE GEORGETOWN
ELEVATION 791

GEORGETOWN

Produced by the United States Geological Survey
Control by USGS and NOS/NOAA
Compiled from aerial photographs taken 1974. Field checked 1975
Map edited 1982
North American Datum of 1927 (NAD 27). Projection and 10 000-foot ticks: Texas Coordinate System, central zone (Lambert Conformal Conic)
Blue 1000-meter Universal Transverse Mercator ticks, zone 14
North American Datum of 1983 (NAD 83) is shown by dashed corner ticks. The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software
Red tint indicates areas in which only landmark buildings are shown
Fine red dashed lines indicate selected fence lines
Areas covered by dashed light-blue pattern are subject to controlled inundation

UTM GRID AND 1982 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION
3097-313

ROAD CLASSIFICATION
Primary highway, hard surface
Secondary highway, hard surface
Light-duty road, hard or improved surface
Unimproved road
Interstate Route
U. S. Route
State Route

GEORGETOWN, TX
30097-F6-TF-024
1982
DMA 6445 II NW-SERIES V882

ISBN 0-607-51004-8

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program

Regulatory Zones
30 TAC Chapter 213- Edwards Aquifer
Effective March 1990

This map was produced by the Groundwater Planning and Assessment Team of the Texas Commission on Environmental Quality to detail the boundaries of the regulatory zones of the Edwards Aquifer Protection Program, as described in Texas Administrative Code Title 30, Part 1, §213.3. No other claims are made to the accuracy or completeness of the data or to its suitability for a particular use. For more information about the Edwards Aquifer Protection Program, please contact the TCEQ Regional Offices in San Antonio or Austin. Printed June 2006.

ATTACHMENT C – PROJECT NARRATIVE

The Berry Creek Crossing Shared Improvements development is a proposed private right of way and utility improvements project located in the City of Georgetown and Williamson County. The project site is located within the Edwards Aquifer Recharge Zone, and within the Berry Creek watershed. The project site encompasses 5.34-acres (limits of construction) located on the northeast corner of N IH 35 & SH 130. The project site is a mix of a previously used mobile homes park and undeveloped wooded land with grass. This site is fully under the City of Georgetown's jurisdiction and is a part of the Planned Unit Development [PUD] (No. 2021-52). Runoff flows northeast towards Berry Creek. This project site is not located within the boundaries of a 100-year floodplain as defined by FEMA FIRM panel No. 48491C0292F dated December 20, 2019.

The proposed site's SCS system will be composed of a total of 1,834 LF of wastewater line. There is 1,737 LF of 8-inch (8") 115 psi (ASTM D3034) gravity wastewater pipe, 40 LF of 6-inch (6") pressure rated (ASTM D2241) wastewater pipe, and 57 LF of 6-inch (6") gravity wastewater pipe. The proposed improvements will tie into the 8" wastewater lines (permitted in 2022-74-SDP, TCEQ EAPP ID No. 11003306) to the lift station (permitted in 2022-20-CON, TCEQ EAPP ID No. 11003132). This lift station ultimately flows to the Pecan Branch WWTP for treatment. The Pecan Branch Wastewater Treatment Plant has the capacity to adequately treat the proposed peak flow.

The proposed development proposes ~1.24 acres of impervious cover (23.2%) and will have the associated runoff treated by two existing batch detention ponds approved and built per 2023-11-CON (TCEQ EAPP ID No. 11003583). Based on the 80% TSS removal requirement by TCEQ and the contribution from the previously proposed Berry Creek Apartments, we need to provide 9,611 lbs. of TSS removal for the total 11.05 acres of impervious cover proposed in Berry Creek Apartments as well as this Berry Creek Crossing Shared Improvements. The batch detention ponds are designed to handle a fully developed condition of approximately 24.02 (BDP-01) & 9.47 (BDP-02) acres of impervious cover, providing 22,525 (BDP-01) & 8,950 (BDP-02) lbs. of TSS removal respectively. As shown in the calculations, the BMPs satisfy the TSS removal requirement. The 85% TSS removal requirement by the City of Georgetown is also satisfied by the batch detention ponds.

Refer to the construction plans for water quality calculations. Refer to the attached Berry Creek Drainage Improvements for the existing batch detention pond designs and TCEQ approval (EAPP ID No. 11003583). Refer to the table below for the proposed sedimentation treatment breakdown provided.

A tree demolition schedule is included in the construction plans.

The associated combination of roadways, drainage, water quality, water, and wastewater improvements will be designed and built to serve this development.

BERRY CREEK CROSSING - FUTURE ULTIMATE CONDITION - WATER QUALITY SUMMARY										
DRAINAGE AREA	BMP TYPE	MAX TSS REMOVAL EFFICIENCY	AREA	PRE-DEVELOPMENT I.C.		POST-DEVELOPMENT I.C.		TCEQ REQUIRED 80% TSS LOAD REMOVAL	COG REQUIRED 85% TSS LOAD REMOVAL	PROVIDED TSS LOAD REMOVAL
			AC	AC	%	AC	%	LB	LB	LB
BDP-01	BATCH DETENTION POND	91%	33.62	0.00	0.0%	24.02	71.4%	20,907	22,213	22,525
BDP-02	BATCH DETENTION POND	91%	12.67	0.00	0.0%	9.47	74.8%	8,243	8,759	8,950
VFS-01	VEGETATIVE FILTER STRIP	85%	0.88	0.00	0.0%	0.26	29.2%	223	223	251
VFS-02	VEGETATIVE FILTER STRIP	85%	0.12	0.00	0.0%	0.06	50.4%	53	53	58
VFS-03	VEGETATIVE FILTER STRIP	85%	0.27	0.00	0.0%	0.11	40.6%	95	95	105
BP-01	BY-PASS		12.29	0.00	0.0%	0.47	3.8%	411	411	
BP-02	BY-PASS		0.89	0.00	0.0%	0.15	16.9%	131	131	
TOTAL:			**60.74**	**0.00**	**0%**	**34.54**	**57%**	**30,063**	**31,884**	**31,889**

aci consulting
austin • denver

GEOLOGIC ASSESSMENT FOR THE APPROXIMATELY 11.44-ACRE BERRY CREEK CROSSING TRACT

Williamson County, Texas

May 2023

Submitted to:
IH35 SH130, LP
6002 Camp Bullis Road,
San Antonio, Texas 78257

Prepared by:
aci consulting
1001 Mopac Circle
Austin, Texas 78746
TBPG Firm License No. 50260

aci project #: 22-18-029

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Geologist: Mark T. Adams Telephone: (512) 347-9000

Date: May 3, 2023 Fax: (512) 306-0974

Representing: aci Group LLC TBPG License No. 50260 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

5/5/2023

Regulated Entity Name: Berry Creek Crossing

Project Information

1. Date(s) Geologic Assessment was performed: April 20, 2023
2. Type of Project:

   ☒ WPAP ☐ AST
   ☒ SCS ☐ UST
3. Location of Project:

   ☒ Recharge Zone
   ☐ Transition Zone
   ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
See Section 4.0: Soils and Geology		

** Soil Group Definitions (Abbreviated)*

A. *Soils having a high infiltration rate when thoroughly wetted.*
B. *Soils having a moderate infiltration rate when thoroughly wetted.*
C. *Soils having a slow infiltration rate when thoroughly wetted.*
D. *Soils having a very slow infiltration rate when thoroughly wetted.*

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

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

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

   Applicant's Site Plan Scale: 1" = 100'
   Site Geologic Map Scale: 1" = 100'
   Site Soils Map Scale (if more than 1 soil type): 1" = 300'

9. Method of collecting positional data:

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

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

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

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

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

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

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

    ☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

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May 2023

Geologic Assessment for the additional 11-acre portion of the Berry Creek Crossing Tract located in Williamson County, Texas

1.0 INTRODUCTION

The Texas Commission on Environmental Quality (TCEQ) regulates activities that have the potential to pollute the Edwards Aquifer through the Edwards Aquifer Protection Program. Projects meeting a certain criterion over the Edwards Aquifer Recharge Zone must submit an Edwards Aquifer Protection Plan (EAPP).

The purpose of this report is to identify all potential pathways for contaminant movement to the Edwards Aquifer and provide sufficient geologic information so that the appropriate Best Management Practices (BMPs) can be proposed in the Edwards Aquifer Protection Plan (EAPP). This report complies with the requirements of Title 30, Texas Administrative Code (TAC) Chapter 213 relating to the protection of the Edwards Aquifer Recharge Zone. Per the Rules, the Geologic Assessment must be completed by a Geologist licensed according to the Texas Geoscience Practice Act.

2.0 PROJECT INFORMATION

The additional 11-acre portion of the Berry Creek Crossing Tract, hereafter referred to as the subject area or site, is located northeast of the intersection of Interstate Highway 35 and Texas 130 Toll, in the City of Georgetown, Williamson County Texas (**Attachment A, Figure 1**). Pedestrian investigations of the 11.44-acre tract were performed on January 2, 2018, by Andrew Marlow, G.I.T., and Marcos Cardenas, under the supervision of Mark Adams, P.G. with **aci consulting**. Previous investigations of a larger 47-acre portion of the Berry Creek Crossing Tract, located immediately south of the 11.44-acre subject area, were conducted by **aci consulting** in June of 2018. The findings for that portion of the tract are not included in this report.

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP) and Sewage Collection System Plan (SCS). The site is approximately 11.44 acres in total. The proposed site use is for high-density, mixed-use development. The scope of the report consists of a

site reconnaissance, field survey, and review of existing data and reports. Features identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards Aquifer Recharge Zone features. The ranking of the features will determine their viability as "sensitive" features.

3.0 INVESTIGATION METHODS

The following investigation methods and activities were used to develop this report:

- Review of existing files and literature to determine the regional geology and any known caves associated with the project area;
- Review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the project area, if available;
- Site reconnaissance by a registered professional geologist to identify and examine caves, recharge features, and other significant geological structures;
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone; and
- Review of historic aerial photographs to determine if there are any structural features present, and to determine any past disturbances on the subject property.

4.0 SOILS AND GEOLOGY

The following includes a site-specific description of the soils, geologic stratigraphy, geologic structure, and karstic characteristics as they relate to the Edwards aquifer. Also included in this section is a review of historic aerials for presence of geologic changes or changes to manmade features in bedrock.

Soils

According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey (2023), four soil units occur within the subject property (**Attachment A, Figure 2**):

- BkrG - Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes

The Brackett component makes up 38 percent of the map unit. Slopes are 8 to 30 percent. This component is on stair stepped ridges on dissected plateaus. The parent material consists of residuum weathered from limestone. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement

in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: D.

- EaD—Eckrant cobbly clay, 1 to 8 percent slopes

The Eckrant component makes up 85 percent of the map unit. Slopes are 1 to 8 percent. This component is on ridges on dissected plateaus. The parent material consists of residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 4 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: D.

- KrB—Krum silty clay, 1 to 3 percent slopes

The Krum component makes up 100 percent of the map unit. Slopes are 1 to 3 percent. This component is on stream terraces on dissected plains. The parent material consists of clayey alluvium of Pleistocene age derived from mixed sources. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: C.

- OkA—Oakalla silty clay loam, 0 to 2 percent slopes, frequently flooded

The Oakalla component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on dissected plateaus. The parent material consists of loamy alluvium derived from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrinkswell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: C.

Geologic Stratigraphy

According to the *Geologic Map of the Georgetown Quadrangle, Texas*, two geologic units occur within the subject property (**Attachment A, Figure 3**). These units and a description by Collins (1997) are as follows:

- Quaternary Alluvium (Qal)

"Gravel, sand, silt and clay along streams and rivers; inundated regularly. Gravel is mostly limestone and chert. Along minor drainages, includes undivided low terrace deposits. Includes some local bedrock outcrops that are undivided."

- Quaternary Undivided Alluvium (Qu)

"Sand, silt, clay, and some gravel. Includes terrace alluvium, local drainageway alluvium, and slope-wash alluvium."

Site-Specific Stratigraphic Column

Formation	Members	Thickness (Collins, 1997)
N/A	Quaternary Alluvium (Qal)	0-10 feet
N/A	Quaternary Undivided Alluvium (Qu)	0-50 feet

Geologic Structure

The geologic strata associated with the Edwards Aquifer include the Georgetown Limestone Formation of the Washita Group, the Edwards Limestone Group which is interfingered with the Comanche Peak Formation, followed by the Walnut formation, and finally the Glen Rose Formation of the Trinity Group. These Groups dip gently to the southeast and are a characterized by the Balcones Fault Escarpment, a zone of en echelon normal faults downthrown to the southeast. Locally, the dominant structural trend of faults within the area is 15°, as evidenced by the mapped fault patterns (**Attachment A, Figure 4**). Thus, all features that have a trend ranging from 0° to 30° are considered "on trend" and were awarded the additional 10 points in the Geologic Assessment Table.

The subject area is underlain by Qal and Qu (Collins 1997), which consists of unconsolidated sediments such as sand, silt, and clay deposited through fluvial processes. Evidence of erosion is apparent with various channelized drainages, steep topography, and vuggy rock located throughout the site. The majority of the site contained loose soils and organic materials typical of areas located near floodplains. No bedrock or other geologic outcrops or formations were observed within the subject area.

Karstic Characteristics

In limestone landscapes, karst is expressed by erratically developed cavernous porosity from dissolution of bedrock as water combined with weak acids moves through the subsurface. Karst terrains are typical of the Edwards Limestone, occurring across a vast region of Central Texas, including the Balcones Fault Escarpment. The features produced by karst processes include, but are not limited to, sinkholes, solution cavities, solution enlarged fractures, and caves. These features can eventually provide conduits for fluid movement such as surface water runoff, as "point recharge" to the Edwards Aquifer. Faults and manmade features within bedrock can also provide conduits for point recharge in many cases.

According to Edwards aquifer zone map produced by the TCEQ (2005), the entire subject area is within the northern segment of the Edwards aquifer Recharge Zone. Thus, all karst features identified as sensitive within the project limits have the potential to be point recharge features into the Edwards aquifer.

Review of Historic Aerials

Aerial photographs were reviewed for the site and unpaved roads can be seen on the subject property since the first aerial image dated 1941 (**Attachment C**). Structures can first be seen on the subject property in the 1974 aerial through the 1995 aerial. The paved parking lot in the northwest can first be seen in the 2004 aerial. The expansion of I-35 to the west can be seen in the 1954 aerial. I-35 is expanded again and SH-130 to the south can first be seen in the 2004 aerial. The subject property remains relatively unchanged through the 2016 aerial.

5.0 GEORGETOWN WATER QUALITY ORDINANCE

On February 24, 2015, the City of Georgetown (CoGt) passed a finalized ordinance regarding water quality regulations over the Edwards Aquifer Recharge Zone (EARZ),

which established setbacks or buffers around springs and streams in the EARZ as well as for occupied salamander sites. **aci consulting** scientists surveyed the subject area as part of the Geologic Assessment (GA) and included obtained pertinent information on springs, streams, and Georgetown Salamander Critical Habitat Units (CHUs) as part of the assessment.

aci consulting verified that the entire site is contained within the Edwards Aquifer Recharge Zone (EARZ), based on the mapped boundaries. There were no springs or mapped salamander sites or known surface or subsurface CHUs within the subject area. Additionally, there are no mapped flowlines or waterbodies within the site, according to the National Hydrography Dataset (NHD), nor are there any mapped wetlands within the site according to the National Wetland Inventory (NWI). There is one mapped flowline offsite, Berry Creek. Berry Creek is a tributary of the San Gabriel River and is located to the east of the subject area flowing to the southeast. The drainage within the subject property flows into Berry Creek. The nearest CHU for the Georgetown Salamander occurs approximately 3.5 miles southwest of the project area, along the North Fork San Gabriel River.

According to the City of Georgetown Edwards Aquifer Recharge Zone Water Quality Ordinance, the boundaries of the "Stream Buffer" are to coincide with the boundaries of the FEMA 1% floodplain or a calculated 1% floodplain, whichever is smaller. The FEMA 1% floodplain was mapped within the eastern portion of the subject property (**Figure 6)**. The developer and the engineer are aware of the floodplain and the requirement for a buffer.

6.0 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci consulting** personnel on April 20, 2023. Eight features (manmade features in bedrock and other non-karst features) were noted on the subject property. Comprehensive descriptions and recommendations for each feature can be found in **Attachment B**. Based on assessment of each feature, it was determined that there are zero sensitive karst features on the subject property, the remaining three naturally occurring features were determined to be non-sensitive. Five features were man-made features in bedrock.

7.0 REFERENCES

Collins, E.W., 1997. *Geologic Map of the Georgetown SE Quadrangle, Texas.* Bureau of Economic Geology. Austin, Texas.

(SCS) Soil Conservation Survey. 1983. Soil Survey of Williamson County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.

(TCEQ) Texas Commission on Environmental Quality. 2004. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. April 24, 2023. Austin, Texas.

(TCEQ) Texas Commission on Environmental Quality. 2005. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. April 24, 2023 Austin, Texas.

(TWDB) Texas Water Development Board. 2023. Water Data Interactive Groundwater Data Viewer. Accessed on April 24, 2023. Available at: http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer

(USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2023. WebSoilSurvey.com. Soil Survey Area: Williamson County, Texas. Date accessed: April 24, 2023.

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ATTACHMENT A

Site Maps

P:\Project Folders\22-18-029 Raheel Puri 49.31 acres\GIS\maps\GA Figures\Task 5\Figure 1_Site Location.mxd

This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

300 150 0 300 Feet

1:3,600 1 inch = 300 feet

Survey Area

aci consulting austin • denver

11.44-acre Berry Creek Crossing Tract **aci Project No.: 22-18-029**

Figure 1: Site Location Map **May 2023**

11.44-acre Berry Creek Crossing Tract

aci Project No.: 22-18-029

Figure 2: Soils

May 2023

11.44-acre Berry Creek Crossing Tract | **aci Project No.: 22-18-029**

Figure 3: Site Geology | **May 2023**

11.44-acre Berry Creek Crossing Tract **aci Project No.: 22-18-029**

Figure 4: Regional Trend **May 2023**

P:\Project Folders\22-18-029 Rajeev Puri 49.31 acres\GIS\maps\GA Figures\Task 5\Figure 5_flood.mxd

This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

300 150 0 300 Feet

1:3,600 1 inch = 300 feet

Survey Area

aci consulting austin • denver

11.44-acre Berry Creek Crossing Tract **aci Project No.: 22-18-029**

Figure 5: FEMA Flood Hazard Zones **May 2023**

ATTACHMENT B

Geologic Table
Geologic and Manmade Feature Map (Figure 6)
Feature Descriptions and Recommendations

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Berry Creek Crossing

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
F-01	30.686997	-97.655649	O	5	Qu	1.5	1.5	1	-	-	-	-	O	7	13	X	-	X	-	Hillside
F-02	30.686374	-97.655561	O	5	Qu	2	2	1	-	-	-	-	O	8	14	X	-	X	-	Hillside
F-03	30.686693	-97.655258	O	5	Qu	1	1	1	-	-	-	-	O	9	15	X	-	X	-	Hillside
MB-01	30.687202	-97.656351	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside
MB-02	30.687149	-97.656222	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside
MB-03	30.68686	-97.656285	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside
MB-04	30.687075	-97.655944	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside
MB-05	30.686416	-97.656332	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside
MB-06	30.686659	-97.656375	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside

* DATUM: NAD 1983 State Plane 4203

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date 5/5/2023

Sheet __1___ of __1____

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

P:\Project Folders\22-18-029 Rojeco Port 49.31 acres\GIS mxmds\GeoA Figures\Trish 5\1 Figure 6 GeologicMap.mxd

Kgt

Qal

Qu

MB01

MB02

MB04

F01

MB03

F03

MB06

MB05

F02

Berry Creek

Hydrography

NHD-Flowlines

Geology

Qal

Qu

Kgt

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

100 50 0 100

Feet

1:1,200 1 inch = 100 Feet

Survey Area

Features

Mandmade Feature In Bedrock

Non Sensitive

STATE OF TEXAS
MARK T. ADAMS
GEOLOGY
No. 1835
LICENSED
PROFESSIONAL GEOSCIENTIST

5/5/2023

aci consulting
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11.44-acre Berry Creek Crossing Tract
Figure 6: Geologic and Manmade Feature Map

aci Project No.: 22-18-029
May 2018

F-01

GPS: 30.686997, -97.655649

This feature is an 'other natural bedrock feature', likely an animal burrow, with an apparent diameter of 1.5 feet extending 1 foot below the surface with a lateral development of 1.5 feet. The feature is located in the Quaternary Undivided Alluvium and is positioned in a floodplain. Infill material is loose soil and organic material such as sticks and leaf litter. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has no evidence of karst involvement, and that the probability of rapid infiltration is low (7 points). This feature is non-sensitive.

Recommendation: There are no protective setbacks recommended for this feature.

Photo of F-01

F-02

GPS: 30.686374, -97.655561

This feature is an 'other natural bedrock feature', likely an animal burrow, with an apparent diameter of 2 feet extending 1 foot below the surface with a lateral development of 3 feet. The feature is located in the Quaternary Undivided Alluvium and is positioned in a hillside. Infill material is loose soil and organic material such as sticks and leaf litter. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has no evidence of karst involvement, and that the probability of rapid infiltration is low (8 points). This feature is non-sensitive.

Recommendation: There are no protective setbacks recommended for this feature.

Photo of F-02

F-03

GPS: 30.686693, -97.655258

This feature is an 'other natural bedrock feature', likely an animal burrow, with an apparent diameter of 3 feet, extending 1 foot below the surface with 2 feet of lateral development. The feature is located in the Quaternary Undivided Alluvium and is positioned in a hillside. Infill material is loose soil and organic material such as sticks and leaf litter. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has no evidence of karst involvement, and that the probability of rapid infiltration is low (9 points). This feature is non-sensitive.

Recommendation: There are no protective setbacks recommended for this feature.

Photo of F-03

MB-01

GPS: 30.687202, -97.656351

This feature is a manmade feature in bedrock (water, electric, and gas utilities) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-01

MB-02

GPS: 30.687149, -97.656222

This feature is a manmade feature in bedrock (a parking lot with several storm drains) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-02

MB-03

GPS: 30.68686, -97.656285

This feature is a manmade feature in bedrock (a water meter) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-03

MB-04

GPS: 30.687075, -97.655944

This feature is a manmade feature in bedrock (a valve box) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-04

MB-05

GPS: 30.686416, -97.656332

This feature is a manmade feature in bedrock (underground telecommunications cable) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-05

MB-06
GPS: 30.686659, -97.656375
This feature is a manmade feature in bedrock (water utilities) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-06

ATTACHMENT C

Historic Aerial Photographs

Prepared for:

ACI CONSULTING
1001 Mopac Circle
Austin, TX 78746

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Historical Aerial Photographs

Bishop Tract

Williamson County, TX

PO #: 22-18-029

ES-128472

Friday, July 6, 2018

Date: 2016
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2012
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2008
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
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Date: 2004
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
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Date: 1995
Source: USGS

0 250 500 1,000 Feet

BANKS ENVIRONMENTAL DATA
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Date: 1988
Source: TXDOT

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
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Date: 1981
Source: USGS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
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Date: 1974
Source: USGS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
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Date: 1964
Source: ASCS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
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Date: 1954
Source: AMS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
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Date: 1941
Source: ASCS

0 250 500 1,000 Feet

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AERIAL SOURCE DEFINITIONS

Acronym	Agency
AerialOK	Aerial Oklahoma
AMS	Army Mapping Service
ASCS	Agricultural Stabilization & Conservation Service
EDAC	Earth Data Analysis Center
Fairchild	Fairchild Aerial Surveys
LDOT	Louisiana Department of Transportation
TXDOT	Texas Department of Transportation
USNavy	United States Navy
USAF	United States Air Force
USCOE	United States Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WALLACE	Wallace-Zingery Aerial Surveys
WSDOT	Washington State Department of Transportation

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

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GEOLOGIC ASSESSMENT
FOR THE
BERRY CREEK CROSSING TRACT

Williamson County, Texas

August, 2021
Revised July, 2022

Prepared for:
IH35 SH130, LP
6002 Camp Bullis Road,
San Antonio, Texas 78257

Prepared by:
aci Group, LLC
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Austin, Texas 78746
TBPG Firm License No. 50260

aci project #: 22-18-029

DISCLAIMER: *This Geologic Assessment is prepared solely for the benefit of the above referenced party and for use by the TCEQ in conjunction with the attached application. Use by any other party and for any other purpose is strictly prohibited. Modification and reuse of all or any portion of this Geologic Assessment is prohibited. All copyrights reserved to aci consulting.*

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Geologist: Mark T. Adams Telephone: (512) 347-9000

Date: 8/20/2021 Fax: (512) 306-0974

Representing: aci Group LLC TBPG License No. 50260 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Berry Creek Crossing

Project Information

1. Date(s) Geologic Assessment was performed: June 28, 2018
2. Type of Project:
   - ☒ WPAP
   - ☒ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
See Attachment F		

** Soil Group Definitions (Abbreviated)*

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

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

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

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

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

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

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

   Applicant's Site Plan Scale: 1" = 100'
   Site Geologic Map Scale: 1" = 100'
   Site Soils Map Scale (if more than 1 soil type): 1" = 400'

9. Method of collecting positional data:

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

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

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

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

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

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

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

    ☒ There are 1 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☒ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

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August 20, 2021 Revised July 2022

Geologic Assessment for the Berry Creek Crossing Tract located in Williamson County, Texas

1.0 INTRODUCTION

The purpose of this assessment is to identify karst or non-karst features and their recharge potential. This report complies with the requirements of Title 30, Texas Administrative Code (TAC) Chapter 213 relating to the protection of the Edwards aquifer recharge zone.

The Berry Creek Crossing Tract, hereafter referred to as the subject area or site, is located northeast of the intersection of Interstate Highway 35 and Texas 130 Toll, in the City of Georgetown, Williamson County, Texas (**Attachment D, Figure 1**).

2.0 PROJECT INFORMATION

Pedestrian investigations of the subject area were performed on Thursday, June 28, 2018, by Mark Adams, P.G., Luke Rome, G.I.T. and Eric Brown with **aci consulting**.

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP) and/or Sewage Collection System (SCS). The proposed site use is for high-density, mixed-use development. The scope of the report consists of a site reconnaissance, field survey, and review of existing data and reports. Features identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards aquifer recharge zone features. The ranking of the features will determine their viability as "sensitive" features.

According to the Edwards aquifer zone maps, the entire subject area is within the northern segment of the Edwards aquifer recharge zone (TCEQ 2005).

3.0 INVESTIGATION METHODS

The following investigation methods and activities were used to develop this report:

- Review of existing files and literature to determine the regional geology and any known caves associated with the project area;
- Review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the project area, if available;
- Site reconnaissance by a registered professional geologist to identify and examine caves, recharge features, and other significant geological structures;
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone; and
- Review of historic aerial photographs to determine if there are any structural features present, and to determine any past disturbances on the subject property.

4.0 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci consulting** personnel on June 28, 2018, previous and subsequent field work. There were no sensitive karst features identified on the subject property. There were several man-made features in bedrock, including water well, a wastewater lift station, and underground utilities associated with recreational vehicle connections. These man-made features were marked as sensitive to bring them to the attention of the engineer; however, they will not require protective buffers.

Note: Information provided by the engineer identified several other MB features, and the report is updated to reflect these additions.

5.0 RECOMMENDATIONS

No recommendations are made for this site because there are no sensitive karst features identified on site.

6.0 REFERENCES

Collins, E.W., 1997. *Geologic Map of the Georgetown SE Quadrangle, Texas.* Bureau of Economic Geology. Austin, Texas.

(SCS) Soil Conservation Survey. 1983. Soil Survey of Williamson County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.

(TCEQ) Texas Commission on Environmental Quality. 2004. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. October 1, 2004. Austin, Texas.

(TCEQ) Texas Commission on Environmental Quality. 2005. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. September 1, 2005. Austin, Texas.

(USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2018. WebSoilSurvey.com. Soil Survey Area: Williamson County, Texas. Date accessed: July 3, 2018.

GEOLOGIC ASSESSMENT TABLE — PROJECT NAME: Berry Creek Crossing

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
BT-01	30.68442	-97.65143	MB	30	Qu	-	-	-	-	-	-	-	-	30	60		X	X		Hillside
BT-02	30.68482	-97.653396	MB	30	Qu	-	-	-	-	-	-	-	-	30	60		X	X		Hillside
BT-03	30.68556	-97.652335	MB	30	Qu	3	3	-	-	-	-	-	-	30	60		X	X		Hillside
BT-04	30.68487	-97.65509	MB	30	Qu	-	-	-	-	-	-	-	-	30	60		X	X		Hillside
BT-05	30.68588	-97.65527	MB	30	Qu	-	-	-	-	-	-	-	-	30	60		X	X		Hillside

* DATUM: NAD 1983

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

STATE OF TEXAS — MARK T. ADAMS — GEOLOGY — No. 1835 — LICENSED — PROFESSIONAL GEOSCIENTIST

Date: 8/20/2021 Updated: 7/27/2022

Sheet ___1___ of ___1___

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

ATTACHMENT B
Stratigraphic Column

The 46.9-acre Berry Creek Crossing Tract, Williamson County

Formation	Members	Mapped Thickness
Quaternary Alluvium (Qal)	Quaternary Alluvium	0-10 feet (on site)
Quaternary Terrace Deposits (Qt)	N/A	Not within subject area
Quaternary Undivided Alluvium (Qu)	N/A	0-50 feet (on site)
Georgetown Formation (Kgt)	Georgetown Limestone	Not within subject area

ATTACHMENT C
Site Geology

Karstic Characteristics

In limestone terrains, karst is expressed by erratically developed cavernous porosity and the manifestations of sinkholes, voids, and erratic surface drainage. Karst landscapes are typical of the Edwards Limestone, occurring across a vast region of Central Texas, west of the Balcones Escarpment, and these processes are critical to understanding the Edwards aquifer within its various segments. The features produced by karst processes (voids, holes, and solution layers) eventually provide conduits for surface water runoff and "point recharge" for the Edwards aquifer. The identification and protection of these features in established recharge areas is critical to maintaining groundwater quality and species habitat. The TCEQ require protective strategies within these areas to maintain quantity and quality of recharge prior to, during, and upon completion of construction activities.

Based on the site assessment, the subject area is located in the Quaternary Undivided Alluvium (Qu) and the Quaternary Alluvium (Qal) deposits (**Attachment D, Figure 3**). The stratigraphy, and structure of the site geology are discussed below.

Stratigraphy (Collins 1997)

Quaternary Alluvium Deposits (Qal): Gravel, sand, silt and clay along streams and rivers; inundated regularly. Gravel is mostly limestone and chert. Along minor drainages, includes undivided low terrace deposits. Includes some local bedrock outcrops that are undivided.

Quaternary Terrace deposits (Qt): Gravel, sand, silt, and clay along streams and rivers. Mostly above flood level along entrenched streams and rivers. Larger deposits along San Gabriel River, Berry Creek, and Brushy Creek are as thick as 36 feet and locally may be thicker. Deposits of adjacent terraces at different elevations are mapped separately.

Quaternary Undivided Alluvium (Qu): Sand, silt, clay, and some gravel. Includes terrace alluvium, local drainageway alluvium, and slope-wash alluvium.

Georgetown Formation (Kgt): Limestone and marl. Nodular, very fossilferous; diagnostic marine megafossils include *Waconell wacoensis (*formerly *Kingena wacoensis)* and *Gryphaea washitaensis*. Rare small vugs. Uppermost Edwards aquifer strata. Thickness increases northward from ~65 feet to 110 feet.

Structure

Locally, the dominant structural trend of the area is 15°, as evidenced by the mapped fault patterns (**Attachment D, Figure 2**). Thus, all features that have a trend ranging from 0° to 30° are considered on trend and were awarded the additional 10 points in the Geologic Assessment Table.

The subject area is underlain by Quaternary Undivided Alluvium (Qu) and Quaternary Alluvium (Qal) deposits (Collins 1997). The geologic strata associated within the entire mapped site include the Georgetown Formation (Kgt) underlying (in successive order) the Quaternary Undivided, Terrace, and Alluvial deposits. These quaternary deposits include the Recent Channel Deposit, Colorado Lower Terrace, and Colorado High Terrace members.

Aerial photographs were reviewed for the site and it was determined that agricultural practices to terrace the land were used after the first aerial dated in 1941 and before the second aerial in 1954 (**Attachment E**). More grading occurred on the land along with the development of a utility site, as shown in the 1988 aerial. The construction of TX-130 was first evident in the 2004 aerial along with the development of multiple recreational vehicle utility sites to the east of TX-130 within the present subject area.

Three types of manmade features in bedrock were identified during site investigations and are detailed below, and shown on **Figure 3** in **Attachment D**. This includes a wastewater lift station, one water well with an associated pump house, and six lines of RV utility connections.

Soils discussed on the Geologic Assessment Form are delineated in **Attachment F.**

BT-01

GPS: N. 30.684421 W. -97.65143

This feature is a man-made feature in bedrock (a well and pump house) with an unknown length, width and depth. The feature is located in the Undivided Alluvium formation and is positioned on a hillside. The feature has no natural trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, this feature was assigned 30 points for relative infiltration rate to bring it to the attention of the project engineer.

Recommendation: This feature needs to be brought to the attention of the engineer.

Photo of BT-01

Photo of BT-01

BT-02

GPS: N. 30.684818 W. -97.653396

This feature is a Man-made feature in bedrock (Recreational Vehicle Electric/water/septic connections and septic fields) with an unknown length, width, and depth. The feature consists of eight different plots of utility connections within the western and central portion of the 46.9-acre tract. *Two septic fields were reported by the engineer, Diego Rojas*, located northeast and southwest of these utility connections.* The feature is located in the Undivided Alluvium formation and is positioned on a hillside. The feature has no natural trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, this feature was assigned 30 points for relative infiltration rate to bring it to the attention of the project engineer.

Recommendation: This feature should be brought to the attention of the engineer.

Photo of BT-02

**Diego Rojas, PE, CFM.*
Project Manager – Land Development
HR Green, Inc.

Photo of BT-02

BT-03

GPS: N. 30.685561 W. -97.652335

This feature is a Man-made feature in bedrock with an approximate length and width of three feet. *This feature was identified as a wastewater lift station and additional photos were provided by the engineer*. The feature is located in the Undivided Alluvium formation and is positioned on a hillside. Infill material is unknown. The feature has no natural trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, this feature was assigned 30 points for relative infiltration rate to keep it consistent with other man-made features in bedrock.

Recommendation: There are no setbacks recommended for this feature.

Photo of BT-03

Additional photo of BT-03

Additional photo of BT-03

BT-04

GPS: N. 30.68487 W. -97.65509

This feature is a man-made feature in bedrock (a wastewater grinder lift station) with an unknown length, width and depth. The feature is located in the Undivided Alluvium formation and is positioned on a hillside. The feature has no natural trend, and a drainage area of less than 1.6 acres. The location and photos for this feature were provided by the engineer, Diego Rojas. In using Figure 1 in Instructions to Geologists, this feature was assigned 30 points for relative infiltration rate to keep it consistent with other man-made features in bedrock.

***Recommendation**: There are no setbacks recommended for this feature.*

Photo of BT-04

Photo of BT-04

BT-05

GPS: N. 30.68588 W. -97.65527

This feature is a man-made feature in bedrock (a wastewater grinder lift station) with an unknown length, width and depth. The feature is located in the Undivided Alluvium formation and is positioned on a hillside. The feature has no natural trend, and a drainage area of less than 1.6 acres. The location and photos for this feature were provided by the engineer, Diego Rojas. In using Figure 1 in Instructions to Geologists, this feature was assigned 30 points for relative infiltration rate to keep it consistent with other man-made features in bedrock.

***Recommendation**: There are no setbacks recommended for this feature.*

Photos of BT-05

ATTACHMENT D
Site Maps

Berry Creek Crossing **aci Project No.: 22-18-029**

Figure 1: Site Location Map **August 2021**

Berry Creek Crossing **aci Project No.: 22-18-029**

Figure 2: Regional Trend **August 2021**

Berry Creek Crossing
Figure 3: Site Geology and Features

aci Project No.: 22-18-029
August 2021; Updated July 2022

Berry Creek Crossing **aci Project No.: 22-18-029**

Figure 4: Site Soils Map **August 2021**

ATTACHMENT E
Historical Aerial Photographs

Prepared for:

ACI CONSULTING
1001 Mopac Circle
Austin, TX 78746

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Historical Aerial Photographs

Bishop Tract

Williamson County, TX

PO #: 22-18-029

ES-128472

Friday, July 6, 2018

Date: 2016
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2012
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2008
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2004
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1995
Source: USGS

0 250 500 1,000 Feet

BANKS ENVIRONMENTAL DATA
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Date: 1988
Source: TXDOT

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1981
Source: USGS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1974
Source: USGS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1964
Source: ASCS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1954
Source: AMS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1941
Source: ASCS

0 250 500 1,000 Feet

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AERIAL SOURCE DEFINITIONS

Acronym	Agency
AerialOK	Aerial Oklahoma
AMS	Army Mapping Service
ASCS	Agricultural Stabilization & Conservation Service
EDAC	Earth Data Analysis Center
Fairchild	Fairchild Aerial Surveys
LDOT	Louisiana Department of Transportation
TXDOT	Texas Department of Transportation
USNavy	United States Navy
USAF	United States Air Force
USCOE	United States Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WALLACE	Wallace-Zingery Aerial Surveys
WSDOT	Washington State Department of Transportation

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

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ATTACHMENT F
Soils Table

Soil Name	Group	Thickness (feet)
Altoga silty clay loam, 3 to 5 percent slopes, eroded (AgC2)	B	>6.66
Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes (BkG)	D	1.66
Eckrant cobbly clay, 1 to 8 percent slopes (EaD)	D	1.66
Krum silty clay, 0 to 1 percent slopes (KsA)	C	>6.66
Krum silty clay, 1 to 3 percent slopes (KsB)	C	>6.66
Oakalla silty clay loam, 0 to 2 percent slopes, frequently flooded (Of)	B	>6.66

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Print Name of Customer/Agent: Christine Campbell, P.E.

Date: 09/09/2025

Signature of Customer/Agent:

Regulated Entity Name: Berry Creek Crossing Shared Improvements

Regulated Entity Information

1. The type of project is:

   ☐ Residential: Number of Lots:_____
   ☐ Residential: Number of Living Unit Equivalents:_____
   ☐ Commercial
   ☐ Industrial
   ☒ Other:Private ROW & utility Improvements

2. Total site acreage (size of property):5.34

3. Estimated projected population:0

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

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops		÷ 43,560 =	
Parking	-	÷ 43,560 =	-
Other paved surfaces	53,805	÷ 43,560 =	1.24
Total Impervious Cover	53,805	÷ 43,560 =	1.24

Total Impervious Cover 1.24 **÷ Total Acreage** 5.34 **X 100 =** 23.22**% Impervious Cover**

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

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

For Road Projects Only

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

7. Type of project:

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

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

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

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

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

10. Length of pavement area: _____ feet.

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

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

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

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

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

TOTAL gallons/day 0

15. Wastewater will be disposed of by:

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

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

☒ Sewage Collection System (Sewer Lines):

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

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

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

☒ Existing.
☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 40'.

18. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☒ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRM Panel No. 48491C0292F, 12/20/2019

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

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

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

☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

☐ The wells are not in use and have been properly abandoned.
☐ The wells are not in use and will be properly abandoned.
☐ The wells are in use and comply with 16 TAC §76.

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

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

☐ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
☒ No sensitive geologic or manmade features were identified in the Geologic Assessment.
☐ **Attachment D - Exception to the Required Geologic Assessment**. A request and justification for an exception to a portion of the Geologic Assessment is attached.

22. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.

23. ☒ Areas of soil disturbance and areas which will not be disturbed.

24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

25. ☒ Locations where soil stabilization practices are expected to occur.

26. ☐ Surface waters (including wetlands).

    ☒ N/A

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

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

28. ☒ Legal boundaries of the site are shown.

Administrative Information

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

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

ATTACHMENT A – FACTORS AFFECTING WATER QUALITY

Potential sources of pollution that may be expected to affect the quality of the storm water discharges from the construction site include the following:

- Soil erosion due to the clearing of the site for wastewater improvements.
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings.
- Hydrocarbons from asphalt paving operations.
- Miscellaneous trash and litter from construction.

Potential sources of pollution that may be expected to affect the quality of the storm water discharges from the site after construction is completed include the following:

- Oil, grease, fuel and hydraulic fluid contamination from vehicle drippings.
- Dirt and dust from vehicles.
- Trash and litter.

ATTACHMENT B – VOLUME AND CHARACTER OF STORMWATER

The project site is a mix of a previously used mobile homes park and undeveloped wooded land with grass. This site is fully under the City of Georgetown's jurisdiction and is a part of the Planned Unit Development [PUD] (No. 2021-52). Runoff flows northeast towards Berry Creek. This project site is not located within the boundaries of a 100-year floodplain as defined by FEMA FIRM panel No. 48491C0292F dated December 20, 2019.

The proposed development proposes ~1.24 acres of impervious cover (23.2%) and will have the associated runoff treated by two existing batch detention ponds approved and built per 2023-11-CON (TCEQ EAPP ID No. 11003583). Based on the 80% TSS removal requirement by TCEQ and the contribution from the previously proposed Berry Creek Apartments, we need to provide 9,611 lbs. of TSS removal for the total 11.05 acres of impervious cover proposed in Berry Creek Apartments as well as this Berry Creek Crossing Shared Improvements. The batch detention ponds are designed to handle a fully developed condition of approximately 24.02 (BDP-01) & 9.47 (BDP-02) acres of impervious cover, providing 22,525 (BDP-01) & 8,950 (BDP-02) lbs. of TSS removal respectively. As shown in the calculations, the BMPs satisfy the TSS removal requirement. The 85% TSS removal requirement by the City of Georgetown is also satisfied by the batch detention ponds.

Refer to the construction plans for water quality calculations. Refer to the attached Berry Creek Drainage Improvements for the existing batch detention pond designs and TCEQ approval (EAPP ID No. 11003583). Refer to the table below for the proposed sedimentation treatment breakdown provided.

A tree demolition schedule is included in the construction plans.

The associated combination of roadways, drainage, water quality, water, and wastewater improvements will be designed and built to serve this residential development.

BERRY CREEK CROSSING - FUTURE ULTIMATE CONDITION - WATER QUALITY SUMMARY										
DRAINAGE AREA	BMP TYPE	MAX TSS REMOVAL EFFICIENCY	AREA	PRE-DEVELOPMENT I.C.		POST-DEVELOPMENT I.C.		TCEQ REQUIRED 80% TSS LOAD REMOVAL	COG REQUIRED 85% TSS LOAD REMOVAL	PROVIDED TSS LOAD REMOVAL
			AC	AC	%	AC	%	LB	LB	LB
BDP-01	BATCH DETENTION POND	91%	33.62	0.00	0.0%	24.02	71.4%	20,907	22,213	22,525
BDP-02	BATCH DETENTION POND	91%	12.67	0.00	0.0%	9.47	74.8%	8,243	8,759	8,950
VFS-01	VEGETATIVE FILTER STRIP	85%	0.88	0.00	0.0%	0.26	29.2%	223	223	251
VFS-02	VEGETATIVE FILTER STRIP	85%	0.12	0.00	0.0%	0.06	50.4%	53	53	58
VFS-03	VEGETATIVE FILTER STRIP	85%	0.27	0.00	0.0%	0.11	40.6%	95	95	105
BP-01	BY-PASS		12.29	0.00	0.0%	0.47	3.8%	411	411	
BP-02	BY-PASS		0.89	0.00	0.0%	0.15	16.9%	131	131	
TOTAL:			**60.74**	**0.00**	**0%**	**34.54**	**57%**	**30,063**	**31,884**	**31,889**

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: Christine Campbell, P.E.

Date: 09/09/2025

Signature of Customer/Agent:

Regulated Entity Name: Berry Creek Crossing Shared Improvements

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: Berry Creek

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.

ATTACHMENT A – SPILL RESPONSE ACTIONS

The objective of this section is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or water courses. Measures include 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 practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well-ventilated, and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the Owner and to the appropriate State or local government agency, regardless of the size.
- The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.
- The site superintendent responsible for the day-to-day site operations will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area and in the office trailer onsite.
- Any reportable quantity hydrocarbon or hazardous material spill should be reported to the TCEQ at the following 24-hour toll free number 1-800-832-8224.

For a spill of Reportable Quantity:

- Initial notification. Upon the determination that a reportable discharge or spill has occurred, the responsible person shall notify the National Response Center at (800) 424-8802 as soon as possible but not later than 24 hours after the discovery of the spill or discharge.
- Method of notification. The person responsible shall notify the agency in any reasonable manner, including by telephone, in person, or by any other method approved by the agency. In all cases, the initial notification shall provide, to the extent known, the information listed in subsection (d) of Title 30, Part I, Chapter 327, Rule §327.3. Notice provided under this section satisfies the federal requirement to notify the State Emergency Response Commission in the State of Texas.
- Notification of local government authorities. If the discharge or spill creates an imminent health threat, the person responsible shall immediately notify and cooperate with local emergency authorities. The party responsible will cooperate with the local emergency authority in providing support to implement appropriate notification and response actions. The local emergency authority, as necessary, will implement its emergency management plan, which may include notifying and evacuating affected persons. In the absence of a local emergency authority, the person responsible shall take reasonable measures to notify potentially affected people of the imminent health threat.
- As soon as possible, but no later than two (2) weeks after discovery of the spill or discharge, the Contractor shall reasonably attempt to notify the Owner (if identifiable) or Occupant of the property upon which the discharge or spill occurred as well as the occupants of any property that the Contractor believes is adversely affected.

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

Vehicle and Equipment Maintenance:

- If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.
- Regularly inspect onsite vehicles and equipment for leaks and repair immediately.
- 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.
- Always use secondary containment, such as drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
  - Place drip pans or absorbent materials under paving equipment when not in use.
  - Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
  - Promptly transfer used fluids to the proper waste or recycling drums. Do not leave full drip pans or other containers lying around.
  - Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over the 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.
  - Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all of 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.

ATTACHMENT B – POTENTIAL SOURCES OF CONTAMINATION

Once grading activities begin, erosion of bare soil during rainfall events is the most common source of contamination. Silt fences will be installed at the beginning of the grading operation to minimize the potential for transport of the soil offsite.

Asphalt products will be used on this project. After placement of asphalt, emulsion, or coatings, the applicant will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt curing time, the applicant should maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur.

During construction activities, potential sources of contamination would include petroleum products leaking from construction equipment. The contractor will be advised to keep the equipment in working order and report any spills per the spill response plan.

Other potential sources of contamination include hydraulic fluid and diesel fuel from mechanical equipment and vehicles, as well as paints and chemicals used on site. Any spills shall be handled according to the Spill Response Actions in Attachment A.

ATTACHMENT C – SEQUENCE OF MAJOR ACTIVITIES

The first activity of construction will be to install erosion control measures, consisting of silt fences, tree protection, storm drains, inlet protection, rock berms, and stabilized construction entrances. Temporary erosion control measures will remain in place throughout the duration of construction and will be required to be maintained by the contractor to ensure proper functionality, especially after storm events. All disturbed areas to remain pervious will be vegetated using the procedures detailed in the construction plans and all temporary erosion control measures will be removed upon revegetation. Construction activities associated with this application are expected to disturb approximately 5.34 acres of the site.

Major Construction Activities and Sequencing:

The major construction activities for this project will include and be sequenced as follows:

1. Established Best Management Practices shall consist of the following: silt fencing, rock berms, temporary spoils areas, concrete truck washout pits, and temporary construction entrances (Estimated area to be disturbed = 0.88 Acres). These items are to remain and be maintained throughout all construction activities.

2. Initial site mass grading operation including right-of-way and first grading. (Estimated area to be disturbed = 1.10 Acres)
3. Installation of utilities including storm, water, and wastewater (Estimated area to be disturbed = 0.46 Acres)
4. Construction of street/driveway pavement including backfill behind curbs (estimated area to be disturbed = 1.12 Acres)
5. Total Construction (estimated area to be disturbed = 5.34 Acres)
6. Final soil stabilization for the site and removal of temporary BMPs once the soil has been stabilized.

The contractor is responsible for implementing and maintaining the storm water pollution prevention plan which includes maintaining all the necessary erosion controls throughout construction.

ATTACHMENT D – TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

As shown on the Construction Erosion Control Plans, temporary BMP practices and measures will include installing silt fences, inlet protection, rock berms, stabilized construction entrances, a concrete truck washout, and a temporary spoils area prior to beginning grading operations on the site. Temporary measures are intended to provide a method of slowing the upgradient flow, onsite flow or runoff from the construction site in order to allow sediment and suspended solids to settle out of the water. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features. As a temporary BMP, silt fences will be installed to reduce pollutants. BMP measures utilized in this plan are intended to allow storm water to continue downstream after passing through for treatment.

Site Preparation:
The methodology for pollution prevention of all on-site stormwater will include a) the erection of silt fences along the downgradient boundary of the construction activities, b) installation of inlet protection at all inlets, c) installation of stabilized construction entrances to reduce the dispersion of sediment from the site, and d) installation of a construction staging area.

Construction:
All installed erosion control measures will be inspected, and if necessary, repaired before any additional construction begins, as well as periodically throughout the construction process. The contractor will be responsible for all maintenance of erosion control measures, as well as the installation of all remaining on-site control measures, including the concrete truck washout, as necessary.

ATTACHMENT E – REQUEST TO TEMPORARILY SEAL A FEATURE

There are no sensitive features on-site within Berry Creek Crossing Shared Improvements as shown in the geologic assessment and construction plans. There will be no sealing of sensitive features on the site.

ATTACHMENT F – STRUCTURAL PRACTICES

The site flows and the upgradient run off will encounter batch detention ponds.

ATTACHMENT G – DRAINAGE AREA MAPS

Refer to the construction plans attached.

ATTACHMENT H – TEMPORARY SEDIMENT POND(S) PLANS AND CALCULATIONS

The batch detention ponds will act as temporary and permanent sedimentation ponds. The existing batch detention pond (BDP-01) provides 177,195 CF of water quality volume. The existing batch detention pond (BDP-02) provides 72,050 CF of water quality volume.

The calculated temporary sedimentation pond volume required for BDP-01 is calculated below.
Calculation: Required Volume = (Rainfall Depth*Runoff Coefficient*Drainage Area*120%)
= 2.20 in. * 0.26 * 33.62 acres * 120%
= 83,769 CF

The calculated temporary sedimentation pond volume required for BDP-02 is calculated below.
Calculation: Required Volume = (Rainfall Depth*Runoff Coefficient*Drainage Area*120%)
= 1.60 in. * 0.13 * 12.87 acres * 120%
= 11,661 CF

ATTACHMENT I – INSPECTION AND MAINTENANCE FOR BMPS

See construction plans included with this application submittal.

Temporary Best Management Practices (BMPs) and measures will be used during construction to prevent pollution of groundwater, surface water and naturally occurring environmental features. Silt fences, inlet protection, rock berms, stabilized construction entrances, tree protection, concrete washout area, and a temporary spoils area will be installed prior to beginning construction and prior to commencement of any of the activities defined in the sequence of construction as Attachment C. Inspection and maintenance of the on-site controls shall be performed during the site clearing and rough grading process. Weekly inspections will be documented in an inspection report. The inspection reports will document maintenance activities, sediment removal, and any modifications to the erosion and sedimentation controls. The perimeter fence shall be regularly monitored to ensure that the buffers remain no-construction zones until the site work has been completed and authorization has been granted by the engineer. Refer to the construction plans attached for specific controls and details.

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 run-off from the site, and through the use of silt fences placed immediately downstream of disturbed areas and inlet protection at all inlets. To minimize destruction to any portion of the Recharge Zone, on-site perimeter silt fences will also be implemented for pertinent areas throughout the entirety of construction. The Contractor is expected to inspect the controls weekly and after significant rainfalls to ensure proper function. When silt accumulates six (6) inches in depth the Contractor shall promptly remove the silt from the controls.

BMPs and measures will prevent pollutants from entering surface streams or the aquifer by intercepting stormwater potentially carrying sediment and other pollutants. BMPs and measures will implement stabilized construction entrances, a construction stockpiling/staging area, and a concrete washout area to help minimize pollutant run-off and erosion generated during construction. Paved streets and driveways adjacent to these sites will be cleaned regularly to remove excess mud, dirt or rock tracked from the site. Sedimentation will be concentrated only in these areas for efficient maintenance. Water trucks will be on-site as necessary to aid be cleaned regularly to remove excess mud, dirt or rock tracked from the site. Sedimentation will be concentrated only in these areas for efficient maintenance. Water trucks will be on-site as necessary to aid in controlling dust. BMPs will be implemented to limit/prevent contaminated inflow from entering surface streams or the aquifer. These practices are to include the following measures: the use of silt fence and inlet protection. The fabricated silt fence barricade will provide help to reduce the likelihood of contaminated runoff from entering the aquifer. If any sensitive features are identified by TCEQ inspections, or during excavation or construction, measures appropriate to the sensitivity of the discovered feature will be enacted. No blasting is proposed.

Temporary Erosion and Sedimentation Notes:

1. The Contractor shall maintain, install erosion/sedimentation controls and tree/natural protective fencing prior to any site preparation work (clearing, grubbing or excavation).

2. The placement of erosion/sedimentation controls and tree/natural area protective fencing shall be in accordance with the TCEQ Technical Guidance Manual and the approved Erosion and Sedimentation Control Plan. No erosion controls shall be placed beyond the property lines of the site unless written permission has been obtained from adjacent property owners.
3. A pre-construction conference shall be held on-site with the Contractor, design engineer/permit applicant and Environmental Inspector after installation of the erosion/sedimentation and tree/natural area protection measures and prior to beginning any site preparation work. The Contractor shall notify the Environmental Inspector at least three (3) days prior to the meeting date.
4. Any major variation in materials or locations of controls or fences from those shown on the approved plans will require a revision and must be approved by the reviewing engineer, environmental specialist or city arborist as appropriate. Minor changes to be made as field revisions to the Erosion and Sedimentation Control Plan may be required by the Environmental Inspector during the course of construction to correct control inadequacies.
5. The Contractor is required to inspect the controls at weekly intervals and after significant rainfall events to ensure that they are functioning properly. The person(s) responsible for maintenance of controls shall immediately make any necessary repairs to damaged areas. Silt accumulation at controls must be removed when the depth reaches six (6) inches.
6. Prior to final acceptance by the City, haul roads and waterway crossing constructed for temporary Contractor access must be removed, accumulated sediment removed from the waterway and the area restored to the original grade and revegetated. All land clearing debris shall be disposed of in approved soil disposal sites.
7. All work must stop if a void in the rock substrate is discovered, which is one (1) square foot in total area, blows air from within the substrate, and/or consistently received water during any rain event. At this time it is the responsibility of the project manager to immediately contact an Environmental Inspector for further investigation.
8. 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.
9. 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 for effectiveness. Additional measures may be required if, in the opinion of the City Engineer, they are warranted.
10. 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.
11. Any dirt, mud, rocks, debris, etc., that is spilled, tracked, or otherwise deposited on any existing paved street shall be cleaned up immediately.

<u>Dewatering Operations</u>

1. Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP area under way, inspect weekly to verify continued BMP implementation.
2. Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
3. Unit-specific maintenance requirements are included with the description of each technology.
4. Sediment removed during the maintenance of a dewatering device may be either spread onsite and stabilized, or disposed of at a disposal site.
5. Sediment that is commingled with other pollutants must be disposed of in accordance with all applicable laws and regulations.

ATTACHMENT J – SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Contractors will ensure that existing vegetation is preserved where attainable and that disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to temporary seeding, permanent seeding, mulching, geotextiles, sodding, tree protection, preservation of natural vegetation and other appropriate measures. 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. Except as noted below, stabilization shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the activity has temporarily or permanently ceased. Refer to the construction plans attached for the TCEQ Notes, the Existing Conditions & Tree Survey, and the Erosion & Sedimentation Control Plan.

Permanent Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(C), (D)(Ii), (E), and (5), Effective June 1, 1999

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

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

Signature

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

Print Name of Customer/Agent: Christine Campbell, P.E.

Date: 09/09/2025

Signature of Customer/Agent

Regulated Entity Name: Berry Creek Crossing Shared Improvements

Permanent Best Management Practices (BMPs)

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

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

   ☐ N/A

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

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

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

☐ N/A

3. ☒ Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

   ☐ N/A

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

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

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

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

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

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

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

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

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

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

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

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

☐ N/A

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

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

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

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

☒ Design calculations (TSS removal calculations)
☒ TCEQ construction notes
☒ All geologic features
☒ All proposed structural BMP(s) plans and specifications

☐ N/A

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

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

    ☐ N/A

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

    ☒ N/A

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

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

14. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

    ☐ N/A

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

    ☐ N/A

ATTACHMENT B – BMP'S FOR UPGRADIENT STORMWATER

There is upgradient flow that will enter the overall Berry Creek Crossing development. This flow is taken into consideration for the permanent water quality BMPs designed for this site.

ATTACHMENT C – BMP'S FOR ON-SITE STORMWATER

The project site is a mix of a previously used mobile homes park and undeveloped wooded land with grass. This site is fully under the City of Georgetown's jurisdiction and is a part of the Planned Unit Development [PUD] (No. 2021-52). Runoff flows northeast towards Berry Creek. This project site is not located within the boundaries of a 100-year floodplain as defined by FEMA FIRM panel No. 48491C0292F dated December 20, 2019.

The proposed infrastructure is sized to treat a minimum 80% of the TSS as defined by the TCEQ and 85% of the batch detention pond TSS as defined by the City of Georgetown.

The proposed development proposes ~1.24 acres of impervious cover (23.2%) and will have the associated runoff treated by two existing batch detention ponds approved and built per 2023-11-CON (TCEQ EAPP ID No. 11003583). Based on the 80% TSS removal requirement by TCEQ and the contribution from the previously proposed Berry Creek Apartments, we need to provide 9,611 lbs. of TSS removal for the total 11.05 acres of impervious cover proposed in Berry Creek Apartments as well as this Berry Creek Crossing Shared Improvements. The batch detention ponds are designed to handle a fully developed condition of approximately 24.02 (BDP-01) & 9.47 (BDP-02) acres of impervious cover, providing 22,525 (BDP-01) & 8,950 (BDP-02) lbs. of TSS removal respectively. As shown in the calculations, the BMPs satisfy the TSS removal requirement. The 85% TSS removal requirement by the City of Georgetown is also satisfied by the batch detention ponds.

The fully-developed conditions for the overall area propose approximately 34.54 acres of post-development impervious cover. As shown in the calculations, the existing Berry Creek Crossing Drainage Improvements batch detention ponds (BDP-01 & BDP-02), existing vegetative filter strips (VFS-01 & VFS-02), and future vegetative filter strip (VFS-03) satisfy this requirement. The 85% TSS removal requirement by the City of Georgetown is also satisfied with the batch detention ponds.

In the fully-developed condition, the existing batch detention pond (BDP-01) will treat a total of approximately 24.02 acres of impervious and provide 22,525 lbs. of TSS removal. The existing batch detention pond (BDP-02) will treat a total of approximately 9.47 acres of impervious cover and provide 8,950 lbs. of TSS removal. The existing vegetative filter strip (VFS-01) will treat 0.26 acres of impervious cover and provide 251 lbs. of TSS removal. The existing vegetative filter strip (VFS-02) will treat 0.06 acres of impervious cover and provide 58 lbs. of TSS removal. The future vegetative filter strip (VFS-03) will treat approximately 0.11 acres of impervious cover and provide 105 lbs. of TSS removal. Approximately 0.62 acres of future impervious cover are bypassing treatment.

Refer to the Construction Plans for the sediment treatment details.

ATTACHMENT D – BMP'S FOR SURFACE STREAMS

There are no surface streams on the proposed site. Portions of the overall Berry Creek Crossing site are located within the 100-year floodplain as defined by FEMA FIRM Panel No. 48491C0292F, dated December 20, 2019. However, no portion of the Berry Creek Crossing Shared Improvements development is within the 100-year floodplain.

ATTACHMENT F – CONSTRUCTION PLANS

Construction plans are attached.

ATTACHMENT I – MEASURES OF MINIMIZING SURFACE STREAM CONTAMINATION

There are no surface streams located on the proposed site.

ATTACHMENT G – INSPECTION, MAINTENANCE, REPAIR, AND RETROFIT PLAN

Batch Detention Pond

1. Inspections should take place a minimum of twice a year and be documented in inspection reports. Inspection reports should include a field logbook documenting date, location, and action items. 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.
2. 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.
3. 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.
4. 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.
5. 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.).
6. 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.
7. 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.
8. 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.

Vegetative Filter Strips

1. Seasonal Mowing and Lawn Care. If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on vegetative filter strip areas.
2. Inspection. Inspect filter strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections
3. Debris and Litter Removal. Trash tends to accumulate in vegetated areas, particularly along highways. Any filter strip structures (i.e. level spreaders) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection, but should be performed no less than 4 times per year.
4. Sediment Removal. Sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flatbottomed shovels.
5. Grass Reseeding and Mulching. A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting should be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established.

An amended copy of this document will be provided to the TCEQ within thirty days of any changes in the following information.

Responsible Party for Maintenance:	IH35 SH130, L.P.
Address:	6002 Camp Bullis Road, SUITE 201
City, State, Zip:	San Antonio, TX 78257
Telephone Number:	(210) 863-0717

Signature of Responsible Party _____

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

I Rajeev Puri,
Print Name

Manager,
Title - Owner/President/Other

of IH35 SH130, LP,
Corporation/Partnership/Entity Name

have authorized Christine Campbell, P.E.
Print Name of Agent/Engineer

of HR Green Development TX, LLC
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

08/29/2025
Date

THE STATE OF TEXAS §

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared RAJEEV PURI 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 29th day of AUGUST, 2025.

Joni R. Warren
NOTARY PUBLIC

JONI L. WARREN
Notary Public, State of Texas
Comm. Expires 02-24-2029
Notary ID 126815981

Joni L. Warren
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 2/24/2029

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Berry Creek Crossing Shared Improvements
Regulated Entity Location: Located on the northeast corner of SH 130 & N IH 35
Name of Customer: IH35 SH130, LP
Contact Person: Rajeev Puri Phone: 210-863-0717
Customer Reference Number (if issued):CN 605683812
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment**. This payment is being submitted to:

☐ Austin Regional Office
☒ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residentia	60.75 Acres	$ 8,000
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: Christa Caldwell Date: 09/09/2025

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Core Data Form

TCEQ Use Only

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided.)*

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 605683812		RN

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* *If new Customer, enter previous Customer below:*

IH35 SH130, 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)*
0803048814	32067566599		

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☒ Limited

Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☒ Yes ☐ No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following:*

☒ Owner ☐ Operator ☐ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

6002 Camp Bullis Road

City	State	ZIP	ZIP + 4
San Antonio	TX	78257	

16. Country Mailing Information *(if outside USA)*

17. E-Mail Address *(if applicable)*

rpuri@athernadomain.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(210) 863-0717		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC.)

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Berry Creek Crossing Shared Improvements

23. Street Address of the Regulated Entity: *(No PO Boxes)*	2800 N IH35							
	City	Georgetown	**State**	TX	**ZIP**	78626	**ZIP + 4**	
24. County	Williamson County							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	Located on the northeast corner of the intersection of N IH 35 & SH 130.

26. Nearest City	**State**	**Nearest ZIP Code**
Georgetown	TX	78626

27. Latitude (N) In Decimal:	30.687024		**28. Longitude (W) In Decimal:**	-97.655455	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	41	13N	97	39	20W

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)
1611		237310	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Right of Way Improvements

34. Mailing Address:	**6002 Camp Bullis Road**							
	City	**San Antonio**	**State**	**TX**	**ZIP**	**78257**	**ZIP + 4**	
35. E-Mail Address:	**rpuri@athenadomain.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(210) 863-717		**( ) -**

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☒ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Christine Campbell	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512 **)** 872-6696		**( ) -**	christine.campbell@hrgreen.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:	HR Green Development TX, LLC	**Job Title:**	Project Manager
Name*(In Print)* **:**	Christine Campbell	**Phone:**	**(** 512 **)** 872-6696
Signature:		**Date:**	9/9/2025

1800734201N

Georgetown Title Company, Inc.

2018066618 DEED Total Pages: 8

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

SPECIAL WARRANTY DEED
(Williamson County, Texas)

Date: EFFECTIVE JULY 26, 2018

Grantor: MARY ANN JOSEPH AND DAN JOSEPH, SPOUSE; and VIRGINIA BISHOP, TRUSTEE OF THE VIRGINIA BISHOP DESCENDANT'S TRUST CREATED UNDER ARTICLE VI OF THE GLEN WILLBERN BISHOP AND ARLENE LELIA BISHOP LIVING TRUST UNDER AN INSTRUMENT DATED MAY 27, 2010

Grantee: IH35 SH130, LP
Address: Attn: Rajeev Puri
6002 Camp Bullis Rd
San Antonio, Texas 78257

Consideration: TEN AND 00/100 DOLLARS ($10.00) and other valuable consideration to the undersigned paid by the Grantee herein named, the receipt of which is hereby acknowledged, and the further consideration of a note of even date executed by Grantee and payable to the order of AD Acquisitions, LLC, a Texas limited liability company ("Lender"), in the principal amount of One Million Nine Hundred Thousand and No/100 ($1,900,000.00) (the "Note"). The Note is secured by a first and superior vendor's lien and superior title retained in this deed in favor of Lender and by a Deed of Trust of even date from Grantee to Marlise Kercheville, trustee.

Property (including any improvements):

49.31 acres of land, more or less, out of the JOHN BERRY SURVEY, Abstract No. 51 in Williamson County, Texas, the "Land", being more fully described by metes and bounds in **Exhibit "A"** attached hereto and made a part hereof, together with any and all improvements situated on the Land; and the right, title and interest of Grantor, if any, in and to any and all appurtenances, strips or gores, and easements, bounding the Land to the extent related to the Land; all utility capacity, water rights, mineral rights, licenses, permits, entitlements, and bonds, if any, to the extent they relate to the Land, to be used in conjunction with Grantor's adjacent property, and all other rights and benefits to the extent attributable to the Land, including rights to all personal property left on the land at closing; and the non-exclusive right to all points of ingress and egress appurtenant thereto.

Reservations from and Exceptions to Conveyance and Warranty:

This conveyance is made, delivered and accepted subject to the payment of ad valorem taxes assessed against the property conveyed for the current year, and those matters set forth in **Exhibit "B"** attached hereto and made a part hereof.

Grantor, for the consideration and subject to the reservations from and exceptions to conveyance and warranty, grants, sells, and conveys to Grantee the property, together with all and singular the rights and appurtenances thereto in anywise belonging, to have and hold it to Grantee, Grantee's heirs,

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executors, administrators, successors, or assigns forever. Grantor binds Grantor and Grantor's heirs, executors, administrators, successors, and assigns to WARRANT AND FOREVER DEFEND all and singular the said premises unto the said Grantee, Grantee's heirs, administrators, successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the reservations from and exceptions to conveyance and warranty, when the claim is by, through, or under Grantor but not otherwise.

GRANTEE ACKNOWLEDGES AND AGREES THAT, OTHER THAN AS MAY BE SPECIFICALLY SET FORTH IN THE CONTRACT BETWEEN GRANTOR AND GRANTEE HAVING AN EFFECTIVE DATE OF JANUARY 17, 2018, GRANTOR HAS NOT MADE, DOES NOT MAKE AND SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS, WARRANTIES, PROMISES, COVENANTS, AGREEMENTS OR GUARANTIES OF ANY KIND OR CHARACTER WHATSOEVER, WHETHER EXPRESS OR IMPLIED, ORAL OR WRITTEN, PAST, PRESENT OR FUTURE, OF, AS TO, CONCERNING OR WITH RESPECT TO (A) THE NATURE, QUALITY OR CONDITION OF THE PROPERTY, INCLUDING, WITHOUT LIMITATION, THE WATER, SOIL AND GEOLOGY, (B) THE INCOME TO BE DERIVED FROM THE PROPERTY, (C) THE SUITABILITY OF THE PROPERTY FOR ANY AND ALL ACTIVITIES AND USES WHICH GRANTEE MAY CONDUCT THEREON, (C) THE COMPLIANCE OF OR BY THE PROPERTY OR ITS OPERATION WITH ANY LAWS, RULES, ORDINANCES OR REGULATIONS OF ANY APPLICABLE GOVERNMENTAL AUTHORITY OR BODY, INCLUDING, WITHOUT LIMITATION, THE AMERICANS WITH DISABILITIES ACT AND ANY RULES AND REGULATIONS PROMULGATED THEREUNDER OR IN CONNECTION THEREWITH, AND THE TEXAS ARCHITECTURAL BARRIERS ACT AND ANY RULES AND REGULATIONS PROMULGATED THEREUNDER OR IN CONNECTION THEREWITH, (E) THE HABITABILITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PROPERTY, OR (F) ANY OTHER MATTER WITH RESPECT TO THE PROPERTY, AND SPECIFICALLY THAT GRANTOR HAS NOT MADE, DOES NOT MAKE AND SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS REGARDING SOLID WASTE, AS DEFINED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY REGULATIONS AT 40 C.F.R., PART 261, OR THE DISPOSAL OR EXISTENCE, IN OR ON THE PROPERTY, OF ANY HAZARDOUS SUBSTANCE, AS DEFINED BY THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT OF 1980, AS AMENDED, AND APPLICABLE STATE LAWS, AND REGULATIONS PROMULGATED THEREUNDER. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT HAVING BEEN GIVEN THE OPPORTUNITY TO INSPECT THE PROPERTY, GRANTEE IS RELYING SOLELY ON ITS OWN INVESTIGATION OF THE PROPERTY AND NOT ON ANY INFORMATION PROVIDED OR TO BE PROVIDED BY GRANTOR. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT ANY INFORMATION PROVIDED OR TO BE PROVIDED WITH RESPECT TO THE PROPERTY THAT WAS OBTAINED FROM THIRD PARTIES WAS OBTAINED FROM A VARIETY OF SOURCES AND THAT GRANTOR HAS NOT MADE ANY INDEPENDENT INVESTIGATION OR VERIFICATION OF SUCH INFORMATION OBTAINED FROM ANY THIRD PARTY. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT THE SALE OF THE PROPERTY AS PROVIDED FOR HEREIN IS MADE ON AN "AS IS, WHERE IS" CONDITION AND BASIS "WITH ALL FAULTS." GRANTEE ACKNOWLEDGES AND AGREES THAT THE PROVISIONS OF THIS PARAGRAPH WERE A MATERIAL FACTOR IN THE DETERMINATION OF THE PURCHASE PRICE OF THE PROPERTY.

Lender, at Grantee's request, has paid in cash to Grantor that portion of the purchase price of the Property that is evidenced by the Note. The first and superior vendor's lien against the superior title to the Property are retained for the benefit of Lender and are transferred to Lender without recourse to Grantor.

When the context requires, singular nouns and pronouns include the plural.

Mary Ann Joseph
MARY ANN JOSEPH

Dan Joseph
DAN JOSEPH

STATE OF TEXAS *

COUNTY OF Williamson *

This instrument was acknowledged before me on JULY 26 2018 by MARY ANN JOSEPH.

LINDA GUTHRIE
Notary Public, State of Texas
Expires MARCH 07, 2022
I.D.# 617136-8

Linda Guthrie
Notary Public, State of Texas

STATE OF TEXAS *

COUNTY OF Williamson *

This instrument was acknowledged before me on JULY 26 2018 by DAN JOSEPH.

Linda Guthrie
Notary Public, State of Texas

LINDA GUTHRIE
Notary Public, State of Texas
Expires MARCH 07, 2022
I.D.# 617136-8

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Virginia Bishop

VIRGINIA BISHOP, TRUSTEE OF THE VIRGINIA BISHOP DESCENDANT'S TRUST CREATED UNDER ARTICLE VI OF THE GLEN WILLBERN BISHOP AND ARLENE LELIA BISHOP LIVING TRUST UNDER AN INSTRUMENT DATED MAY 27, 2010

STATE OF TEXAS *

COUNTY OF Williamson *

This instrument was acknowledged before me on JULY 21, 2018 by VIRGINIA BISHOP, TRUSTEE OF THE VIRGINIA BISHOP DESCENDANT'S TRUST CREATED UNDER ARTICLE VI OF THE GLEN WILLBERN BISHOP AND ARLENE LELIA BISHOP LIVING TRUST UNDER AN INSTRUMENT DATED MAY 27, 2010.

Notary Public, State of Texas

LINDA GUTHRIE
Notary Public, State of Texas
Expires MARCH 07, 2022
I.D.# 617136-6

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GRANTEE'S ACCEPTANCE:

IH35 SH130, LP.,
a Texas limited liability company

By: IH35 SH130 GP, LLC,
a Texas limited liability company,
its general partner

By: _____
Name: Rajeev Puri
Title: Manager

STATE OF TEXAS *

COUNTY OF BEXAR *

This instrument was acknowledged before me on JULY 25, 2018 by Rajeev Puri, Manager of IH35 SH130 GP, LLC, a Texas limited liability company acting as general partner of IH35 SH130, LP., a Texas limited partnership, on behalf of said partnership.

MARIA S. ANZALDUA
Notary Public, State of Texas
Comm. Expires 11-08-2021
Notary ID 6884464

_____
Notary Public, State of Texas

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FOREST SURVEYING AND MAPPING CO.
T.B.P.L.S Firm # 10002000
1002 Ash St.
Georgetown, Tx. 78626

EXHIBIT "A"

DESCRIPTION FOR MARY ANN JOSEPH & VIRGINIA BISHOP, TRUSTEES - AD ACQUISITIONS, LLC

BEING 49.31 ac. of the John Berry Survey, Abstract No. 51, in Williamson County, Texas; part of a tract that was described in a deed to the Glen Willbern Bishop and Arlene Lelia Bishop Living Trust (77.059 ac. less exceptions) of record in Doc. 2003097140, of the Official Public Records of Williamson County, Texas (OPRWCT). For various interests in this property see deed to Mary Ann Joseph and Virginia Bishop, Co-Trustees, as set out in Doc. 2016053295. This tract was surveyed on the ground in May of 2018 under the direction of William F. Forest, Jr., Registered Professional Land Surveyor No. 1847. Survey note: The bearing basis for this survey is the State Plane Coordinate System, Texas Central Zone Western Data VRS Network.

COMMENCING FOR REFERENCE at the Southeast corner of the said 77.059 acre tract at the approximate center of the channel of Berry Creek. This corner exists at the Northeast corner of the property of Linda Vise, Larry Wittera and Ruth Ann Sudduth, the heirs of Amelia Wittera, et. vir, the same property that was conveyed to Amelia Wittera, et. vir, as described in Vol. 472, Pg. 133 (remainder parcel, formerly 102.5 acres). This corner also exists in the West boundary of the property that is described in a deed to Williamson County (Tract II Doc. 2011066293, 210.514 ac. to centerline of creek).

THENCE with the South line of a 30 foot wide utility easement of 0.66 acres (City of Georgetown sewer easement agreement Doc. 2017009836), (L10) S 68°48'43" W 94.21 feet to an iron pin which was found on the High West bank of the creek (edge of a cliff); and S 68° 42'25" W 867.02 feet to the TRUE POINT OF BEGINNING. This corner is an iron pin which was found in the most Southerly South boundary of the said 77.059 acres, at the Southeast corner of the 4.13 acre property that was described in a Deed to Zymac Group Ltd., as filed in Doc. 2017009838.

THENCE with the boundary of the property conveyed to Zymac Group Ltd., N 21°22'49" W 285.01 feet to an iron pin which was found; and S 68°47'17" W 673.63 feet to an iron pin which was found in the East boundary of State Highway 130 (lower Northeast corner of the property conveyed to the Texas Transportation Commission, Part 2 called 2.449 ac. as described in Doc. 2004037653). It is noted that at this location access is permitted to the service road of State Highway 130. This corner exists at the Southwest corner of a utility easement granted to the public (30 feet wide, 0.937 acres), as described in Doc. 2017009837.

THENCE with West line of the said easement and the East line of State Highway 130 (Condemnation Judgement, Part 1 called 11.07 ac. as described in Doc. 2005015488); N 37°47'45" W 492.12 feet to an iron pin which was found at the beginning of a curve (C19) to the left having a radius of 1268.17 feet and a central angle of 17°44'17", 392.61 feet with the arc of the curve, the chord bears N 46°09'40" W 391.04 feet to an iron pin which was found at the beginning of a curve to the right (C18) having a radius of 200 feet and a central angle of 22° 00'13", 76.81 feet with the arc of the curve, the chord bears N 43°42'41" W 76.34 feet to an iron pin which was found at the beginning of a curve(C22).

THENCE continuing with the West line of the said utility easement and with the curved East line of State Highway 130, with a curve to the right (C16) having a radius of 1307.00 feet and a central angle of 17°40'01", 403.01 feet with the arc of the curve, the chord bears N 24°12'03" W 401.42 feet to a ½ inch capped iron pin which was found at the Northwest corner of this property, in the South boundary of the property of Larry D. Kokel and Dale Illig (73.153 ac. Doc. 9663744).

THENCE with the North boundary of the 77.059 acres and the South boundary of the 73.153 acres, as follows; S 85°29'11" E 250.15 feet to a nail found in the in south base of 44" triple oak; finding ½ inch capped iron pins at bends in the fence as follows; N 87°33'22" E 206.83 feet; and N 89°15'52" E 98.50 feet.

1 of 2

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DESCRIPTION FOR MARY ANN JOSEPH & VIRGINIA BISHOP, TRUSTEES-AD ACQUISITIONS, LLC
49.31 AC. PAGE 2

THENCE continuing with the common boundary between the 77. 059 acres and the 73.153 acres, as follows; N 74°53'10" E 353.06 feet to an iron pin which was found; and N 75°32'54" E 487.05 feet to an iron pin that was found at a corner in the South boundary of the property that is described in a deed to Larry D. Kokel and Dale Illig (73.153 ac. Doc. 9663744).

THENCE with the common boundary between the said 77.059 acres and the said 73.153 acres, generally along or near an existing fence, (L6) S 37°19'28" E 55.0 feet to an iron pin which was found at another offset corner that exists in the North line of the 77.059 ac. and the South line of the 73.153 acres.

THENCE with the common boundary between the property of Kokel and Illig and the said Bishop 77.059 acres, finding iron pins as follows; N 68°37'26" E 240.61 feet; N 68°59'47" E 380.33 feet; N 69°31' 41" E 153.31 feet to an iron pin which was found on the West bank of Berry Creek; and (L7) N 69°31'41" E 30.00 feet to a submerged point in the approximate center of the channel of Berry Creek.

THENCE downstream with the approximate center of the channel of Berry Creek following the common boundary between the said 77.059 acres and the said 210.514 acres that is described in a deed to Williamson County (Doc. 2011066293), as follows; S 05° 53'10" W 304.87 feet {this submerged point stands (L9) S 65°32'17" E 34.83 feet from an iron pin which was found at north base of 36" cotton wood tree on the bank of the creek}; continuing with the centerline of the waterway, S 04°31'49" E 427.11 feet {this submerged point stands (L8) N 20°04'19" E 32.54 feet from an iron pin which was found on the low West bank of the creek}; continuing with the approximate centerline of the waterway to submerged points as follows: S 14°39'34" E 117.74 feet; S 15°31'17" E 127.66 feet; and S 41°45'09" E 316.70 feet to the Southeast corner of the said 77.059 acres. This corner exists at the Southeast corner of an easement for utilities containing 0.66 acres (Commencing Point).

THENCE with the South line of the 77.059 acres and the North boundary of the property of Linda Vise, Larry Wittera and Ruth Ann Sudduth, and with the South line of a 30 foot wide utility easement as follows; (L10) S 68°48'43" W 94.21 feet to an iron pin which was found on the High West bank of the creek (edge of a cliff); and S 68°42'25" W 867.02 feet to the TRUE POINT OF BEGINNING.

I, WM. F. FOREST, JR., do hereby certify that this survey was made on the ground of the property legally described hereon, under my supervision in May of 2018. This description is true and correct to the best of my knowledge and belief. The attached plat identifies any significant boundary line conflicts, shortages in area, apparent protrusions, intrusions or overlapping of improvements. This property abuts a public roadway, except as shown. Ownership and easement information for this tract has not been researched except as shown on the attached plat.

TO CERTIFY WHICH, WITNESS my hand and seal at Georgetown, Texas, this the 4th day of May of 2018, A.D. File: bishop 49.31 ac.doc

WM.F. FOREST JR.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 1847

EXHIBIT "A"

2 of 2

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EXHIBIT "B"
(Permitted Encumbrances)

1. Restrictive covenants recorded in Volume 1435, Page 46 and Document No. 9844745, Official Records, Williamson County, Texas.

2. Water Pollution Abatement Plan recorded in Volume 1428, Page 902, Volume 1887, Page 211, Official Records and Document No. 2000017893, Official Public Records, Williamson County, Texas.

3. Easement as set out in instrument dated October 14, 1986, by Glen W. Bishop and recorded in Volume 1435, Page 46, Official Records, Williamson County, Texas.

4. Easement dated February 11, 1991, by Glen W. Bishop, et al to GTE Southwest Incorporated recorded in Volume 1987, Page 87, Official Records, Williamson County, Texas.

5. Affidavit to the Public regarding the operation of a secondary treatment system recorded under Document No. 2000030231, Official Public Records, Williamson County, Texas.

6. Easement dated June 15, 2004, by Glen Willbern Bishop and Arlene Lelia Bishop Living Trust to Pedernales Electric Cooperative, Inc., recorded under Document No. 2006010421, Official Public Records, Williamson County, Texas.

7. Easement dated April 7, 2010, by Glen Willbern Bishop and Arlene Bishop Living Trust to the City of Georgetown, recorded under Document No. 2010028582, Official Records, Williamson County, Texas.

8. Easement dated January 27, 2017, by Mary Ann Joseph and Virginia Bishop, Trustee to the City of Georgetown, recorded under Document No. 2017009836, Official Public Records, Williamson County, Texas.

9. Easement dated January 27, 2017, by Mary Ann Joseph and Virginia Bishop, Trustee to the City of Georgetown, recorded under Document No. 2017009837, Official Public Records, Williamson County, Texas.

10. Overhead power lines and power poles crossing the land extending onto the property owned by Larry D. Kokel and Dale Illig (Doc 9663644) to the north as shown on survey dated May 4, 2018, by Williams F. Forest, Jr., Registered Professional Land Surveyor No. 1847 of Forest Surveying & Mapping Company.

11. The effect, if any, of restrooms cinder block building and asphalt area lying in utility easement as shown on survey dated May 4, 2018, by William F. Forest, Jr., Registered Professional Surveyor No. 1847 of Forest Surveying & Mapping Company.

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FILED AND RECORDED
OFFICIAL PUBLIC RECORDS 2018066618

DEED Fee: $49.00
07/27/2018 04:07 PM LMUELLER

Nancy E. Rister, County Clerk
Williamson County, Texas

C/H Georgetown Title Company, Inc.

(3)

ELECTRONICALLY RECORDED 2022009903
Williamson County, Texas Total Pages: 8

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

SPECIAL WARRANTY DEED
(Williamson County, Texas)

Date: EFFECTIVE JANUARY 19, 2022

Grantor: KOKEL LEGACY, LLC aka KOKEL LEGACY LLC and DAS UBER MONTNEY, LLC

Grantee: IH35 SH130, LP

Address: Attn: Rajeev Puri
6002 Camp Bullis Rd
San Antonio, Texas 78257

Consideration: TEN AND 00/100 DOLLARS ($10.00) and other valuable consideration to the undersigned paid by the Grantee herein named, the receipt of which is hereby acknowledged.

Property (including any improvements):

11.438 acres of land, more or less, out of the JOHN BERRY SURVEY, Abstract No. 51 in Williamson County, Texas, the "Land", being more fully described by metes and bounds in **Exhibit "A"** attached hereto and made a part hereof, together with any and all improvements situated on the Land; and the right, title and interest of Grantor, if any, in and to any and all appurtenances, strips or gores, and easements, bounding the Land to the extent related to the Land; all utility capacity, water rights, mineral rights, licenses, permits, entitlements, and bonds, if any, to the extent they relate to the Land, to be used in conjunction with Grantor's adjacent property, and all other rights and benefits to the extent attributable to the Land, including rights to all personal property left on the land at closing; and the non-exclusive right to all points of ingress and egress appurtenant thereto.

Reservations from and Exceptions to Conveyance and Warranty:

This conveyance is made, delivered and accepted subject to the payment of ad valorem taxes assessed against the property conveyed for the current year 2022, and those matters set forth in **Exhibit "B"** attached hereto and made a part hereof.

Grantor, for the consideration and subject to the reservations from and exceptions to conveyance and warranty, grants, sells, and conveys to Grantee the property, together with all and singular the rights and appurtenances thereto in anywise belonging, to have and hold it to Grantee, Grantee's heirs, executors, administrators, successors, or assigns forever. Grantor binds Grantor and Grantor's heirs, executors, administrators, successors, and assigns to WARRANT AND FOREVER DEFEND all and singular the said premises unto the said Grantee, Grantee's heirs, administrators, successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the reservations from and exceptions to conveyance and warranty, when the claim is by, through, or under Grantor but not otherwise.

GRANTEE ACKNOWLEDGES AND AGREES THAT, OTHER THAN AS MAY BE

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SPECIFICALLY SET FORTH IN THE CONTRACT BETWEEN GRANTOR AND GRANTEE HAVING AN EFFECTIVE DATE OF JANUARY 17, 2018, GRANTOR HAS NOT MADE, DOES NOT MAKE AND SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS, WARRANTIES, PROMISES, COVENANTS, AGREEMENTS OR GUARANTIES OF ANY KIND OR CHARACTER WHATSOEVER, WHETHER EXPRESS OR IMPLIED, ORAL OR WRITTEN, PAST, PRESENT OR FUTURE, OF, AS TO, CONCERNING OR WITH RESPECT TO (A) THE NATURE, QUALITY OR CONDITION OF THE PROPERTY, INCLUDING, WITHOUT LIMITATION, THE WATER, SOIL AND GEOLOGY, (B) THE INCOME TO BE DERIVED FROM THE PROPERTY, (C) THE SUITABILITY OF THE PROPERTY FOR ANY AND ALL ACTIVITIES AND USES WHICH GRANTEE MAY CONDUCT THEREON, (C) THE COMPLIANCE OF OR BY THE PROPERTY OR ITS OPERATION WITH ANY LAWS, RULES, ORDINANCES OR REGULATIONS OF ANY APPLICABLE GOVERNMENTAL AUTHORITY OR BODY, INCLUDING, WITHOUT LIMITATION, THE AMERICANS WITH DISABILITIES ACT AND ANY RULES AND REGULATIONS PROMULGATED THEREUNDER OR IN CONNECTION THEREWITH, AND THE TEXAS ARCHITECTURAL BARRIERS ACT AND ANY RULES AND REGULATIONS PROMULGATED THEREUNDER OR IN CONNECTION THEREWITH, (E) THE HABITABILITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PROPERTY, OR (F) ANY OTHER MATTER WITH RESPECT TO THE PROPERTY, AND SPECIFICALLY THAT GRANTOR HAS NOT MADE, DOES NOT MAKE AND SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS REGARDING SOLID WASTE, AS DEFINED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY REGULATIONS AT 40 C.F.R., PART 261, OR THE DISPOSAL OR EXISTENCE, IN OR ON THE PROPERTY, OF ANY HAZARDOUS SUBSTANCE, AS DEFINED BY THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT OF 1980, AS AMENDED, AND APPLICABLE STATE LAWS, AND REGULATIONS PROMULGATED THEREUNDER. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT HAVING BEEN GIVEN THE OPPORTUNITY TO INSPECT THE PROPERTY, GRANTEE IS RELYING SOLELY ON ITS OWN INVESTIGATION OF THE PROPERTY AND NOT ON ANY INFORMATION PROVIDED OR TO BE PROVIDED BY GRANTOR. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT ANY INFORMATION PROVIDED OR TO BE PROVIDED WITH RESPECT TO THE PROPERTY THAT WAS OBTAINED FROM THIRD PARTIES WAS OBTAINED FROM A VARIETY OF SOURCES AND THAT GRANTOR HAS NOT MADE ANY INDEPENDENT INVESTIGATION OR VERIFICATION OF SUCH INFORMATION OBTAINED FROM ANY THIRD PARTY. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT THE SALE OF THE PROPERTY AS PROVIDED FOR HEREIN IS MADE ON AN "AS IS, WHERE IS" CONDITION AND BASIS "WITH ALL FAULTS." GRANTEE ACKNOWLEDGES AND AGREES THAT THE PROVISIONS OF THIS PARAGRAPH WERE A MATERIAL FACTOR IN THE DETERMINATION OF THE PURCHASE PRICE OF THE PROPERTY.

When the context requires, singular nouns and pronouns include the plural.

KOKEL LEGACY, LLC,
a Texas limited liability company

By: _____
Larry Kokel, Manager

By: _____
Dorothy Kokel, Manager

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STATE OF TEXAS §
§
COUNTY OF Williamson §

This instrument was acknowledged before me on January 19, 2022 by Larry Kokel and Dorothy Kokel, Managers of Kokel Legacy, LLC, a Texas limited liability company, on behalf of said company.

MERLIN LESTER
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 11/10/25
NOTARY ID 727648-6

Notary Public, State of Texas

DAS UBER MONTNEY, LLC,
a Texas limited liability company

By: _____

Name: Dale Illig, President

STATE OF TEXAS §
§
COUNTY OF Williamson §

This instrument was acknowledged before me on January 19, 2022 by Dale Illig, President of Das Uber Montney, LLC, a Texas limited liability company, on behalf of said company.

MERLIN LESTER
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 11/10/25
NOTARY ID 727648-6

Notary Public, State of Texas

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GRANTEE'S ACCEPTANCE:

IH35 SH130, LP.,
a Texas limited liability company

By: **IH35 SH130 GP, LLC,**
a Texas limited liability company,
its general partner

By: _____
Name: Rajeev Puri
Title: Manager

STATE OF TEXAS §
§
COUNTY OF BEXAR §

This instrument was acknowledged before me on January 19, 2022 by Rajeev Puri, Manager of IH35 SH130 GP, LLC, a Texas limited liability company acting as general partner of IH35 SH130, LP., a Texas limited partnership, on behalf of said partnership.

JONI L. WARREN
Notary Public, State of Texas
Comm. Expires 02-24-2025
Notary ID 126815981

_____
Notary Public, State of Texas

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FOREST SURVEYING AND MAPPING CO.
T.B.P.L.S Firm # 10002000
1002 Ash St.
Georgetown, TX, 78626

DESCRIPTION FOR: IH35 SH 135, LP 11.438 Acres

BEING 11.438 acres of land, situated in the John Berry Survey, Abstract No. 51, in Williamson County, Texas, said 11.438 acres being a portion out of a 73.153 acre tract, of record to Larry D. Kokel and Dale Illig, Document No. 9663744, Official Public Records Williamson County, Texas (OPRWCT). This tract was surveyed on the ground in August of 2021 under the direction of William F. Forest, Jr., Registered Professional Land Surveyor No. 1847. Survey note: The bearing basis for this survey is the State Plane Coordinate System, Texas Central Zone (4203), and being more particularly described by metes and bounds as follows:

BEGINNING, at a ½" capped iron pin found (steel pin), marked "FOREST RPLS 1847", at the Southwest corner of said 73.153 acre tract, for the Southwest corner hereof, said point being a point in the East Right-of-Way line of State Highway 130, said point being the Northwest corner of a 49.31 acre tract, of record to IH 35 South 130, LP, Document No. 2018066618 (OPRWCT), said point being a point on a curve to the right,

THENCE, with the West boundary line of said 73.153 acre tract and the East Right-of-Way line of State Highway 130, in a northerly direction with a non-tangent curve to the right, (C1) with a Radius of 1307.00 feet, having a Chord Bearing of N 08°25'25" W, 315.10 feet, having a Central Angle of 13°50'49" and an Arc Length of 315.87 feet, to an aluminum capped iron pin found, marked "TXDOT ", said point being a point in the East Right-of-Way line of Interstate Highway 35,

THENCE, with the West boundary line of said 73.153 acre tract and the East Right-of-Way line of Interstate Highway 35, N 16°02'46" E, 37.31 feet, to a ½" iron pin found, at the Southwest corner of Lot 1 of The Tilson Subdivision, Cabinet O, Slide 263, Plat Records Williamson County, Texas (PRWCT), for the most westerly Northwest corner hereof, from which a TXDOT Type I concrete marker found, at the Northwest corner of said Lot 1, bears: N 17°34'14" E, 307.95 feet,

THENCE, departing said Right-of-Way line, with the South and East boundary lines of said Lot 1, following two (2) courses and distances:

1. S 72°26'04" E, 335.04 feet, to a ½" iron pin found, at the Southeast corner of said Lot 1, for an ell corner hereof,
2. N 17°31'40" E, 179.97 feet, to a ½" iron pin found, at the Northeast corner of said Lot 1, for the most northerly Northwest corner hereof,

THENCE, over and across said 73.153, the following nine (9) courses and distances:

1. S 76°52'26" E, 682.59 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
2. N 80°36'10" E, 142.55 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
3. N 81°59'37" E, 187.34 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
4. N 66°29'51" E, 265.54 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
5. N 62°53'41" E, 124.46 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
6. N 78°09'45" E, 94.58 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
7. N 86°05'06" E, 145.89 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
8. N 79°49'29" E, 124.49 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
9. S 89°27'24" E, passing at 60.76, a ½" capped iron pin set, marked "FOREST RPLS 1847", in all a total distance of 106.21 feet, to a point submerged under water at the approximate centerline of Berry Creek, for the Northeast corner hereof, said point being a point in the East boundary line of said 73.153 acres, same being a point in the West boundary line of a 210.514 acre tract, of record to Williamson County, Tract II, Document No. 2011066293, for the Northeast corner hereof,

THENCE, with common boundary line of said 73.153 acre tract and said 210.514 acre tract, along or near the approximate center line of Berry Creek, S 01°09'18" E, 76.84 feet, to a point submerged underwater, for the Southeast corner hereof, said point being the Southeast corner of said 73.153 acre tract, same being the Northeast corner of said 49.31 acre tract,

Unofficial Document

THENCE, departing said creek, with the common boundary line of said 73.153 acre tract and said 49.31 acre tract, the following nine (9) courses and distances:

1. S 69°31'43" W, passing at 30.00 feet, a ½" iron pin found on the West bank, in all a total of 183.34 feet, to a ½" iron pin found, for an angle point hereof,
2. S 68°59'47" W, 380.38 feet, to a ½" iron pin found, for an angle point hereof,
3. S 68°37'25" W, 240.64 feet, to a ½" capped iron pin found, marked "FOREST RPLS 1847", for an angle point hereof,
4. N 37°19'21" W, 55.01 feet, to a ½" iron pin found, for an angle point hereof,
5. S 75°32'54" W, 487.11 feet, to a ½" iron pin found, for an angle point hereof,
6. S 74°53'10" W, 353.11 feet, to a ½" capped iron pin found, marked "FOREST RPLS 1847", for an angle point hereof,
7. S 89°15'54" W, 98.51 feet, to a ½" capped iron pin found, marked "FOREST RPLS 1847", for an angle point hereof,
8. S 87°33'21" W, 206.86 feet, to nail found in the South base of 44" triple oak, for an angle point hereof,
9. N 85°30'15" W, 250.08 feet, to the POINT OF BEGINNING, and containing 11.438 acres, more or less.

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

I, WM. F. FOREST, JR., do hereby certify that this survey was made on the ground of the property legally described hereon, under my supervision. This description is true and correct to the best of my knowledge and belief. The attached plat identifies any significant boundary line conflicts, shortages in area, apparent protrusions, intrusions or overlapping of improvements. This property abuts a public roadway, except as shown. Ownership and easement information for this tract has not been researched except as shown on the attached plat.

TO CERTIFY WHICH, WITNESS my hand and seal at Georgetown, Texas, this, the 20th day of August 2021, A.D. File: IH35 SH130 11.438 Acres.doc

WM.F. FOREST JR.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 1847

Unofficial Document

EXHIBIT "B"
(Permitted Encumbrances)

1. Easement dated October 1, 1947, by Marvin R. Bishop and Mrs. Loyola Bishop to Brazos River Transmission Electric Cooperative, Inc., recorded in Volume 349, Page 454, Deed Records, Williamson County, Texas.

2. Easement dated March 4, 2010, by Larry D. Kokel and wife, Dorothy A. Kokel and Dale Illig and wife, Sandra Illig to the City of Georgetown, recorded under Document No. 2010020207, Official Public Records, Williamson County, Texas.

3. Easement dated June 17, 1997, by Dale Illig and Larry D. Kokel to Tilson Home Corporation, recorded under Document No. 9726724, Official Records and as amended under Document No. 2004086846, Official Public Records, Williamson County, Texas.

4. Matters as reflected upon survey prepared by William F Forest, Jr, R.P.L.S. #1847, Dated August 20, 2021:
   Encroachment or protrusion of fences along and over the property line(s).
   Concrete drive encroaches across property lines.
   Power poles and overhead utility lines, utilities maintenance equipment as shown.

Unofficial Document

ELECTRONICALLY RECORDED
OFFICIAL PUBLIC RECORDS

2022009903

Pages: 8 Fee: $50.00
01/24/2022 12:02 PM
MBARRICK

Nancy E. Rister, County Clerk
Williamson County,Texas

Unofficial Document

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Kelly Keel, *Interim Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 21, 2023

Mr. Rajeev Puri
IH35 SH130, LP
6002 Camp Bullis Rd.
San Antonio, TX, 78257

Re: Approval of a Water Pollution Abatement Plan (WPAP)
Berry Creek Crossing Phase 1; Located East of the IH 35 and SH 130 Intersection;
Georgetown, Williamson County, Texas
Edwards Aquifer Protection Program ID: 11003583, Regulated Entity No. RN111517496

Dear Mr. Puri

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by HR Green Development TX, LLC on behalf of the applicant, IH35 SH130, LP on May 5, 2023. Final review of the application was completed after additional material was received on June 27, 2023, July 12, 2023, and July 19, 2023.

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

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

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

PROJECT DESCRIPTION

The proposed multifamily project will have an area of approximately 60.74 acres. The project will include a multifamily development with 308 units distributed among 15 buildings, associated parking and drives, two dog parks, a turn lane, an amenity center, and associated appurtenances. The impervious cover will be 11.33 acres (18.65 percent). Project wastewater will be disposed of by conveyance to the existing Pecan Branch 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, two batch detention basins (Pond A and Pond B) and two engineered vegetated filter strips (VFS 1 and VFS 2), designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 9,865 pounds of TSS generated from the 11.33 acres of impervious cover. The approved permanent BMPs and measures meet the required 80 percent removal of the increased load in TSS caused by the project.

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

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the surficial units of the site are the Quaternary Undivided Alluvium (Qu) and Quaternary Alluvium (Qal) deposits. No sensitive geologic features were identified in the GA. The site assessment conducted on June 6, 2023 by TCEQ staff determined the site to be generally as described by the GA.

STANDARD CONDITIONS

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

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

Prior to Commencement of Construction:

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

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

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

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

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

<u>During Construction:</u>

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

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

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

11. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

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

13. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

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

After Completion of Construction:

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

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

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

This action is taken as delegated by the executive director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Colin Gearing of the Edwards Aquifer Protection Program at 512-239-7015 or the regional office at 512-339-2929.

Sincerely,

Lillian Butler

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

LIB/cmg

cc: Mr. Diego Rojas, P.E., HR Green Development TX, LLC

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Erin E. Chancellor, *Interim Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 17, 2023

Mr. Rajeev Puri
IH35 SH130, LP
6002 Camp Bullis Rd.
San Antonio, TX 78257

Re: Edwards Aquifer, Williamson County
NAME OF PROJECT: Berry Creek Apartments; Located East of IH 35 and SH 130, Georgetown, Texas
TYPE OF PLAN: Request for Modification of an Approved Organized Sewage Collection System (SCS) Plan; 30 Texas Administrative Code (TAC) Chapter 213 & 217 Edwards Aquifer
Edwards Aquifer Protection Program ID No. 11003306; Regulated Entity No. RN111587440

Dear Mr. Puri:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the organized sewage collection system plans and specifications for the referenced project submitted to the Austin Regional Office on behalf of IH35 SH130, LP by HR Green Development Texas, LLC on October 10, 2022. Final review of the SCS was completed after additional material was received on January 26, 2023 and February 14, 2023. As presented to the TCEQ, the construction documents were selected and were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213 and Chapter 217. Therefore, based on the Texas Licensed Professional Engineer's concurrence of compliance, the planning materials for construction of the proposed sewage collection system 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 (2) two years from the date of this letter unless, prior to the expiration date, more than 10 percent of construction has commenced, or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed SCS will provide disposal service for the Berry Creek Apartment complex. The 4,733 linear feet gravity SCS system will consist of the pipe lengths listed in the table below:

Pipe Diameter (inches)	Linear Feet	Pipe Material	Specification
10	557	PVC SDR-26	ASTM D3034
8	2,687	PVC SDR-26	ASTM D3034
8	140	PVC SDR-26	ASTM D2241
6	955	PVC SDR-26	ASTM D3034

6	160	PVC SDR-26	ASTM D2241
4	174	PVC SDR-26	ASTM D3034
4	60	PVC SDR-26	ASTM D2241

The system will be connected to an existing City of Georgetown wastewater line for conveyance to the existing Pecan Branch Wastewater Treatment Plant for treatment and disposal. The project is located within the City of Georgetown and will conform to all applicable codes, ordinances, and requirements of the City of Georgetown.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the site is underlain by Quaternary Undivided Alluvium (Qu) and Quaternary Alluvium (Qal) deposits. No sensitive features were identified on site. The TCEQ site assessment conducted on January 10, 2023 revealed the site to be generally in accordance with the description included in the GA.

SPECIAL CONDITIONS

I. All wastewater conveyance and treatment infrastructure shall be operational prior to any occupancy of the houses and prior to any wastewater flow being introduced into the sewage collection system.

II. It is emphasized that where wastewater lines must bridge faults, caverns, sinkholes, or solution features the lines shall be constructed in a manner that will maintain the structural integrity of the pipe. When such sensitive features area encountered, 30 TAC §213.5(f)(2) requires that all regulated activities near the feature must be immediately suspended and the owner/developer shall immediately notify the Austin Regional Office. Additionally, when such geologic features are encountered which are bridged by construction, the location and extend of those features must be assessed by a geologist and must be reported to the Austin Regional Office in writing within two working days of discovery as required by 30 TAC §213.5(c)(3)(K). Construction may not resume in the area of the feature until the executive director has reviewed and approved the methods proposed to protect the aquifer from any potential adverse impacts. See Standard Condition 9 below.

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 project location shall be provided a copy of this notice of approval. At least one complete copy of the approved SCS plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.

5. Modification to the activities described in the referenced SCS 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. The executive director will use the notification to determine if the approved plan is eligible for an extension.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved application, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

<u>During Construction:</u>

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213 and Chapter 217. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume responsibility for all provisions and conditions of this approval.
9. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
10. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
11. Intentional discharges of sediment laden stormwater during construction are not allowed. If dewatering of excavated areas becomes necessary, the discharge will be filtered through appropriately selected temporary best management practices. These may include vegetative filter strips, sediment traps, rock berms, sit fence rings, etc.
12. The following records shall be maintained by the applicant and made available to the executive director upon request: the dates trenching 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 and completed.
13. 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.
14. No part of the system shall be used as a holding tank for a pump-and-haul operation.

After Completion of Construction:

15. Certification by a Texas Licensed Professional Engineer of the testing of sewage collection systems required by 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office within 30 days of test completion and prior to the new sewage collection system being put into service. The certification should include the project name as it appeared on the approved application, the program ID number, and two copies of a site plan sheet(s) indicating the wastewater lines and manholes that were tested and are being certified as complying with the appropriate regulations. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Should any test result fail to meet passing test criteria and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
16. Every five years after the initial certification, the sewage collection system shall be retested. Any lines that fail the test must be repaired and retested. Certification that the system continues to meet the requirements of 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office. The certification should include the project name as it appeared on the approved application, the program ID number and two copies of a site plan sheet(s) indicating the wastewater lines and manholes that were tested and are being certified as complying with the appropriate regulations. Should any test result fail to meet passing test criteria, and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
17. If ownership of this organized sewage collection system is legally transferred (e.g., developer to city or Municipal Utility District), the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
18. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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 Bob Castro, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at (512) 339-2929.

Sincerely,

Lillian Butler

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

cc: Mr. Diego Rojas, P.E., HR Green Development Texas, LLC

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 12, 2022

Mr. Rajeev Puri
IH35 SH130, LP
6002 Camp Bullis Road
San Antonio, TX 78257

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Berry Creek Crossing Wastewater Improvements; Located east of the IH 35 and SH 130 intersection; Georgetown, Texas

TYPE OF PLAN: Request for Approval of an Organized Sewage Collection System (SCS) Plan; 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Regulated Entity No. RN111517496; Additional ID No. 11003132

Dear Mr. Puri:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the organized sewage collection system plans and specifications for the referenced project submitted to the Austin Regional Office on behalf of IH35 SH130, LP by HR Green Development TX, LLC on June 9, 2022. Final review of the SCS was completed after additional material was received on July 29, 2022, and August 8, 2022. As presented to the TCEQ, the construction documents were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213 and Chapter 217. Therefore, based on the Texas Licensed Professional Engineer's concurrence of compliance, the planning materials for construction of the proposed sewage collection system 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 (2) two years from the date of this letter unless, prior to the expiration date, more than 10 percent of construction has commenced, or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial and multi-family project will have an area of approximately 60.75 acres with no existing impervious cover. The collection system will provide service for development of 700 multi-family units, one convenience store, four restaurants, two office buildings, one retail building and two hotels. Approximately 3.19 acres of soil disturbance is associated to the construction of the collection system.

The proposed sewage collection system will consist of a total of 3,494 linear feet of sewer main consisting of: 54 linear feet of 10-inch diameter PVC SDR 26 gravity sewer main (ASTM D-3034); 1,460 linear feet of 12-inch diameter PVC SDR 26 gravity sewer main (ASTM D-3034); 1,960 feet of 8-inch diameter SDR 26, 160 psi pressure rated main (ASTM D-2241); 20 feet of 12-inch diameter SDR 26, 160 psi pressure rated main (ASTM D-2241); manholes, and appropriate appurtenances for the residential development.

The system will be connected to an existing City of Georgetown wastewater line for conveyance to the Pecan Branch Recycling Center for treatment and disposal. The project is located within the City of Georgetown and will conform to all applicable codes, ordinances, and requirements of the City of Georgetown.

The proposed lift station will consist of a 6-foot diameter wet well with an approximate depth of 26.2 feet, two submersible grinder pumps, and one 150 kW emergency stand-by diesel generator. Each pump will have a pumping capacity of 550 gallons per minute (gpm) at a total dynamic head (TDH) of 71.31 feet. Additional equipment will include a control panel, an audio-visual alarm, auto-dial telemetry, level pump controllers, pump supports and discharge piping with valves, and a security fence with controlled access.

GEOLOGY

According to the geologic assessment included with the application, the site is underlain by the Quaternary Undivided Alluvium and Quaternary Alluvium deposits. Three sensitive man-made features in bedrock were identified by the project geologist within the fifty-foot sewer envelope along the sewer centerline. The site assessment conducted on July 19, 2022, revealed the site was generally as described in the geologic assessment.

Three sensitive man-made features in bedrock will be mitigated during sewer construction.

Feature BT-02 consist of eight RV utility hook-up trenches with the sewer alignment crossing five of the locations. The existing underground utilities will be cut and removed from the force-main trench and a clay envelope installed around the proposed force-main to prevent any leakage from traveling along the RV hook-up trench.

Feature BT-03 is a wastewater lift station that pumped wastewater collected from Feature BT-02 to an on-site septic disposal field and feature BT-04 is a wastewater grinder lift station. Both will be removed during construction and the excavation backfilled.

SPECIAL CONDITIONS

I. The lift station shall be designed and constructed to help ensure that bypassing of any sewage does not occur. All lift stations must be designed to meet the requirements of 30 TAC §217.63.

II. Upon completion of any lift station excavation, a geologist shall certify that the excavation has been inspected for the presence of sensitive features. Certification that the excavation has been inspected must be submitted to the San Antonio Regional Office within 30 days of the inspection.

III. By the responsible engineer's dated signature and seal on the Engineering Design Report attached to the submitted application, all information therein accurately reflects the information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer in accordance with the requirements of 30 TAC 213.5 (c) and Chapter 217.

IV. Construction of impervious cover at the lift station site may not commence until approval of an Edwards Aquifer Water Pollution Abatement Application for this development.

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 project location shall be provided a copy of this notice of approval. At least one complete copy of the approved SCS plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Modification to the activities described in the referenced SCS and lift station applications 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. The executive director will use the notification to determine if the approved plan is eligible for an extension.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved application, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213 and Chapter 217. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume responsibility for all provisions and conditions of this approval.
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 reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
10. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the

executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

11. The following records shall be maintained by the applicant and made available to the executive director upon request: the dates trenching 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 and completed.

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. Intentional discharges of sediment laden stormwater during construction are not allowed. If dewatering of excavated areas becomes necessary, the discharge will be filtered through appropriately selected temporary best management practices. These may include vegetative filter strips, sediment traps, rock berms, silt fence rings, etc.

14. No part of the system shall be used as a holding tank for a pump-and-haul operation.

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

15. Certification by a Texas Licensed Professional Engineer of the testing of sewage collection systems required by 30 TAC Chapter 213 and Chapter 217 shall be submitted to the San Antonio Regional Office within 30 days of test completion and prior to the new sewage collection system being put into service. The certification should include the project name as it appeared on the approved application, the program ID number, and two copies of a site plan sheet(s) indicating the wastewater lines and manholes that were tested and are being certified as complying with the appropriate regulations. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Should any test result fail to meet passing test criteria and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.

16. Every five years after the initial certification, the sewage collection system shall be retested. Any lines that fail the test must be repaired and retested. Certification that the system continues to meet the requirements of 30 TAC Chapter 213 and Chapter 217 shall be submitted to the San Antonio Regional Office. The certification should include the project name as it appeared on the approved application, the program ID number and two copies of a site plan sheet(s) indicating the wastewater lines and manholes that were tested and are being certified as complying with the appropriate regulations. Should any test result fail to meet passing test criteria, and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.

17. If ownership of this organized sewage collection system is legally transferred (e.g., developer to city or Municipal Utility District), the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

18. An Edwards Aquifer protection plan approval or extension will expire, and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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 the Edwards Aquifer Protection Program Austin Regional Office at 512-339-2929.

Sincerely,

Lillian Butler

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

LIB/dv

cc: Mr. Diego Rojas, PE, HR Green Development TX, LLC

APPROVED: 02/14/2024

0 30' 60'

SCALE: 1" = 30'

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- BOUNDARY
- EASEMENT
- 100-YR FEMA FLOODPLAIN
- FUTURE LAYOUT
- EXISTING FENCE
- OE EXISTING OVERHEAD ELECTRIC
- UE EXISTING UNDERGROUND ELECTRIC
- TL EXISTING TRANSMISSION LINE
- EXISTING POWER POLE
- EXISTING GUY
- EXISTING FIBER OPTIC CABLE
- EX WL EXISTING WATER LINE
- EX WW EXISTING WASTEWATER LINE
- PROPOSED WALL
- MAINTENANCE ACCESS DRIVE
- EXISTING GRAVEL ROAD
- TYPE F MORTARED RIPRAP
- ROCK RIPRAP (TYPE PER PLANS)
- EXISTING TREES TO REMAIN
- EXISTING HERITAGE TREES TO REMAIN

OUTFLOW STRUCTURE	
Elevation	Flow
ft	cfs
680.00	0.00
680.30	42.72
680.60	120.84
680.90	221.99
681.20	341.78
681.50	477.65
681.80	627.89
682.10	791.23
682.40	966.70
682.70	1153.50
683.00	1351.00

Batch Detention Pond A - Volume

Elevation	Area		Volume		Cumulative Volume		Comments
	SF	ac	cf	ac*ft	cf	ac*ft	
675		0.000					Water Quality Volume
676	15,930	0.366	7,965	0.183	7,965	0.183	
677	41,475	0.952	28,703	0.659	36,668	0.842	
678	45,580	1.046	43,528	0.999	80,195	1.841	
679	48,484	1.113	47,032	1.080	127,227	2.921	
680	51,451	1.181	49,968	1.147	177,195	4.068	
681	55,579	1.276	53,515	1.229	230,710	5.296	100 yr Routing
682	58,396	1.341	56,988	1.308	287,697	6.605	
683	61,278	1.407	59,837	1.374	347,534	7.978	Freeboard

GENERAL NOTES:

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9. GRADING WITHIN THE 1/2 CRITICAL ROOT ZONE OF PROTECTED TREES, IDENTIFIED BY A HATCH PATTERN ON THESE PLANS, SHALL BE LIMITED TO LESS THAN 12 INCHES OF DISTURBANCE. NO GRADING ACTIVITY WITH DISTURBANCE OF MORE THAN 6 INCHES IS ALLOWED IN THE 1/4 CRITICAL ROOT ZONE.
10. GRADING WORK WITHIN THE 1/2 CRITICAL ROOT ZONE OF ALL PROTECTED TREES SHALL BE DONE BY HAND OR WITH RUBBER TIRED EQUIPMENT.
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2. THE SKIMMER IS TO BE USED DURING CONSTRUCTION AND SHALL BE REMOVED AFTER COMPLETING CONSTRUCTION OF THE BATCH DETENTION POND.

$$Q = C_w L H^{1.5}$$

Q - *weir flow rate (cfs)*

C_w - *Weir Coefficient* BROAD:2.60

L - *horizontal length of weir crest (ft)* BROAD:100 ft

H - *head above weir crest elevation (ft)*

NO.	REVISION	BY	DATE

Know what's below. Call before you dig.

5508 HIGHWAY 290 W
SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com

TBPE NO.: 15384
TBPLS NO.: 10194101

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DEVELOPMENT TX

STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

WQ POND A

BERRY CREEK CROSSING
DRAINAGE IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 19 OF 45

2023-11-CON

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Drainage Improvements\03_ACAD\Plansets\230248-PONDS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

SECTION A-A

SECTION B-B

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

STM A1

DRAWDOWN CALCUATIONS FOR A ROUND ORIFICE

PROJECT NAME: BERRY CREEK - POND A

Pipe Diameter =	6.00	IN		W.Q.V. =	177,195	CF	
Orifice Diameter =	4.30	IN		WQ Elev =	680.00	MSL	
Outflow Orifice Elev =	672.00	MSL		Pond Bottom Elev =	674.00	MSL	
Draining time	48.00	HR		Initial Head =	8.00	FT	

TIME	HEAD	OUTFLOW	VOL.	dV	Total dV	H	dH	W.E.
HRS	FT	CFS	CF	CF	CF	FT	FT	MSL
0.00	8.00	1.37	177,195	4,944	4,944	0.17	7.83	680.00
1.00	7.83	1.36	172,251	4,892	9,837	0.17	7.67	679.83
2.00	7.67	1.34	167,358	4,840	14,677	0.16	7.50	679.67
3.00	7.50	1.33	162,518	4,788	19,465	0.16	7.34	679.50
4.00	7.34	1.32	157,730	4,736	24,201	0.16	7.18	679.34
5.00	7.18	1.30	152,994	4,684	28,886	0.16	7.02	679.18
6.00	7.02	1.29	148,309	4,632	33,518	0.16	6.87	679.02
7.00	6.87	1.27	143,677	4,580	38,098	0.16	6.71	678.87
8.00	6.71	1.26	139,097	4,528	42,626	0.15	6.56	678.71
9.00	6.56	1.24	134,569	4,476	47,102	0.15	6.41	678.56
10.00	6.41	1.23	130,093	4,424	51,526	0.15	6.26	678.41
11.00	6.26	1.21	125,669	4,372	55,898	0.15	6.11	678.26
12.00	6.11	1.20	121,297	4,320	60,218	0.15	5.96	678.11
13.00	5.96	1.19	116,977	4,268	64,486	0.14	5.82	677.96
14.00	5.82	1.17	112,709	4,216	68,702	0.14	5.67	677.82
15.00	5.67	1.16	108,493	4,164	72,866	0.14	5.53	677.67
16.00	5.53	1.14	104,329	4,112	76,978	0.14	5.39	677.53
17.00	5.39	1.13	100,217	4,060	81,038	0.14	5.26	677.39
18.00	5.26	1.11	96,157	4,008	85,045	0.14	5.12	677.26
19.00	5.12	1.10	92,150	3,956	89,001	0.13	4.99	677.12
20.00	4.99	1.08	88,194	3,903	92,904	0.13	4.85	676.99
21.00	4.85	1.07	84,291	3,851	96,756	0.13	4.72	676.85
22.00	4.72	1.06	80,439	3,799	100,555	0.13	4.60	676.72
23.00	4.60	1.04	76,640	3,747	104,302	0.13	4.47	676.60
24.00	4.47	1.03	72,893	3,695	107,997	0.13	4.34	676.47
25.00	4.34	1.01	69,198	3,643	111,640	0.12	4.22	676.34
26.00	4.22	1.00	65,555	3,591	115,231	0.12	4.10	676.22
27.00	4.10	0.98	61,964	3,539	118,770	0.12	3.98	676.10
28.00	3.98	0.97	58,425	3,487	122,257	0.12	3.86	675.98
29.00	3.86	0.95	54,938	3,435	125,691	0.12	3.74	675.86
30.00	3.74	0.94	51,504	3,382	129,074	0.11	3.63	675.74
31.00	3.63	0.93	48,121	3,330	132,404	0.11	3.52	675.63
32.00	3.52	0.91	44,791	3,278	135,682	0.11	3.41	675.52
33.00	3.41	0.90	41,513	3,226	138,908	0.11	3.30	675.41
34.00	3.30	0.88	38,287	3,174	142,082	0.11	3.19	675.30
35.00	3.19	0.87	35,113	3,122	145,204	0.11	3.08	675.19
36.00	3.08	0.85	31,991	3,069	148,273	0.10	2.98	675.08
37.00	2.98	0.84	28,922	3,017	151,290	0.10	2.88	674.98
38.00	2.88	0.82	25,905	2,965	154,255	0.10	2.78	674.88
39.00	2.78	0.81	22,940	2,913	157,168	0.10	2.68	674.78
40.00	2.68	0.79	20,027	2,861	160,029	0.10	2.58	674.68
41.00	2.58	0.78	17,166	2,809	162,838	0.10	2.49	674.58
42.00	2.49	0.77	14,357	2,756	165,594	0.09	2.39	674.49
43.00	2.39	0.75	11,601	2,704	168,298	0.09	2.30	674.39
44.00	2.30	0.74	8,897	2,652	170,950	0.09	2.21	674.30
45.00	2.21	0.72	6,245	2,600	173,549	0.09	2.12	674.21
46.00	2.12	0.71	3,646	2,547	176,097	0.09	2.04	674.12
47.00	2.04	0.69	1,098	2,495	177,195	0.08	2.00	674.04
48.00	2.00	0.00	0	0	177,195	0.00	2.00	674.00

NO.	REVISION	BY	DATE

Know what's below. Call before you dig.

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SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
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TBPE NO.: 16384
TBPLS NO: 10194101

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DEVELOPMENT TX

STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

POND A SECTIONS

BERRY CREEK CROSSING
DRAINAGE IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 20 OF 45

2023-11-CON

Sheet Location: P:\Where Dorms\Berry Creek Crossing\Drainage Improvements\03_ACAD\Panels\20230464-PONDS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

0 10' 20'
SCALE: 1" = 10'

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- BOUNDARY
- EASEMENT
- 100YR — 100-YR FEMA FLOODPLAIN
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- PROPOSED WALL
- MAINTENANCE ACCESS DRIVE
- EXISTING GRAVEL ROAD
- TYPE F MORTARED RIPRAP
- ROCK RIPRAP (TYPE PER PLANS)
- EXISTING TREES TO REMAIN
- EXISTING HERITAGE TREES TO REMAIN

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SECTION A-A'

SECTION B-B'

NO.	REVISION	BY	DATE

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

5508 HIGHWAY 290 W
SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com

TBPE NO.: 16384
TBPLS NO.: 10194101

HRGreen*
DEVELOPMENT TX

STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

POND A OUTFLOW STRUCTURE DETAIL

BERRY CREEK CROSSING DRAINAGE IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 21 OF 45

2023-11-CON

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Drainage Improvements\03_ACAD\Planset\230204-PONDS-WEIRS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRoze

APPROVED: 02/14/2024

BLOCK A
LOT 1
COMMERCIAL
2.13 AC

BLOCK A
LOT 4
COMMERCIAL
4.58 AC

WQ POND B

NOTE:

THE REQUIRED FENCE AROUND THIS POND WILL BE PROPOSED AND BUILT WITH THE CONSTRUCTION PLANS OF BLOCK A, LOTS 1 AND 2

N 17°31'40" E 179.97'

S 76°52'26" E 682.59'

3:1 SIDE SLOPE WITH ROLLMAX SC250 EROSION CONTROL BLANKET OR APPROVED EQUIVALENT

12' WIDE POND MAINTENANCE ACCESS DRIVE (8" MIN. THICK; 4" - 6" STONE)

EXISTING GRAVEL ROAD TO BE USED IN PLACE

PROPOSED TREE WELL

12' WIDE CONCRETE MAINTENANCE ACCESS RAMP 6" - 3600 PSI CONCRETE MAX LONGITUDINAL SLOPE: 4:1

12'X16' MAINTENANCE PAD 6" - 3600 PSI CONC. WITH 6" WWM TO BE BROOM FINISHED AND LEVEL. INCORPORATE CLAY LINER TO EDGE OF PAD TO PREVENT LEAKAGE

RETAINING WALL (REFER TO STRUCTURAL PLANS)

STA. 1+35.00 STM B1
1 - 4' DIA SSMH;
1 - ACTUATOR VALVE W/ MANUAL OVERRIDE
RIM: 710.04
6" PVC FL IN = 701.30 (S)
6" PVC FL OUT = 701.30 (N)

STA. 1+00.00 STM B1
6" PIPE WITH CAP AND 2.73° OPENING
6" SLOPED HEADWALL LOW BANK PER COA DETAIL 508S-16
6" PVC FL IN = 700.60 (S)

INSTALL ±6 SY CLASS I ROCK RIP-RAP PER COA DETAIL 508S-16

SOLAR PANEL

STA. 1+70.00 STM B1
12" PERFORATED PIPE RISER WITH TRASH RACK PER DETAIL
RIM: 708.00
6" PVC FL OUT = 702.00 (N)

CONCRETE FILLED FIXED SEDIMENT DEPTH MARKER

29 SY OF CLASS V ROCK RIP-RAP

63 SY OF TYPE-F MORTARED RIP-RAP

20 SY OF CLASS V ROCK RIP-RAP

73 SY OF CLASS V ROCK RIP-RAP

321 SY OF TYPE-F MORTARED RIP-RAP

3:1 SIDE SLOPE WITH ROLLMAX S150 EROSION CONTROL BLANKET OR APPROVED EQUIVALENT

POND OUTLET STRUCTURE (REFER TO STRUCTURAL PLANS)

32 SY OF CLASS V ROCK RIP-RAP

40 SY OF CLASS V ROCK RIP-RAP

DAYLIGHT FILL TO EXISTING GROUND PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS

DRAINAGE EASEMENT #

TIE-IN TO EXISTING GRAVEL ROAD

ALARM RESPONSE SIGN

1+00

0+75

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

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- BOUNDARY
- EASEMENT
- 100YR — 100-YR FEMA FLOODPLAIN
- FUTURE LAYOUT
- EXISTING FENCE
- OE — EXISTING OVERHEAD ELECTRIC
- UE — EXISTING UNDERGROUND ELECTRIC
- TL — EXISTING TRANSMISSION LINE
- EXISTING POWER POLE
- EXISTING GUY
- EXISTING FIBER OPTIC CABLE
- EX WL — EXISTING WATER LINE
- EX WW — EXISTING WASTEWATER LINE
- PROPOSED WALL
- MAINTENANCE ACCESS DRIVE
- EXISTING GRAVEL ROAD
- TYPE F MORTARED RIPRAP
- ROCK RIPRAP (TYPE PER PLANS)
- EXISTING TREES TO REMAIN
- EXISTING HERITAGE TREES TO REMAIN

GENERAL NOTES:

1. CONTRACTOR TO UTILIZE A TEMPORARY CONSTRUCTION PUMP TO DISCHARGE WATER FROM THE POND AFTER A RAINFALL EVENT, DURING CONSTRUCTION. PUMP IS TO DISCHARGE UPSTREAM OF PROPOSED ROCK BERM LOCATED BEFORE THE CREEK BED. AT NO TIME SHALL THE PUMP BE DISCHARGED DIRECTLY INTO STORM SEWER SYSTEM BEFORE CROSSING A ROCK BERM.
2. 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. CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO ROADS A MINIMUM OF ONCE DAILY.
3. ALL DISTURBED AREAS TO BE REVEGETATED PRIOR TO ACCEPTANCE.
4. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING.
5. THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT INTO PUBLIC ROADWAY.
6. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF GEORGETOWN RULES AND REGULATIONS. HOWEVER, MODIFICATIONS TO THE ENGINEERING DESIGN AND FUNCTIONS OF THE EROSION AND SEDIMENTATION CONTROLS SYSTEMS CONTAINED HERE IN IS STRICTLY FORBIDDEN WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE SIGNING PROJECT PROFESSIONAL ENGINEER (TAC22 §137.3 AND §137.37).
7. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER 1.4.5(A) OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
8. ALL POND BOTTOMS, SIDE SLOPES, AND EARTHEN EMBANKMENTS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY, IN ACCORDANCE WITH THE CITY OF GEORGETOWN STANDARD SPECIFICATIONS AND PER GEOTECHNICAL ENGINEER'S RECOMMENDATION. ALLOW ADEQUATE VOLUME FOR TOPSOIL TO SUPPORT VEGETATION.
9. GRADING WITHIN THE 1/2 CRITICAL ROOT ZONE OF PROTECTED TREES, IDENTIFIED BY A HATCH PATTERN ON THESE PLANS, SHALL BE LIMITED TO LESS THAN 12 INCHES OF DISTURBANCE. NO GRADING ACTIVITY WITH DISTURBANCE OF MORE THAN 6 INCHES IS ALLOWED IN THE 1/4 CRITICAL ROOT ZONE.
10. GRADING WORK WITHIN THE 1/2 CRITICAL ROOT ZONE OF ALL PROTECTED TREES SHALL BE DONE BY HAND OR WITH RUBBER TIRED EQUIPMENT.
11. ALL RETAINING WALLS GREATER THAN FOUR FEET IN HEIGHT MEASURED FROM THE BOTTOM OF THE FOOTING TO THE TOP OF THE WALL SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.

DEWATERING PLAN NOTES:

1. CONTRACTOR SHALL MAINTAIN THE DEWATERING SYSTEM TO ENSURE PERFORMANCE. IF THE DEWATERING SYSTEM IS NOT PERFORMING, THE CONTRACTOR MUST IMMEDIATELY MAKE THE NECESSARY MODIFICATIONS, FOLLOWING THE ENVIRONMENTAL INSPECTOR'S DIRECTION TO ENSURE ADEQUATE SYSTEM PERFORMANCE. CONTRACTOR SHALL PROVIDE THE DEWATERING PLAN AT THE PRECONSTRUCTION MEETING.
2. THE SKIMMER IS TO BE USED DURING CONSTRUCTION AND SHALL BE REMOVED AFTER COMPLETING CONSTRUCTION OF THE BATCH DETENTION POND.

$$Q = C_w L H^{1.5}$$

Q - *weir flow rate (cfs)*

C_w - *Weir Coefficient* BROAD:2.60

L - *horizontal length of weir crest (ft)* BROAD:50 ft

H - *head above weir crest elevation (ft)*

Batch Detention Pond B - Volume

Elevation	Area		Volume		Cumulative Volume		Comments
	SF	ac	cf	ac*ft	cf	ac*ft	
703		0.000					Water Quality Volume
704	6,514	0.150	3,257	0.075	3,257	0.075	
705	15,930	0.366	11,222	0.258	14,479	0.332	
706	18,476	0.424	17,203	0.395	31,682	0.727	
707	20,170	0.463	19,323	0.444	51,005	1.171	
708	21,920	0.503	21,045	0.483	72,050	1.654	
709	24,204	0.556	23,062	0.529	95,112	2.183	100 yr Routing
710	25,918	0.595	25,061	0.575	120,173	2.759	Free Board

OUTFLOW STRUCTURE	
Elevation	Flow
ft	cfs
708.00	0.00
708.20	11.63
708.40	32.89
708.60	60.42
708.80	93.02
709.00	130.00
709.20	170.89
709.40	215.35
709.60	263.10
709.80	313.94
710.00	367.70

NO.	REVISION	BY	DATE

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STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

WQ POND B

BERRY CREEK CROSSING
DRAINAGE IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 22 OF 45

2023-11-CON

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Drainage Improvements\03_ACAD\Plansh\230248-PONDS.dwg | Data Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

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

SECTION C-C

SECTION D-D

STM B1

DRAWDOWN CALCUATIONS FOR A ROUND ORIFICE

PROJECT NAME: BERRY CREEK - POND B

Pipe Diameter =	6.00	IN	W.Q.V. =	72,050	CF	
Orifice Diameter =	2.73	IN	WQ Elev =	708.00	MSL	
Outflow Orifice Elev =	700.60	MSL	Pond Bottom Elev =	703.00	MSL	
Draining time	48.00	HR	Initial Head =	7.40	FT	

TIME	HEAD	OUTFLOW	VOL.	dV	Total dV	H	dH	W.E.
HRS	FT	CFS	CF	CF	CF	FT	FT	MSL
0.00	7.40	0.53	72,050	1,917	1,917	0.13	7.27	708.00
1.00	7.27	0.53	70,133	1,899	3,816	0.13	7.14	707.87
2.00	7.14	0.52	68,234	1,882	5,698	0.13	7.00	707.74
3.00	7.00	0.52	66,352	1,865	7,563	0.13	6.88	707.60
4.00	6.88	0.51	64,487	1,848	9,411	0.13	6.75	707.48
5.00	6.75	0.51	62,639	1,830	11,241	0.13	6.62	707.35
6.00	6.62	0.50	60,809	1,813	13,054	0.13	6.49	707.22
7.00	6.49	0.50	58,996	1,796	14,849	0.12	6.37	707.09
8.00	6.37	0.49	57,201	1,778	16,628	0.12	6.25	706.97
9.00	6.25	0.49	55,422	1,761	18,389	0.12	6.12	706.85
10.00	6.12	0.48	53,661	1,744	20,132	0.12	6.00	706.72
11.00	6.00	0.48	51,918	1,726	21,859	0.12	5.88	706.60
12.00	5.88	0.47	50,191	1,709	23,568	0.12	5.76	706.48
13.00	5.76	0.47	48,482	1,692	25,259	0.12	5.65	706.36
14.00	5.65	0.47	46,791	1,674	26,934	0.12	5.53	706.25
15.00	5.53	0.46	45,116	1,657	28,591	0.11	5.42	706.13
16.00	5.42	0.46	43,459	1,640	30,231	0.11	5.30	706.02
17.00	5.30	0.45	41,819	1,622	31,853	0.11	5.19	705.90
18.00	5.19	0.45	40,197	1,605	33,458	0.11	5.08	705.79
19.00	5.08	0.44	38,592	1,588	35,046	0.11	4.97	705.68
20.00	4.97	0.44	37,004	1,570	36,617	0.11	4.86	705.57
21.00	4.86	0.43	35,433	1,553	38,170	0.11	4.75	705.46
22.00	4.75	0.43	33,880	1,536	39,706	0.11	4.64	705.35
23.00	4.64	0.42	32,344	1,519	41,224	0.11	4.54	705.24
24.00	4.54	0.42	30,826	1,501	42,725	0.10	4.44	705.14
25.00	4.44	0.41	29,325	1,484	44,209	0.10	4.33	705.04
26.00	4.33	0.41	27,841	1,467	45,676	0.10	4.23	704.93
27.00	4.23	0.40	26,374	1,449	47,125	0.10	4.13	704.83
28.00	4.13	0.40	24,925	1,432	48,557	0.10	4.03	704.73
29.00	4.03	0.39	23,493	1,415	49,971	0.10	3.93	704.63
30.00	3.93	0.39	22,079	1,397	51,369	0.10	3.84	704.53
31.00	3.84	0.38	20,681	1,380	52,749	0.10	3.74	704.44
32.00	3.74	0.38	19,301	1,363	54,111	0.09	3.64	704.34
33.00	3.64	0.37	17,939	1,345	55,456	0.09	3.55	704.24
34.00	3.55	0.37	16,594	1,328	56,784	0.09	3.46	704.15
35.00	3.46	0.36	15,266	1,311	58,095	0.09	3.37	704.06
36.00	3.37	0.36	13,955	1,293	59,388	0.09	3.28	703.97
37.00	3.28	0.35	12,662	1,276	60,664	0.09	3.19	703.88
38.00	3.19	0.35	11,386	1,259	61,922	0.09	3.10	703.79
39.00	3.10	0.34	10,128	1,241	63,163	0.09	3.02	703.70
40.00	3.02	0.34	8,887	1,224	64,387	0.08	2.93	703.62
41.00	2.93	0.34	7,663	1,206	65,594	0.08	2.85	703.53
42.00	2.85	0.33	6,456	1,189	66,783	0.08	2.77	703.45
43.00	2.77	0.33	5,267	1,172	67,955	0.08	2.68	703.37
44.00	2.68	0.32	4,095	1,154	69,109	0.08	2.60	703.28
45.00	2.60	0.32	2,941	1,137	70,246	0.08	2.53	703.20
46.00	2.53	0.31	1,804	1,120	71,366	0.08	2.45	703.13
47.00	2.45	0.31	684	1,102	72,050	0.08	2.40	703.05
48.00	2.40	0.00	0	0	72,050	0.00	2.40	703.00

NO.	REVISION	BY	DATE

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STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

POND B SECTIONS

BERRY CREEK CROSSING
DRAINAGE IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 23 OF 45

2023-11-CON

Sheet Location: P:\Where Does\Berry Creek Crossing\Drainage Improvements\03_ACAD\Plansheets\2023456-PONDS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

0 10' 20'

SCALE: 1" = 10'

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- BOUNDARY
- EASEMENT
- 100YR — 100-YR FEMA FLOODPLAIN
- FUTURE LAYOUT
- EXISTING FENCE
- OE — EXISTING OVERHEAD ELECTRIC
- UE — EXISTING UNDERGROUND ELECTRIC
- TL — EXISTING TRANSMISSION LINE
- EXISTING POWER POLE
- EXISTING GUY
- EXISTING FIBER OPTIC CABLE
- EX WL — EXISTING WATER LINE
- EX WW — EXISTING WASTEWATER LINE
- PROPOSED WALL
- MAINTENANCE ACCESS DRIVE
- EXISTING GRAVEL ROAD
- TYPE F MORTARED RIPRAP
- ROCK RIPRAP (TYPE PER PLANS)
- EXISTING TREES TO REMAIN
- EXISTING HERITAGE TREES TO REMAIN

GENERAL NOTES:

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4. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING.
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9. GRADING WITHIN THE 1/2 CRITICAL ROOT ZONE OF PROTECTED TREES, IDENTIFIED BY A HATCH PATTERN ON THESE PLANS, SHALL BE LIMITED TO LESS THAN 12 INCHES OF DISTURBANCE. NO GRADING ACTIVITY WITH DISTURBANCE OF MORE THAN 6 INCHES IS ALLOWED IN THE 1/4 CRITICAL ROOT ZONE.
10. GRADING WORK WITHIN THE 1/2 CRITICAL ROOT ZONE OF ALL PROTECTED TREES SHALL BE DONE BY HAND OR WITH RUBBER TIRED EQUIPMENT.
11. ALL RETAINING WALLS GREATER THAN FOUR FEET IN HEIGHT MEASURED FROM THE BOTTOM OF THE FOOTING TO THE TOP OF THE WALL SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.

DEWATERING PLAN NOTES:

1. CONTRACTOR SHALL MAINTAIN THE DEWATERING SYSTEM TO ENSURE PERFORMANCE. IF THE DEWATERING SYSTEM IS NOT PERFORMING, THE CONTRACTOR MUST IMMEDIATELY MAKE THE NECESSARY MODIFICATIONS, FOLLOWING THE ENVIRONMENTAL INSPECTOR'S DIRECTION TO ENSURE ADEQUATE SYSTEM PERFORMANCE. CONTRACTOR SHALL PROVIDE THE DEWATERING PLAN AT THE PRECONSTRUCTION MEETING.
2. THE SKIMMER IS TO BE USED DURING CONSTRUCTION AND SHALL BE REMOVED AFTER COMPLETING CONSTRUCTION OF THE BATCH DETENTION POND.

SECTION A-A'

SECTION B-B'

NO.	REVISION	BY	DATE

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STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED
PROFESSIONAL ENGINEER
02/02/2024

POND B OUTFLOW STRUCTURE DETAIL

BERRY CREEK CROSSING DRAINAGE IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 24 OF 45

2023-11-CON

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Drainage Improvement\03_ACAD\Plansheet\230248-PONDS-WEIRS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

TRASH RACK AND ACTUATOR VALVE
N.T.S.

INTERBASIN PIPES DETAIL
N.T.S.

MAINTENANCE PAD INSTALLATION
N.T.S.

CLAY LINER INSTALLATION
N.T.S.

Table 3-6 Clay Liner Specifications (COA, 2004)

Property	Test Method	Unit	Specification
Permeability	ASTM D-2434	cm/sec	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

CLAY LINER SPECIFICATIONS PER TCEQ SPECIFICATIONS 3.4.2

LID DETAIL
SCALE 1:2

BATCH DETENTION ACTUATOR & VALVE DETAIL
SCALE 1:2

* FLOAT SWITCH TO BE PIPE MOUNTED ECO FLOAT, TYPE SI, NORMALLY OPEN, OR APPROVED EQUAL.

FLOAT SWITCH DETAIL

TRASH RACK / RISER PIPE DETAIL
N.T.S.

ACTUATOR VALVE POWER & CONTROLLER CIRCUIT BLOCK DIAGRAM

CONCRETE FILLED FIXED SEDIMENT MARKER FOR BATCH DETENTION POND
N.T.S.

Figure 6.64a Schematic of a skimmer, from Pennsylvania Erosion and Sediment Pollution Control Manual, March, 2000.

NOTE: DISCHARGE WATER MUST BE FILTERED USING FILTER BAG OR SOCK. DISCHARGE SHALL ALSO BE DIRECTED TOWARD SILT FENCE FOR ADDITIONAL FILTERING PRIOR TO LEAVING THE SITE.

DEWATERING SKIMMER
N.T.S.

ALARM RESPONSE SIGN
N.T.S.

POND MAINTENANCE ACCESS - TYP. CROSS SECTION
N.T.S.

NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C-478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF-SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH STORM SEWER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETTED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE, REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS-20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
8. MANHOLE BASE BEDDING MATERIAL SPECS. FOR 3/4" WASHED GRAVEL SIEVE SIZE 2", PERCENT (%) RETAINED 0 SIEVE SIZE 1 1/2", % RETAINED 0-10 SIEVE SIZE 3/4", % RETAINED 0-50 SIEVE SIZE 3/8", % RETAINED 85-100 SIEVE SIZE 3/8", % RETAINED 95-100

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STANDARD STORM SEWER MANHOLE – SECTION

ADOPTED 6/21/2006 | SD1.3 | SCALE: NTS | 7/2003 | DESIGN BY: MRG | DRAWN BY: DRB

NOTES:
1. BATCH DETENTION POND SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RG-348 MANUAL (ADDENDUM)
2. THE BATCH DETENTION POND AND RISER PIPE / TRASH RACK WILL FUNCTION AS THE DEWATERING OUTLET AND SHALL BE BE INSTALLED AND FUNCTIONAL PRIOR TO ANY GENERAL GRADING AND UTILITY WORK.
3. SYSTEM SHALL BE 12 VDC WITH SOLAR CHARGED 12 VDC BATTERY. ALTERNATE ELECTRICAL DESIGN MAY ALSO BE UTILIZED IN LIEU OF SOLAR POWER WITH ENGINEERS APPROVAL.
4. ACTUATOR SHALL BE ELECTRONIC QUARTER-TURN WITH MANUAL OVERRIDE AND POSITION INDICATOR.
5. ACTUATOR SHALL BE "AVID 12V ACTUATOR, EPI-6" OR EQUIVALENT.
6. ACTUATOR VALVE TO BE SET AT "NORMALLY CLOSED" POSITION.
7. CONTROLLER SHALL BE SET TO OPEN VALVE 12 HOURS AFTER INITIAL RAINFALL DETECTION. VALVE TO REMAIN OPEN UNTIL 2 HRS FOLLOWING BASIN EMPTY SIGNAL.
8. LOGIC CONTROLLER SYSTEM SHALL HAVE TEST SEQUENCE TO DEAL WITH LOW BATTERY/POWER OUTAGES, ON/OFF/RESET SWITCH AND THE PROGRAMMING SHALL BE FIELD UPLOADABLE.
9. CONTROLLER SHALL BE "MORNINGSTAR SOLAR CONTROLLER, 12V, 20 AMP" OR EQUIVALENT.
10. ALL WIRING SHALL BE INSTALLED IN CONDUIT AND BURIED. CONTACT ENGINEER FOR ADDITIONAL CONTROLLER SCHEMATICS.
11. CONTRACTOR TO INSTALL LIBERTY ALARM MODEL ALM-2W OR EQUIVALENT AT A CONTROLLER PANEL.
12. ATTACH ALARM RESPONSE SIGN TO CONTROLLER POLE. REFERENCE ALARM RESPONSE SIGN TO RIGHT.
13. HAZARDOUS MATERIAL THREAT (HMT) OPERATION - THE BASIN'S OUTLET VALVE IS NORMALLY CLOSED AND WILL DETAIN A HAZARDOUS MATERIAL SPILL. HOWEVER, AFTER A SPILL OCCURS, THE MANUAL CONTROLS ON THE CONTROLLER OR THE ACTUATOR/VALVE ARE USED TO PREVENT THE VALVE FROM AUTOMATICALLY OPENING PRIOR TO REMOVAL OF THE HAZARDOUS MATERIAL. ALTHOUGH NOT REQUIRED BY THE EDWARDS RULES, THE HMT OPERATION CAN BE USED TO COMPLY WITH APPENDIX A OF RG-348. IF A SPILL DOES OCCUR IN THE BASIN, ALL COMPONENTS OF THE CONTROLLER MUST BE INSPECTED AND CHECKED FOR PROPER OPERATION WITHIN 7 DAYS.

NO.	REVISION	BY	DATE

Know what's below. Call before you dig.

5508 HIGHWAY 290 W
SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com

TBPE NO.: 16384
TBPLS NO.: 10194101

HRGreen.
DEVELOPMENT TX

STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

POND DETAILS 1 OF 2

BERRY CREEK CROSSING DRAINAGE IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: DR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: DR

SHEET 25 OF 45

2023-11-CON

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Drainage Improvement\03_ACAD\Plansht\2302\AB-PONDS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

FIGURE 2 ~ TYPE F STONE RIPRAP
dry or mortared

SHEET 2 OF 2

Texas Department of Transportation | Bridge Division Standard

STONE RIPRAP

SRR

FILE: srr19381-19.dgn	DN: AES	CK: JGD	DW: BWH	CK: AES
©TxDOT April 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

TYPE F STONE RIPRAP - MORTARED (TXDOT DETAIL - SRR)

N.T.S.

RIP-RAP CLASSIFICATION SPECIFICATIONS

CLASS 1 RIP-RAP

No more than 10% of the stone will have a diameter greater than twelve (12) inches; no more than 50% of the stone will have a diameter less than ten (10) inches; and no more than 10% of the stone will have a diameter of less than six (6) inches. The thickness of the rip-rap liner will be no less than twelve (12) inches.

CLASS 2 RIP-RAP

No more than 10% of the stone will have a diameter greater than sixteen (16) inches; no more than 50% of the stone will have a diameter less than twelve (12) inches; and no more than 10% of the stone will have a diameter of less than six (6) inches. The thickness of the rip-rap liner will be no less than sixteen (16) inches.

CLASS 3 RIP-RAP

No more than 10% of the stone will have a diameter greater than twenty two (22) inches; no more than 50% of the stone will have a diameter less than sixteen (16) inches; and no more than 10% of the stone will have a diameter of less than eight (8) inches. The thickness of the rip-rap liner will be no less than twenty two (22) inches.

CLASS 4 RIP-RAP

No more than 10% of the stone will have a diameter greater than twenty seven (27) inches; no more than 50% of the stone will have a diameter less than twenty two (22) inches; and no more than 10% of the stone will have a diameter of less than ten (10) inches. The thickness of the rip-rap liner will be no less than twenty seven (27) inches.

CLASS 5 RIP-RAP

No more than 10% of the stone will have a diameter greater than thirty four (34) inches; no more than 50% of the stone will have a diameter less than twenty seven (27) inches; and no more than 10% of the stone will have a diameter of less than sixteen (16) inches. The thickness of the rip-rap liner will be no less than thirty four (34) inches.

RIPRAP CLASSIFICATION SPECIFICATIONS

D = PIPE DIAMETER
D 50= MEDIAN ROCK DIAMETER
La = APRON LENGTH
Wa = APRON WIDTH
Y = OUTFALL HEIGHT

NOTE:
1. ROCK RIPRAP SHALL BE SOUND MATERIAL AND GRADED PER REQUIREMENTS SPECIFIED IN STANDARD SPECIFICATION ITEM NO. 591S.
2. ROCK SIZE (D_{50}) AND GRADATION SHALL BE STABLE FOR THE DESIGN HYDRAULIC CONDITIONS AND IN ACCORDANCE WITH THE ECM 1.4.6.D PERMANENT STRUCTURAL PRACTICES, STONE RIPRAP OR OTHER ENGINEERING STANDARD OF PRACTICE FOR SIZING ROCK RIPRAP. ROCK RIPRAP D_{50} AND FILTER TYPE SHALL BE NOTED ON PLANS.
3. GEOTEXTILE FILTER FABRIC SHALL MEET THE REQUIREMENTS SPECIFIED IN STANDARD SPECIFICATION ITEM NO. 620S.
4. AGGREGATE FOR GRANULAR FILTER SHALL MEET THE REQUIREMENTS SPECIFIED IN STANDARD SPECIFICATION ITEM NO. 403, AGGREGATE SIZE CLASSIFICATION/GRADE, NUMBER OF LAYERS AND LAYER THICKNESS SHOULD BE NOTED ON THE PLANS.

*EXTEND ARMOR TO OPPOSITE CREEK BANK FOR CHANNELS LESS THAN 10D IN WIDTH

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STORMDRAIN OUTFALL PROTECTION PIPE DISCHARGE ON SLOPE-LOW BANK	
RECORD COPY SIGNED BY MORGAN BYARS 09/01/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S-16

SLOPED HEADWALL - LOW BANK DETAIL (COA DETAIL - 508S-16)

N.T.S.

THIS STANDARD APPLIES ONLY UNDER THE FOLLOWING CONDITIONS:
A. H AND Z ARE SPECIFIED ON THE DRAWING.
B. GROUNDWATER IS NO HIGHER THAN THE BOTTOM OF THE FOOTING.
C. THE MATERIAL BELOW THE FOOTING IS FIRM AND STABLE.
D. THE MATERIAL BEHIND THE WALL HAS A LEVEL SURFACE.
E. THE MATERIAL IN FRONT OF THE WALL HAS A SLOPE NO STEEPER THAN 4 HORIZONTAL TO 1 VERTICAL.
F. THE FACE OF THE WALL IS NO STEEPER THAN 1 HORIZONTAL TO 2 VERTICAL.
G. SURCHARGE LOADS BEHIND THE WALL ARE NO CLOSER THAN DISTANCE H FROM THE TOP OF WALL.

NOTES:
1. DESIGN AND CONSTRUCTION OF ROCK WALL SHALL CONFORM TO THE REQUIREMENTS OF CITY CODE 16-7-2, PLACEMENT OF FENCES IN STREET CORNER AREAS, AND THE CITY OF AUSTIN TRANSPORTATION CRITERIA MANUAL FOR MINIMIM SIGHT DISTANCE.
2. CONCRETE SHALL CONFORM TO ITEM 403S, "CONCRETE FOR STRUCTURES".

DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	SLOPE PROTECTION AND TREE WELLS	
RECORD COPY SIGNED BY J. PATRICK MURPHY 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-6 1 OF 2

DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	SLOPE PROTECTION AND TREE WELLS	
RECORD COPY SIGNED BY J. PATRICK MURPHY 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-6 2 OF 2

SLOPE PROTECTION AND TREE WELLS (COA DETAIL - 610S-6)

N.T.S.

NO.	REVISION	BY	DATE

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5508 HIGHWAY 290 W
SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com

TBPE NO.: 16384
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HRGreen.
DEVELOPMENT TX

STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

POND DETAILS 2 OF 2

BERRY CREEK CROSSING DRAINAGE IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: DR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: DR

SHEET 26 OF 45

2023-11-CON

Sheet Location: P:\Work Domain\Berry Creek Crossing\Drainage Improvements\03_ACAD\Plansets\230246-PONDS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

OWNER/DEVELOPER:
IH35 SH130, LP
RAJEEV PURI
6002 CAMP BULLIS RD
SAN ANTONIO, TX 78257
(210) 863-0717
rpuri@athenadomain.com
www.athenadomain.com

ENGINEER:
HR GREEN DEVELOPMENT TX, LLC
SHERVIN NOOSHIN, P.E.
5508 HIGHWAY 290 WEST - SUITE 150
AUSTIN, TX 78735
(512) 872-6696
shervin.nooshin@hrgreen.com
www.hrgreen.com

SURVEYOR:
FOREST SURVEYING & MAPPING
1002 ASH ST
GEORGETOWN, TEXAS 78626
(512) 930-5927
forrestsasser@forestsurveying.com
www.forest-surveying.com

UTILITY PROVIDERS:

WATER:	WASTEWATER:	ELECTRIC:
CITY OF GEORGETOWN UTILITY SYSTEMS	CITY OF GEORGETOWN UTILITY SYSTEMS	PEDERNALES ELECTRIC COOPERATIVE
300-1 INDUSTRIAL AVE.	300-1 INDUSTRIAL AVE.	201 S. AVENUE F,
GEORGETOWN, TX 78626	GEORGETOWN, TX 78626	JOHNSON CITY, TX 78636
(512) 930-3555	(512) 930-3555	(877) 372-0391
gus.georgetown.org	gus.georgetown.org	www.pec.coop

ASSOCIATED CITY OF GEORGETOWN CASES:

PRELIMINARY PLAT - CITY PROJECT NUMBER:	2024-20-PP
WASTEWATER IMPROVEMENTS - CONSTRUCTION PLAN - CITY PROJECT NUMBER:	2022-20-CON
BERRY CREEK APARTMENTS, PHASE 1 - SITE DEVELOPMENT PLAN - CITY PROJECT NUMBER:	2022-74-SDP
DRAINAGE IMPROVEMENTS - CONSTRUCTION PLAN - CITY PROJECT NUMBER:	2023-11-CON

PROJECT INFORMATION:

PROPOSED USE: TxDOT & PRIVATE SHARED IMPROVEMENTS
ZONING DISTRICT: PUD - ORDINANCE NO. 2021-52

TRAFFIC IMPACT ANALYSIS:

REFER TO APPROVED TRAFFIC IMPACT ANALYSIS: 2022-1-TIA

AVERAGE DAILY TRIPS: 1510
AM PEAK HOUR: 91
PM PEAK HOUR: 114

PLANNED UNIT DEVELOPMENT:

THIS SITE IS PART OF A PLANNED UNIT DEVELOPMENT, DOCUMENT ORDINANCE NO. 2021-52.

WATERSHED STATUS:

THIS SITE IS LOCATED IN THE BERRY CREEK WATERSHED. THIS SITE IS LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE.

FLOODPLAIN INFORMATION:

NO PORTION OF THIS PROJECT IS ENCROACHED BY A SPECIAL FLOOD HAZARD AREAS INUNDATED BY THE 100 YEAR FLOOD AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY BOUNDARY MAP NUMBER 48491C0292F, EFFECTIVE DATE DECEMBER 20, 2019.

BENCHMARK NOTES:

LOCAL NORTHING:	10,224,775.79
LOCAL EASTING:	3,138,351.87
GRID NORTHING:	10,223,404.34
GRID EASTING:	3,137,930.93
ELEVATION:	732.74'
DESCRIPTION:	TBM #1: MAG NAIL W/ WASHER STAMPED "FOREST RPLS 1847" SET NEAR THE SOUTH EASTERN RIGHT OF WAY OF THE INTERSECTION OF IH35 FRONTAGE ROAD AND SH 130 FRONTAGE ROAD.
HORIZONTAL DATUM:	TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD83, GRID. COMBINED SCALE FACTOR: 0.99986587.
VERTICAL DATUM:	GEOID18, VERTICAL DATUM NAVD88

LOCAL NORTHING:	10,224,133.47
LOCAL EASTING:	3,138,843.72
GRID NORTHING:	10,222,762.11
GRID EASTING:	3,138,422.70
ELEVATION:	734.32'
DESCRIPTION:	TBM #2: MAG NAIL W/ WASHER STAMPED "FOREST RPLS 1847" SET ALONG THE FRONTAGE ROAD OF SH 130.
HORIZONTAL DATUM:	TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD83, GRID. COMBINED SCALE FACTOR: 0.99986587.
VERTICAL DATUM:	GEOID18, VERTICAL DATUM NAVD88

LOCAL NORTHING:	10,223,582.81
LOCAL EASTING:	3,139,227.64
GRID NORTHING:	10,222,211.52
GRID EASTING:	3,138,806.57
ELEVATION:	731.10'
DESCRIPTION:	TBM #3: MAG NAIL W/ WASHER STAMPED "FOREST RPLS 1847" SET ALONG THE FRONTAGE ROAD OF SH 130.
HORIZONTAL DATUM:	TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD83, GRID. COMBINED SCALE FACTOR: 0.99986587.
VERTICAL DATUM:	GEOID18, VERTICAL DATUM NAVD88

CITY OF GEORGETOWN NOTES:

1. THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE 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 TO THE CITY.
3. ALL ELECTRIC DISTRIBUTION LINES AND INDIVIDUAL SERVICE LINES SHALL BE INSTALLED UNDERGROUND. IF OVERHEAD LINES EXISTED PRIOR TO UNDERGROUND INSTALLATION, SUCH AS POLES, GUY WIRES, AND RELATED STRUCTURES SHALL BE REMOVED FOLLOWING CONSTRUCTION OF THE UNDERGROUND INFRASTRUCTURE (ONLY APPLICABLE FOR RESIDENTIAL PROPERTY).
4. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE. WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER (ONLY APPLICABLE FOR NON-RESIDENTIAL AND MULTI-FAMILY DEVELOPMENT).
5. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.

ADDITIONAL NOTES:

1. THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.
2. A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON AUGUST 2021. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.

STORMWATER PERMIT
FOR
BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35, GEORGETOWN, TEXAS 78626

2025-___-SWP

INITIAL SUBMITTAL DATE:
08/18/2025

VICINITY MAP
SCALE: 1"=4000'

LEGAL DESCRIPTION:

60.748 ACRES OF LAND IN THE JOHN BERRY SURVEY, ABSTRACT NO. 51, IN WILLIAMSON COUNTY, TEXAS AND OF TWO CALLED PROPERTIES.

BEING OF A CALLED 49.31 ACRE TRACT OF LAND, DESCRIBED IN THE SPECIAL WARRANTY DEED TO IH35 SH130, LP OF RECORD IN DOCUMENT NO. 2018066618, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS;

ALSO BEING A CALLED 11.438 ACRE TRACT OF LAND, DESCRIBED IN THE SPECIAL WARRANTY DEED TO IH35 SH130, LP OF RECORD IN DOCUMENT NO. 2022009903, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

I, SHERVIN NOOSHIN, P.E., CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THE INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SUBMITTED BY : _____ 08/15/2025
DATE

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED
PROFESSIONAL ENGINEER

SHERVIN NOOSHIN, P.E.
HR GREEN DEVELOPMENT TX, LLC
5508 HIGHWAY 290 WEST, SUITE 150
AUSTIN, TEXAS 78735

REVIEWED FOR COMPLIANCE WITH CITY OF GEORGETOWN REQUIREMENTS:
CITY OF GEORGETOWN, AS APPROVED BY PLANNING AND ZONING

REVISIONS

NO.	DATE	DESCRIPTION

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3	GENERAL NOTES 2 OF 2
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6	APPROVED PRELIMINARY PLAT 2 OF 3
7	APPROVED PRELIMINARY PLAT 3 OF 3
8	EXISTING CONDITIONS AND DEMOLITION PLAN
9	OVERALL EROSION CONTROL PLAN
10	PHASING PLAN
11	DIMENSIONAL SITE PLAN A
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48	TxDOT DETAIL SMD [SLIP-1] 08 & SMD [SLIP-2] 08
49	TxDOT DETAIL SMD [SLIP-3] 08
50	TxDOT DETAIL PM [1] - 20 & PM [2] - 20
51	TxDOT DETAIL PM [3] - 20
52	TxDOT DETAIL SET P-PD

LIMITATIONS OF LIABILITY

LIMITATION OF LIABILITY – HR GREEN DEVELOPMENT TX, LLC ASSUMES NO LIABILITY FOR ANY DESIGN OR DRAWINGS IN THESE PLANS, THAT ARE NOT SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED WITH THE TEXAS BOARD OF PROFESSIONAL ENGINEERS AS A MEMBER OF THIS FIRM (#F-16384). OTHER CONSULTANTS' WORK SHOWN IN THESE PLANS IS THE RESPONSIBILITY OF THE CONSULTANT WHO PREPARED SUCH WORK, AND IS INCLUDED IN THIS PLAN SET FOR REVIEW REQUIREMENTS ONLY.

SITE PLAN COMPONENTS – ALL BUILDING AND STRUCTURAL IMPROVEMENTS SHOWN HEREON ARE SHOWN FOR CONCEPTUAL PURPOSES ONLY. HR GREEN DEVELOPMENT TX, LLC IS NOT RESPONSIBLE OR LIABLE FOR THE DESIGN OF BUILDING OR STRUCTURAL IMPROVEMENTS BY OTHERS.

STRUCTURAL COMPONENTS - ALL STRUCTURAL DESIGN IS THE RESPONSIBILITY OF THE OWNER'S STRUCTURAL ENGINEER. STRUCTURAL DESIGN SHOWN HEREON IS THE DESIGN OF THE OWNER'S STRUCTURAL ENGINEER.

PAVEMENT DESIGN - PAVEMENT DESIGN SHOWN HEREON IS THE DESIGN OF THE OWNER'S GEOTECHNICAL CONSULTANT. HR GREEN DEVELOPMENT TX, LLC MAKES NO WARRANTY OR GUARANTEE AS TO ITS SUITABILITY, AND ASSUMES NO LIABILITY THEREFOR.

NO.	BY	DATE	REVISION

Know what's below. Call before you dig.

5508 HIGHWAY 290 W
SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com

TBPE NO: 16384
TBPLS NO: 10194101

HRGreen® DEVELOPMENT TX

COVER

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 1 OF 52

2025- -SWP

Sheet Location: P:\Where Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\s250268-COVER.dwg | Date Plotted: August 15, 2025 | Plotted By: mwittequer
ALL PROJECT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL AND SPECIFICATIONS, ESTABLISHED BY HR GREEN DEVELOPMENT TX, LLC (HGDTX) THIS PROJECT ARE, AND SHALL REMAIN THE PROPERTY OF HR GREEN DEVELOPMENT TX, LLC. HGDTX HAS GRANTED TO THE OWNER A NON-EXCLUSIVE, IRREVOCABLE, ROYALTY FREE LICENSE TO USE THE DOCUMENTS FOR THE PURPOSES OF CONSTRUCTING, USING AND MAINTAINING THE PROJECT, PROVIDED THAT THE OWNER SUBSTANTIALLY PERFORMS ITS OBLIGATIONS UNDER THE CONTRACT DOCUMENTS, INCLUDING PROMPT PAYMENT OF ALL SUMS WHEN DUE. THE OWNER SHALL NOT OWN OR CONTROL THE DOCUMENTS PREPARED BY HGDTX, AND MAY NOT USE OR ALLOW ANYONE ELSE TO USE THE DOCUMENTS FOR FUTURE PROJECTS OR ADDITIONS TO THIS PROJECT WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF HR GREEN DEVELOPMENT TX. ANY REUSE, WITHOUT SPECIFIC WRITTEN VERIFICATION OR ADAPTATION BY HR GREEN DEVELOPMENT TX, LLC SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS COMPANY FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM

GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THESE PLANS AND THE CITY OF GEORGETOWN STANDARD CONSTRUCTION SPECIFICATIONS.
2. THESE PLANS AND GENERAL NOTES REFER TO THE GEOTECNICAL REPORT "SUBSURFACE EXPLORATION AND FOUNDATION ANALYSIS PROPOSED NEW BERRY CREEK APARTMENTS, GEORGETOWN, TEXAS" BY INTEC, PROJECT NO. S221751, FROM SEPTEMBER 16, 2020. INCLUDING ALL REVISIONS AND ADDENDA THAT MAY HAVE BEEN RELEASED AFTER THE NOTED DATE.
3. TOPOGRAPHIC DATA SHOWN HEREON BASED ON SURVEY PROVIDED BY FOREST SURVEYING & MAPPING ON JULY 2021.
4. THE CONTRACTOR SHALL REVIEW AND VERIFY THE EXISTING TOPOGRAPHIC SURVEY SHOWN ON THE PLANS REPRESENTS EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCIES FOUND TO THE OWNER AND ENGINEER.
5. AVAILABLE BENCHMARK(S) THAT MAY BE UTILIZED FOR THE CONSTRUCTION OF THIS PROJECT ARE LISTED ON THE COVER SHEET.
6. CONTRACTOR SHALL PROTECT ALL BENCHMARKS AND PROPERTY MONUMENTATION DISTURBED DURING CONSTRUCTION.
7. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL, INCLUDING BENCHMARKS PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS. PROPERTY LINES AND CORNERS SHALL BE HELD AS THE HORIZONTAL CONTROL.
8. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, AND IF APPLICABLE THE CITY AND OWNER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE CITY, ENGINEER, AND OWNER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.
9. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK TO HAVE THEM LOCATE THEIR EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
11. CONTRACTOR SHALL CALL TEXAS 811 AN ADEQUATE AMOUNT OF TIME PRIOR TO COMMENCING CONSTRUCTION OR ANY EXCAVATION.
12. CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES.
13. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.
14. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS AND RELOCATIONS OF EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, ADJUSTING EXISTING MANHOLES TO MATCH PROPOSED GRADE, RELOCATING EXISTING POLES AND GUY WIRES THAT ARE LOCATED IN PROPOSED DRIVEWAYS, ADJUSTING THE HORIZONTAL OR VERTICAL ALIGNMENT OF EXISTING UNDERGROUND UTILITIES TO ACCOMMODATE PROPOSED GRADE OR CROSSING WITH A PROPOSED UTILITY, AND ANY OTHERS THAT MAY BE ENCOUNTERED THAT ARE UNKNOWN AT THIS TIME AND NOT SHOWN ON THESE PLANS.
15. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.
16. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTORS' FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED BY THE CONTRACTOR AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
17. BRACING OF UTILITY POLES MAY BE REQUIRED BY THE UTILITY COMPANIES WHEN TRENCHING OR EXCAVATING IN CLOSE PROXIMITY TO THE POLES. THE COST OF BRACING POLES WILL BE BORNE BY THE CONTRACTOR, WITH NO SEPARATE PAY ITEM FOR THIS WORK. THE COST IS INCIDENTAL TO THE PAY ITEM.
18. CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL AND UTILITY OWNER REGULATIONS PERTAINING TO WORK SETBACKS FROM POWER LINES.
19. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS, APPROVALS, AND BONDS PRIOR TO CONSTRUCTION.
20. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES A COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, GEOTECHNICAL REPORT AND ADDENDA, PROJECT AND CITY SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS, EROSION CONTROL PLANS, SWPPP AND INSPECTION REPORTS.
21. ALL SHOP DRAWINGS AND OTHER DOCUMENTS THAT REQUIRE ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, SO THAT NO LESS THAN 10 BUSINESS DAYS FOR REVIEW AND RESPONSE IS AVAILABLE.
22. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO USE OF THE FACILITY AND THE FINAL CONNECTION OF SERVICES.
23. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS. CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
24. ALL SYMBOLS SHOWN ON THESE PLANS (E.G. FIRE HYDRANT, METERS, VALVES, INLETS, ETC....) ARE FOR PRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS WITH APPROPRIATE CITY INSPECTOR AND ENGINEER.
25. THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES IN THE PROXIMITY OF THE BUILDINGS. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL, STRUCTURAL, MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.
26. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS.
27. THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PROVIDED TO THE ENGINEER BY THE PROJECT ARCHITECT AT THE TIME THESE PLANS WERE PREPARED. IT MAY NOT BE THE FINAL CORRECT VERSION BECAUSE THE BUILDING DESIGN WAS ONGOING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFIRMING THE FINAL CORRECT VERSION OF THE BUILDING FOOTPRINT WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO LAYOUT. DIMENSIONS AND/OR COORDINATES SHOWN ON THESE PLANS WERE BASED ON THE ABOVE STATED ARCHITECTURAL FOOTPRINT, AND ARE THEREFORE A PRELIMINARY LOCATION OF THE BUILDING. THE CONTRACTOR IS SOLELY RESPONSIBLE TO VERIFY WHAT PART OF THE BUILDING THE ARCHITECT'S FOOTPRINT REPRESENTS AND TO CONFIRM ITS FINAL POSITION ON THE SITE BASED ON THE FINAL ARCHITECTURAL FOOTPRINT, CIVIL DIMENSION CONTROL PLAN, SURVEY BOUNDARY AND/OR PLAT. ANY DIFFERENCES FOUND SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
28. ALL CONSTRUCTION SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
29. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL MATERIALS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND COMPLY WITH CITY STANDARD SPECIFICATIONS AND GEOTECHNICAL REPORT. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING MATERIALS. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR MATERIALS TESTING. ALL COPIES OF MATERIALS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
30. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
31. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR.
32. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, MANHOLES, POLES, GUY WIRES, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, COMMUNICATION BOXES/PEDESTALS, AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR ANY DAMAGES AT NO COST TO THE OWNER. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASS, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, ETC.... TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
33. ALL AREAS IN EXISTING RIGHT-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER, INCLUDING AS NECESSARY GRADING, LANDSCAPING, CULVERTS, AND PAVEMENT.
34. THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC... THAT ARE TO BE RELOCATED DURING CONSTRUCTION.
35. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
36. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
37. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
38. SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE ENGINEER'S SEAL HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL REQUIRED SAFETY PROCEDURES AND PROGRAMS.
39. SIGNS RELATED TO SITE OPERATION OR SAFETY ARE NOT INCLUDED IN THESE PLANS.
40. CONTRACTOR OFFICE AND STAGING AREA SHALL BE AGREED ON BY THE OWNER AND CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING REQUIREMENTS FOR THE CONSTRUCTION OFFICE, TRAILER, STORAGE, AND STAGING OPERATIONS AND LOCATIONS.
41. LIGHT POLES, SIGNS, AND OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN ACCESSIBLE ROUTES.
42. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
43. TOP RIM ELEVATIONS OF ALL EXISTING AND PROPOSED MANHOLES SHALL BE COORDINATED WITH TOP OF PAVEMENT OR FINISHED GRADE AND SHALL BE ADJUSTED TO BE FLUSH WITH THE ACTUAL FINISHED GRADE AT THE TIME OF PAVING. CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED VALVES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES TO MATCH ACTUAL FINISHED GRADES AT THE TIME OF PAVING.
44. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND PHASING, AND SHALL CONTACT THE APPROPRIATE CITY OFFICIALS, INCLUDING BUILDING OFFICIAL, ENGINEERING INSPECTOR, AND FIRE MARSHALL TO LEARN OF ANY REQUIREMENTS.
45. CONTRACTOR IS RESPONSIBLE FOR PREPARATION (IF NOT INCLUDED IN THE CONSTRUCTION PLANS), SUBMITTAL, AND APPROVAL BY THE CITY OF A TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION, AND THEN THE IMPLEMENTATION OF THE PLAN.
46. CONTRACTOR SHALL KEEP A NEAT AND ACCURATE RECORD OF CONSTRUCTION, INCLUDING ANY DEVIATIONS OR VARIANCES FROM THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND CITY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.
47. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE PLANS, CITY STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION AND DETAIL SHALL BE FOLLOWED.
48. IF A VOID IS ENCOUNTER WITHIN THE PROJECT LIMITS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
49. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS.
50. ANY TEMPORARY SPOILS STOCKPILE MUST BE LOCATED OUTSIDE OF ANY TREE DRIPLINES AND IN THE TEMPORARY SPOILS AREA DESIGNATED ON THE APPROVED PLANS. ALL SURPLUS MATERIAL WILL BE DISPOSED OF OFFSITE.
51. ALL DEBRIS AND EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE IN A MANNER NOT TO DAMAGE THE OWNER'S PROPERTY PRIOR TO ACCEPTANCE OF THE PROJECT.
52. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS AND CITY OF GEORGETOWN STANDARD SPECIFICATIONS. REVEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF SODDING OR SEEDING, AT THE CONTRACTOR'S OPTION. HOWEVER, THE TYPE OF REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION UNLESS OTHERWISE REQUESTED BY THE OWNER.
53. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEANUP SHALL BE TO THE SATISFACTION OF THE ENGINEER.
54. WHEN REQUIRED, CONTRACTOR SHALL REMOVE PAVEMENT IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF HIGHWAY AND PUBLIC TRANSPORTATION STANDARD SPECIFICATIONS, LATEST EDITION.
55. ALL PAVEMENT REMOVED SHALL BE DONE SUCH THAT THE REMAINING PAVEMENT IS LEFT WITH A CLEAN STRAIGHT EDGE.
56. WHEN REQUIRED, CONTRACTOR SHALL REMOVE EXISTING PAVEMENT STRIPING BY SAND BLASTING FROM EXISTING PAVEMENT IN ACCORDANCE WITH ITEM 678 OF THE TxDOT LATEST EDITION.
57. ALL WORK IN STATE R.O.W. AND EASEMENTS SHALL BE IN ACCORDANCE WITH TxDOT STANDARD SPECIFICATIONS, LATEST EDITION.
58. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MOWING AND THE REMOVAL OF ALL LITTER WITHIN THE PROJECT LIMITS SO AS TO KEEP THE SITE OF THE WORK IN A NEAT AND PRESENTABLE CONDITION AT ALL TIMES. THIS WORK WILL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS.
59. THE CONTRACTOR SHALL PROTECT ALL AREAS WHICH ARE NOT INCLUDED IN THE ACTUAL LIMITS OF THE PROPOSED CONSTRUCTION AREAS FROM DESTRUCTION. CARE SHALL BE EXERCISED TO PREVENT DAMAGE TO TREES, VEGETATION, FENCES, POWER POLES, AND OTHER NATURAL SURROUNDINGS. THE AREAS NOT TO BE DISTURBED INCLUDE ALL GOLF COURSE AREAS, UNLESS SPECIFIED OTHERWISE. THE CONTRACTOR SHALL, AT HIS EXPENSE, RESTORE ANY AREA DISTURBED AS A RESULT OF HIS OPERATIONS TO A CONDITION AS GOOD AS, OR BETTER THAN, THAT PRESENT PRIOR TO CONSTRUCTION.
60. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING EVERY 100 FOOT ROAD STATION, AND SHALL MAINTAIN THE MARKINGS FOR THE DURATION OF THE PROJECT. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE ITEMIZED CONSTRUCTION CONTRACT.
61. THE SUPERINTENDENT SHALL BE AVAILABLE ON THE PROJECT AT ALL TIMES WHEN WORK IS BEING PERFORMED.
62. NO BLASTING IS ALLOWED ON THIS PROJECT.
63. NO STORAGE OF HYDROCARBONS OR HAZARDOUS MATERIAL IS ALLOWED ON SITE.

DEMOLITION NOTES:

1. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS PRELIMINARY DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE.
2. THE ENGINEER DOES NOT WARRANT OR REPRESENT THAT THE PLAN, WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT THE UTILITIES SHOWN CAN BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND PROCESS FOR THE REMOVAL OF THEIR FACILITIES.
3. THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT. REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
4. CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION PLAN:
   - ENVIRONMENTAL SITE ASSESSMENT PROVIDED BY THE OWNER,
   - GEOTECHNICAL REPORT PROVIDED BY THE OWNER.
   - OTHER REPORTS THAT ARE APPLICABLE AND AVAILABLE.
5. CONTRACTOR SHALL CONTACT THE OWNER TO VERIFY WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO STARTING ANY WORK ON THE SITE.
6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY.
7. THE ENGINEER DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED.
8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT, FOUNDATIONS OR WALLS, THAT ARE ALSO TO BE REMOVED.

EROSION AND SEDIMENTATION CONTROL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS, LAWS, AND ORDINANCES THAT APPLY TO THE CONSTRUCTION SITE LAND DISTURBANCE.
2. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. AND SPECIFICATIONS FOR THE PROJECT. CONTRACTOR IS SOLELY RESPONSIBLE FOR INSTALLATION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL EROSION CONTROL DEVICES, BEST MANAGEMENT PRACTICES (BMPS), AND FOR UPDATING THE EROSION CONTROL PLAN DURING CONSTRUCTION AS FIELD CONDITIONS CHANGE.
4. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY STANDARDS FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.
5. CONTRACTOR SHALL DOCUMENT THE DATES OF INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL FOR EACH BMP EMPLOYED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE.
6. AS STORM SEWER INLETS ARE INSTALLED ON-SITE, TEMPORARY EROSION CONTROL DEVICES SHALL BE INSTALLED AT EACH INLET PER APPROVED DETAILS.
7. THE EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL THE AREA IT PROTECTS HAS BEEN PERMANENTLY STABILIZED.
8. CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL DEVICES NEEDED DUE TO PROJECT PHASING.
9. CONTRACTOR SHALL OBSERVE THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND MAKE FIELD ADJUSTMENTS AND MODIFICATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. IF THE EROSION CONTROL DEVICES DO NOT EFFECTIVELY CONTROL EROSION AND PREVENT SEDIMENTATION FROM WASHING OFF THE SITE, THEN THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
10. OFF-SITE SOIL BORROW, SPOIL, AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED AS PART OF THE PROJECT SITE AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND EROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN.
11. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. PROTECTIVE MEASURES SHALL BE PROVIDED IF NEEDED TO ACCOMPLISH THIS REQUIREMENT, SUCH AS COVERING OR ENCIRCLING THE AREA WITH AN APPROPRIATE BARRIER.
12. SITE ENTRY AND EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING AND FLOWING OF SEDIMENT AND DIRT ONTO OFF-SITE ROADWAYS. ALL SEDIMENT AND DIRT FROM THE SITE THAT IS DEPOSITED ONTO AN OFF-SITE ROADWAY SHALL BE REMOVED IMMEDIATELY.
13. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS FROM THE AFFECTED OFF-SITE ROADWAYS THAT ARE A RESULT OF THE CONSTRUCTION, AS REQUESTED BY OWNER AND CITY. AT A MINIMUM, THIS SHOULD OCCUR ONCE PER DAY FOR THE OFF-SITE ROADWAYS.
14. CONTRACTOR SHALL INSTALL A TEMPORARY SEDIMENT BASIN FOR ANY ON-SITE DRAINAGE AREAS THAT ARE GREATER THAN 10 ACRES, PER TCEQ AND CITY STANDARDS. IF NO ENGINEERING DESIGN HAS BEEN PROVIDED FOR A SEDIMENTATION BASIN ON THESE PLANS, THEN THE CONTRACTOR SHALL ARRANGE FOR AN APPROPRIATE DESIGN TO BE PROVIDED.
15. ALL FINES IMPOSED FOR SEDIMENT OR DIRT DISCHARGED FROM THE SITE SHALL BE PAID BY THE RESPONSIBLE CONTRACTOR.
16. WHEN SEDIMENT OR DIRT HAS CLOGGED THE CONSTRUCTION ENTRANCE VOID SPACES BETWEEN STONES OR DIRT IS BEING TRACKED ONTO A ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASH-DOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE.
17. TEMPORARY SEEDING OR OTHER APPROVED STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA, UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE.
18. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE MATERIAL, AND TRASH AS CONSTRUCTION PROGRESSES.
19. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND CITY INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE CONTRACTOR SHALL NOTIFY THE CITY OF GEORGETOWN, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE.
20. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
21. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.

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. CONSTRUCTION SHALL NOT PROCEED UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO THE CITY OF GEORGETOWN.

ACCESSIBILITY NOTES:

1. CONTRACTOR TO VERIFY A.D.A. COMPLIANCE FOR GRADES IN ALL SIDEWALK ACCESSIBLE ROUTES INCLUDING DRIVEWAY CROSSINGS AND HANDICAP PARKING STALLS.
2. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP. [TAS 4.3.7]
3. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN. THE MAXIMUM HORIZONTAL PROJECTION IS 30 FEET FROM A RAMP WITH A SLOPE BETWEEN 1:12 AND 1:15, AND 40 FEET FOR A RAMP WITH A SLOPE BETWEEN 1:16 AND 1:20. [ANSI 405.2 - 405.6]
4. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50. [TAS 4.3.7]
5. GROUND SURFACES ALONG ACCESSIBLE ROUTES MUST BE STABLE, FIRM, AND SLIP RESISTANT. [TAS 4.5.1]
6. HANDRAILS SHALL BE INSTALLED ALONG PEDESTRIAN WALKWAYS WHERE THE WALL DROP-OFFS ARE 30" OR GREATER.
7. ACCESSIBLE PARKING SPACES MUST BE LOCATED ON A SURFACE WITH A SLOPE NOT EXCEEDING 1:50.

RETAINING WALLS NOTES:

1. RETAINING WALLS SHOWN ARE FOR SITE GRADING PURPOSES ONLY. SURFACE SPOT ELEVATIONS AT THE TOP AND BOTTOM OF THE WALL ARE BASED ON FINISH GRADE ELEVATIONS.
2. RETAINING WALL TYPE OR SYSTEM SHALL BE SELECTED BY THE OWNER.
3. RETAINING WALL DESIGN SHALL BE PROVIDED BY A LICENSED STRUCTURAL ENGINEER AND SHALL FIT IN THE WALL ZONE OR LOCATION SHOWN ON THESE PLANS. STRUCTURAL DESIGN AND PERMITTING OF RETAINING WALLS, RAILINGS, AND OTHER WALL SAFETY DEVICES SHALL BE PERFORMED BY A LICENSED ENGINEER AND ARE NOT PART OF THIS PLAN SET.
4. RETAINING WALL DESIGN SHALL MEET THE INTENT OF THE GRADING PLAN AND SHALL ACCOUNT FOR ANY INFLUENCE ON ADJACENT BUILDING FOUNDATIONS, UTILITIES, PROPERTY LINES AND OTHER CONSTRUCTABILITY NOTES.
5. STRUCTURAL ENGINEER SHALL CONSULT THESE PLANS AND THE GEOTECHNICAL REPORT FOR POTENTIAL CONFLICTS.

GRADING NOTES:

1. THE CONTRACTOR AND GRADING SUBCONTRACTOR SHALL VERIFY THE SUITABILITY OF EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL OBTAIN ANY REQUIRED GRADING PERMITS FROM THE CITY.
3. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE.
4. PROPOSED SPOT ELEVATIONS AND CONTOURS OUTSIDE THE PAVEMENT ARE TO TOP OF FINISHED GRADE.
5. PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN CASE OF DISCREPANCY.
6. ALL FINISHED GRADES SHALL TRANSITION UNIFORMLY BETWEEN THE FINISHED ELEVATIONS SHOWN.
7. CONTOURS AND SPOT GRADES SHOWN ARE ELEVATIONS OF TOP OF THE FINISHED SURFACE. WHEN PERFORMING THE GRADING OPERATIONS, THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE ELEVATION HOLD-DOWN ALLOWANCE FOR THE THICKNESS OF PAVEMENT, SIDEWALK, TOPSOIL, MULCH, STONE, LANDSCAPING, RIP-RAP AND ALL OTHER SURFACE MATERIALS THAT WILL CONTRIBUTE TO THE TOP OF FINISHED GRADE.
8. NO REPRESENTATIONS OF EARTHWORK QUANTITIES OR SITE BALANCE ARE MADE BY THESE PLANS. THE CONTRACTOR SHALL PROVIDE THEIR OWN EARTHWORK CALCULATION TO DETERMINE THEIR CONTRACT QUANTITIES AND COST. ANY SIGNIFICANT VARIANCE FROM A BALANCED SITE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CIVIL ENGINEER.
9. ALL GRADING AND EARTHWORK SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
10. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL, SPECIFIED BY THE GEOTECHNICAL ENGINEER, AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE REMOVED FROM THE SITE AND APPROPRIATELY DISPOSED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE.
11. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF GRADING. REFERENCE EROSION CONTROL PLAN, DETAILS, GENERAL NOTES, AND SWPPP FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
12. BEFORE ANY EARTHWORK IS PERFORMED, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF THE PROJECT'S PROPERTY LINE AND SITE IMPROVEMENTS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.
13. CONTRACTOR TO DISPOSE OF ALL EXCESS EXCAVATION MATERIALS IN A MANNER THAT ADHERES TO LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL KEEP A RECORD OF WHERE EXCESS EXCAVATION WAS DISPOSED, ALONG WITH THE RECEIVING LANDOWNER'S APPROVAL TO DO SO.
14. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF TOPSOIL AT THE COMPLETION OF FINE GRADING. CONTRACTOR SHALL REFER TO LANDSCAPE ARCHITECTURE PLANS FOR SPECIFICATIONS AND REQUIREMENTS FOR TOPSOIL.
15. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
16. NO EARTHWORK FILL SHALL BE PLACED IN ANY EXISTING DRAINAGE WAY, SWALE, CHANNEL, DITCH, CREEK, OR FLOODPLAIN FOR ANY REASON OR ANY LENGTH OF TIME, UNLESS THESE PLANS SPECIFICALLY INDICATE THIS IS REQUIRED.
17. TEMPORARY CULVERTS MAY BE REQUIRED IN SOME LOCATIONS TO CONVEY RUN-OFF.
18. REFER TO DIMENSION CONTROL PLAN, AND PLAT FOR HORIZONTAL DIMENSIONS.
19. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND CONDITION FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
20. CONTRACTOR IS RESPONSIBLE FOR ALL SOILS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL SOILS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS AND THE GEOTECHNICAL REPORT. SOILS TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING SOILS. THE OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR SOILS TESTING.
21. ALL COPIES OF SOILS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
22. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE SOILS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
23. CONTRACTOR SHALL ENSURE THAT SUFFICIENT POSITIVE SLOPE AWAY FROM THE BUILDING PAD IS ACHIEVED FOR ENTIRE PERIMETER OF THE PROPOSED BUILDING(S) DURING GRADING OPERATIONS AND IN THE FINAL CONDITION. IF THE CONTRACTOR OBSERVES THAT THIS WILL NOT BE ACHIEVED, THE CONTRACTOR SHALL CONTACT THE ENGINEER TO REVIEW THE LOCATION.
24. THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER, OR BY OTHER MEANS APPROVED BY THE CITY, AT NO ADDITIONAL COST TO THE OWNER.
25. CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS NEEDED FOR GRADING OPERATIONS AND TO ACCOMMODATE PROPOSED GRADE, INCLUDING THE UNKNOWN UTILITIES NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL REFER TO THE GENERAL NOTES SECTION OF THESE PLANS FOR ADDITIONAL INFORMATION.
26. EXISTING TREE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. CONTRACTOR SHALL REPORT ANY DISCREPANCIES FOUND IN THE FIELD THAT AFFECT THE GRADING PLAN TO THE CIVIL ENGINEER.
27. CONTRACTOR SHALL FIELD VERIFY ALL PROTECTED TREE LOCATIONS, INDIVIDUAL PROTECTED TREE CRITICAL ROOT ZONES, AND PROPOSED SITE GRADING, AND NOTIFY THE CIVIL ENGINEER AND LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH THE TREE PRESERVATION PLAN BY THE LANDSCAPE ARCHITECT PRIOR TO COMMENCING THE WORK.
28. TREE PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARD TREE PROTECTION DETAILS AND THE APPROVED TREE PRESERVATION PLANS BY THE LANDSCAPE ARCHITECT.
29. CONTRACTOR SHALL REFER TO THE LANDSCAPING AND TREE PRESERVATIONS PLANS FOR ALL INFORMATION AND DETAILS REGARDING EXISTING TREES TO BE REMOVED AND PRESERVED.
30. NO TREE SHALL BE REMOVED UNLESS A TREE REMOVAL PERMIT HAS BEEN ISSUED BY THE CITY, OR CITY HAS OTHERWISE CONFIRMED IN WRITING THAT ONE IS NOT NEEDED FOR THE TREE(S).
31. NO TREE SHALL BE REMOVED OR DAMAGED WITHOUT PRIOR AUTHORIZATION OF THE OWNER OR OWNER'S REPRESENTATIVE. EXISTING TREES SHALL BE PRESERVED WHENEVER POSSIBLE AND GRADING IMPACT TO THEM HELD TO A MINIMUM.
32. AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING AND INADEQUATE SLOPE FOR DRAINAGE. ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORMWATER RUNOFF. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY AREAS OF POOR DRAINAGE ARE DISCOVERED.
33. CONTRACTOR FIELD ADJUSTMENT OF PROPOSED SPOT GRADES IS ALLOWED, IF THE APPROVAL OF THE CIVIL ENGINEER IS OBTAINED.

PAVING NOTES:

1. ALL PAVING MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION/DETAIL SHALL BE FOLLOWED.
2. ALL PRIVATE ON-SITE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING ALL ADDENDA.
3. ALL FIRELANE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARDS AND DETAILS. IF THESE ARE DIFFERENT THAN THOSE IN THE GEOTECHNICAL REPORT, THEN THE MORE RESTRICTIVE SHALL BE FOLLOWED.
4. ALL PUBLIC PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
5. CONTRACTOR IS RESPONSIBLE FOR ALL PAVING AND PAVING SUBGRADE TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL PAVING AND PAVING SUBGRADE TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING PAVING AND SUBGRADE. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR PAVING AND PAVING SUBGRADE TESTING.
6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE PAVING AND PAVING SUBGRADE, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
7. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAIL AND SPECIFICATIONS.
8. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO ADA AND TAS STANDARDS AND SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH AND FULL DEPTH OF THE CURB RAMP, NOT INCLUDING FLARES.
9. ALL ACCESSIBLE RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA AND TAS STANDARDS, LATEST EDITION.
10. ANY COMPONENTS OF THE PROJECT SUBJECT TO RESIDENTIAL USE SHALL ALSO CONFORM TO THE FAIR HOUSING ACT, AND COMPLY WITH THE FAIR HOUSING ACT DESIGN MANUAL BY THE US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
11. CONTRACTOR SHALL CONSTRUCT PROPOSED PAVEMENT TO MATCH EXISTING PAVEMENT WITH A SMOOTH, FLUSH, CONNECTION.
12. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDING AS SHOWN ON THE PLANS. ALL PAINT AND PAVEMENT MARKINGS SHALL ADHERE TO CITY AND OWNER STANDARDS.
13. REFER TO GEOTECHNICAL REPORT FOR PAVING JOINT LAYOUT PLAN REQUIREMENTS FOR PRIVATE PAVEMENT. REFER TO CITY STANDARD DETAILS AND SPECIFICATIONS FOR JOINT LAYOUT PLAN REQUIREMENTS FOR PUBLIC PAVEMENT.
14. ALL REINFORCING STEEL SHALL CONFORM TO THE GEOTECHNICAL REPORT, CITY STANDARDS, AND ASTM A-615, GRADE 60, AND SHALL BE SUPPORTED BY BAR CHAIRS. CONTRACTOR SHALL USE THE MORE STRINGENT OF THE CITY AND GEOTECHNICAL STANDARDS.
15. ALL JOINTS SHALL EXTEND THROUGH THE CURB. THE MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS SHALL BE 2 FEET.
16. CONTRACTOR SHALL SUBMIT A JOINTING PLAN TO THE ENGINEER AND OWNER PRIOR TO BEGINNING ANY OF THE PAVING WORK.
17. ALL SAWCUTS SHALL BE FULL DEPTH FOR PAVEMENT REMOVAL AND CONNECTION TO EXISTING PAVEMENT.
18. UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED.
19. CONTRACTOR IS RESPONSIBLE FOR INSTALLING NECESSARY CONDUIT FOR LIGHTING, IRRIGATION, ETC. PRIOR TO PLACEMENT OF PAVEMENT. ALL CONSTRUCTION DOCUMENTS (CIVIL, MEP, LANDSCAPE, IRRIGATION, AND ARCHITECT) SHALL BE CONSULTED.
20. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA, TAS, AND EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION.
21. CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA/TAS SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA AND TAS SLOPE COMPLIANCE ISSUES.

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 EDITION.

STORM DRAINAGE NOTES:

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER.
3. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING STORM SEWER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY STORM SEWER, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
4. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER.
5. FLOW LINE, TOP-OF-CURB, RIM, THROAT, AND GRATE ELEVATIONS OF PROPOSED INLETS SHALL BE VERIFIED WITH THE GRADING PLAN AND FIELD CONDITIONS PRIOR TO THEIR INSTALLATION.
6. ALL PUBLIC STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS.
7. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
8. ALL PRIVATE STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE.
9. ALL PVC TO RCP CONNECTIONS AND ALL STORM PIPE CONNECTIONS ENTERING STRUCTURES OR OTHER STORM PIPES SHALL HAVE A CONCRETE COLLAR AND BE GROUTED TO ASSURE THE CONNECTION IS WATERTIGHT.
10. ALL PUBLIC STORM SEWER LINES SHALL BE CLASS III RCP.
10. ALL PRIVATE STORM SEWER LINES SHALL BE HDPE.
11. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL STORM SEWER LINES.
12. EMBEDMENT FOR ALL STORM SEWER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS.
13. ALL WYE CONNECTIONS AND PIPE BENDS ARE TO BE PREFABRICATED AND INSTALLED PER MANUFACTURERS SPECIFICATIONS.
14. USE 4 FOOT JOINTS WITH BEVELED ENDS IF RADIUS OF STORM SEWER IS LESS THAN 100 FEET.
15. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
16. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

POND NOTES:

1. ANY PONDS THAT ARE INTENDED TO HOLD WATER INDEFINITELY SHALL BE CONSTRUCTED WATERTIGHT.
2. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR POND LINER SPECIFICATIONS.
3. A GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE ALL POND LINER MATERIAL, PLACEMENT PROCEDURES, AND PROVIDE TESTING TO ENSURE THE POND LINER MATERIAL PLACED IS WATERTIGHT.
4. STORM SEWER PIPES AND HEADWALLS THAT CONNECT TO A POND INTENDED TO HOLD WATER INDEFINITELY SHALL BE INSTALLED WITH WATERTIGHT JOINTS TO AT LEAST 1-FOOT ABOVE THE NORMAL POOL WATER SURFACE ELEVATION.
5. ANY GRAVEL OR OTHER PERVIOUS EMBEDMENT AROUND PIPES OR OUTFALL STRUCTURES NEAR THE POND SHALL BE ELIMINATED FOR AT LEAST 20-FEET FROM THE POND SO NO ROUTE FOR WATER TO LEAK THROUGH THE EMBEDMENT MATERIAL IS PROVIDED. BACKFILL IN THESE AREAS SHALL BE OF IMPERVIOUS MATERIAL.
6. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE WATER LEVEL FOLLOWING COMPLETION AND FILLING OF THE POND SHALL BE MONITORED BY THE CONTRACTOR FOR AT LEAST 60 DAYS TO OBSERVE WATER INFLOW, OUTFLOW, AND CALCULATE EVAPORATION TO VERIFY THAT THE POND IS WATERTIGHT.
7. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE POND WATER LEVEL SHALL ALSO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION SO THAT IT REMAINS FULL TO ITS DESIGN WATER LEVEL, AND IS NOT LOWERED, AS THIS MAY DRY-OUT THE POND LINER AND RISK ITS WATERTIGHT PROPERTIES.

WATER AND WASTEWATER NOTES:

1. ALL WATER AND WASTEWATER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING WATER AND WASTEWATER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY WATER OR WASTEWATER CONSTRUCTION, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY SERVICES ENTERING THE BUILDING.
4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL UTILITY CROSSINGS PRIOR TO THE INSTALLATION OF ANY PIPE.
5. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE WATER AND WASTEWATER IMPROVEMENTS.
6. ALL PUBLIC WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
7. ALL PRIVATE WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
8. FIRE SPRINKLER LINES SHALL BE DESIGNED AND INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR, AND COMPLY TO THE APPLICABLE CODES AND INSPECTIONS REQUIRED.
9. EMBEDMENT FOR ALL WATER AND WASTEWATER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS.
10. CONTRACTOR SHALL TAKE REQUIRED SANITARY PRECAUTIONS, FOLLOWING ANY CITY, TCEQ, AND AWWA STANDARDS, TO KEEP WATER PIPE AND FITTINGS CLEAN AND CAPPED AT TIMES WHEN INSTALLATION IS NOT IN PROGRESS.
11. ALL PUBLIC WATER LINES SHALL BE PVC C900. ALL PRIVATE WATER LINES SHALL BE PVC C900.
12. ALL PUBLIC WASTEWATER LINES SHALL BE PVC SDR 26. ALL PRIVATE WASTEWATER LINES SHALL BE PVC SDR 26.
13. CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL WATER AND WASTEWATER LINES.
14. ALL WATER AND WASTEWATER SERVICES SHALL BE COORDINATED WITH THE BUILDING PLUMBING PLANS.
15. CONTRACTOR SHALL COMPLY WITH CITY REQUIREMENTS FOR WATER AND WASTEWATER SERVICE DISRUPTIONS AND THE AMOUNT OF PRIOR NOTICE THAT IS REQUIRED, AND SHALL COORDINATE DIRECTLY WITH THE APPROPRIATE CITY DEPARTMENT.
16. CONTRACTOR SHALL SEQUENCE WATER AND WASTEWATER CONSTRUCTION TO AVOID INTERRUPTION OF SERVICE TO SURROUNDING PROPERTIES.
17. CONTRACTOR SHALL MAINTAIN WATER SERVICE AND WASTEWATER SERVICE TO ALL CUSTOMERS THROUGHOUT CONSTRUCTION (IF NECESSARY, BY USE OF TEMPORARY METHODS APPROVED BY THE CITY AND OWNER). THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
18. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL WATER AND WASTEWATER LINES CROSSING THE PROJECT. THE CONTRACTOR SHALL REPAIR ALL DAMAGED LINES IMMEDIATELY. ALL REPAIRS OF EXISTING WATER MAINS, WATER SERVICES, SEWER MAINS, AND SANITARY SEWER SERVICES ARE SUBSIDIARY TO THE WORK, AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
19. VALVE ADJUSTMENTS SHALL BE CONSTRUCTED SUCH THAT THE COVERS ARE AT FINISHED SURFACE GRADE OF THE PROPOSED PAVEMENT.
20. THE ENDS OF ALL EXISTING WATER MAINS THAT ARE CUT, BUT NOT REMOVED, SHALL BE PLUGGED AND ABANDONED IN PLACE. THIS WORK SHALL BE CONSIDERED AS A SUBSIDIARY COST TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
21. ALL FIRE HYDRANTS, VALVES, TEES, BENDS, WYES, REDUCERS, FITTINGS, AND ENDS SHALL BE MECHANICALLY RESTRAINED AND/OR THRUST BLOCKED TO CITY STANDARDS.
22. CONTRACTOR SHALL INSTALL A FULL SEGMENT OF WATER OR WASTEWATER PIPE CENTERED AT ALL UTILITY CROSSINGS SO THAT THE JOINTS ARE GREATER THAN 9-FEET FROM THE CROSSING.
23. ALL CROSSINGS AND LOCATIONS WHERE WASTEWATER IS LESS THAN 9-FEET FROM WATER, WASTEWATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 217.53.
24. ALL CROSSING AND LOCATIONS WHERE WATER IS LESS THAN 9-FEET FROM WASTEWATER, WATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 290.44.
25. ALL WATER AND WASTEWATER SHALL BE TESTED IN ACCORDANCE WITH THE CITY, AWWA, AND TCEQ STANDARDS AND SPECIFICATIONS. AT A MINIMUM, THIS SHALL CONSIST OF THE FOLLOWING: ALL WATERLINES SHALL BE HYDROSTATICALLY TESTED AND CHLORINATED BEFORE BEING PLACED INTO SERVICE. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. WASTEWATER LINES AND MANHOLES SHALL BE PRESSURE TESTED. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. AFTER COMPLETION OF THESE TESTS, A TELEVISION INSPECTION SHALL BE PERFORMED AND PROVIDED TO THE CITY AND OWNER ON A DVD.
26. CONTRACTOR SHALL INSTALL DETECTABLE WIRING OR MARKING TAPE A MINIMUM OF 12” ABOVE WATER AND WASTEWATER LINES. MARKER DECALS SHALL BE LABELED “CAUTION - WATER LINE”, OR “CAUTION - SEWER LINE”. DETECTABLE WIRING AND MARKING TAPE SHALL COMPLY WITH CITY STANDARDS, AND SHALL BE INCLUDED IN THE COST OF THE WATER AND WASTEWATER PIPE.
27. DUCTILE IRON PIPE SHALL BE PROTECTED FROM CORROSION BY A LOW-DENSITY POLYETHYLENE LINER WRAP THAT IS AT LEAST A SINGLE LAYER OF 8-MIL. ALL DUCTILE IRON JOINTS SHALL BE BONDED.
28. WATERLINES SHALL BE INSTALLED AT NO LESS THAN THE MINIMUM COVER REQUIRED BY THE CITY.
29. CONTRACTOR SHALL PROVIDE CLEAN-OUTS FOR PRIVATE SANITARY SEWER LINES AT ALL CHANGES IN DIRECTION AND 100-FOOT INTERVALS, OR AS REQUIRED BY THE APPLICABLE PLUMBING CODE. CLEAN-OUTS REQUIRED IN PAVEMENT OR SIDEWALKS SHALL HAVE CAST IRON COVERS FLUSH WITH FINISHED GRADE.
30. CONTRACTOR SHALL PROVIDE BACKWATER VALVES FOR PLUMBING FIXTURES AS REQUIRED BY THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL REVIEW BOTH MEP AND CIVIL PLANS TO CONFIRM WHERE THESE ARE REQUIRED.
31. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
32. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

SEQUENCE OF CONSTRUCTION:

1. INSTALL TREE PROTECTION AND INITIATE TREE MITIGATION MEASURES.
2. INSTALL EROSION CONTROLS AND OFF-SITE EROSION CONTROLS AS INDICATED ON APPROVED PLANS.
3. CONTACT CITY AND ANY OTHER INVOLVED AGENCY TO SCHEDULE PRE-CONSTRUCTION COORDINATION MEETING.
4. EVALUATE TEMPORARY EROSION CONTROL INSTALLATION. REVIEW CONSTRUCTION SCHEDULE WITH THE EROSION CONTROL PLAN.
5. BEGIN SITE CLEARING AND GRADING. INSPECT AND MAINTAIN ALL CONTROLS AS PER GENERAL NOTES.
6. CONSTRUCT UTILITY LINES I.E. WATER, WASTEWATER, AND STORM DRAINAGE. REFER TO PHASING PLAN.
7. CONSTRUCT PAVING/STREETS.
8. REVEGETATE DISTURBED AREAS OR COMPLETE A DEVELOPER'S CONTRACT FOR THE REVEGETATION ALONG WITH THE ENGINEER'S CONCURRENCE LETTER.
9. PROJECT ENGINEER INSPECTS JOB AND WRITES CONCURRENCE LETTER TO THE CITY. FINAL INSPECTION IS SCHEDULED UPON RECEIPT OF LETTER.
10. REMOVE TEMPORARY EROSION/SEDIMENTATION CONTROLS AT GRASS GROWTH.

NO.	REVISION	BY	DATE

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STATE OF TEXAS — SHERVIN NOOSHIN — 96807 — LICENSED PROFESSIONAL ENGINEER

08/15/2025

GENERAL NOTES 1 OF 2

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

2025- -SWP

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Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh2502683-gNOTES.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez

FIRE PROTECTION NOTES:

1. 1,500 GPM FIRE FLOW SHALL BE PROVIDED FOR THIS PROJECT.

2. AT THE CONCLUSION OF CONSTRUCTION AND AS PART OF THE PROCESS FOR THE CITY TO ACCEPT THIS PHASE:

   - THE FIRE HYDRANTS SHALL BE FLOWED AND TESTED
   - A COPY OF THE REPORT SHALL BE EMAILED INTO THE FIRE DEPARTMENT
   - THE HYDRANTS SHALL BE PAINTED AND COLOR CODED.
   - CAUTION: IF PRESSURE REDUCING VALVES WERE INSTALLED IN THIS PHASING THEY MUST BE SET PRIOR TO FIRE HYDRANT FLOW TESTING.

3. PER CITY ORDINANCE SEC. 13.15.120, HYDRANT FLOW CODING STANDARDS. PUBLIC HYDRANTS WILL HAVE THE BONNETS PAINED SILVER, THE HYDRANTS WILL BE FLOW TESTED, AND THE BONNET PAINTED USING THE HYDRANT FLOW STANDARD IN PARAGRAPH C. FLOW COLOR:

   - GREATER THAN 1500 GPM BLUE
   - 1000 TO 1500 GPM GREEN
   - 500 - 999 GPM ORANGE
   - LASS THAN 500 GPM RED
   - NOT WORKING BLACK OR BAGGED

4. FIRE LANES SHALL BE MARKED AND LABELED AS A FIRELANE PER CITY STANDARDS.

5. APPROVAL OF THIS SITE PLAN DOES NOT IMPLY APPROVAL TO INSTALL UNDERGROUND FIRE LINES. PRIOR TO INSTALLATION OF UNDERGROUND FIRE LINES, A SEPARATE PERMIT SHALL BE SUBMITTED, UNDER GROUND FIRE LINE SUPPLY.

6. BACKFLOW PROTECTION WILL BE PROVIDED IN ACCORDANCE WITH THE CITY OF GEORGETOWN REQUIREMENTS WHEN REQUIRED. BACKFLOW PROTECTION WILL BE INSTALLED IN ACCORDANCE WITH THE DETAIL PROVIDED IN THE UTILITY DRAWINGS.

7. ALL PRIVATE FIRE LINES AND WHAT THEY PROVIDE SERVICE TO WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24 INSTILLATION OF PRIVATE SERVICE MAINS AND THEIR APPURTENANCES.

8. ALL TEES, PLUGS, CAPS, BENDS, REDUCERS, VALVES SHALL BE RESTRAINED AGAINST MOVEMENT. THRUST BLOCKING AND JOINT RESTRAINED WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24.

9. ALL UNDERGROUND SHALL REMAIN UNCOVERED UNTIL A VISUAL INSPECTION IS CONDUCTED BY THE GEORGETOWN FIRE MARSHAL'S OFFICE (FMO). ALL JOINT RESTRAINTS AND THRUST BLOCKING SHALL BE UNCOVERED FOR VISUAL INSPECTION.

10. ALL UNDERGROUND SHALL BE FLUSHED PER THE REQUIREMENTS OF NFPA STANDARD 24 AND WITNESSED BY GEORGETOWN FMO.

11. ALL UNDERGROUND SHALL PASS A HYDROSTATIC TEST WITNESSED BY GEORGETOWN FMO. ALL JOINTS SHALL BE UNCOVERED FOR HYDROSTATIC TESTING. ALL PIPING AND ATTACHMENTS SUBJECTED TO SYSTEM WORKING PRESSURE SHALL BE TESTED AT 200 PSI, OR 50 PSI MORE THAN THE SYSTEM WORKING PRESSURE, WHICHEVER IS GREATER, AND SHALL MAINTAIN THAT PRESSURE +/- 5 PSI FOR 2 HOURS.

12. FENCES, LANDSCAPING, AND OTHER ITEMS WILL NOT BE INSTALLED WITHIN 3 FT, AND WHERE THEY WILL OBSTRUCT THE VISIBILITY OR ACCESS TO HYDRANTS, OR REMOTE FDCS.

13. LICENSE REQUIREMENTS OF EITHER RME-U OR G. WHEN CONNECTING BY UNDERGROUND TO THE WATER PURVEYOR'S MAIN FROM THE POINT OF CONNECTION OR VALVE WHERE THE PRIMARY PURPOSE OF WATER IS FOR FIRE PROTECTION SPRINKLER SYSTEM.

14. DETAILS OF FIRE LANE MARKING. ALL CURBS AND CURB ENDS SHALL BE PAINTED RED WITH FOUR-INCH WHITE LETTERING STATING, "FIRE LANE—TOW AWAY ZONE". THE WORDS "FIRE LANE" BY THEMSELVES ARE NOT ACCEPTABLE. WORDING MAY NOT BE SPACED MORE THAN 30 FEET APART.

FIRE APPARATUS ACCESS ROAD GATE NOTES:

LA-D103.5 FIRE APPARATUS ACCESS ROAD GATES. GATES SECURING FIRE APPARATUS ACCESS ROADS SHALL COMPLY WITH ALL OF THE FOLLOWING CRITERIA:

1. THE MINIMUM UNOBSTRUCTED GATE WIDTH SHALL BE 20 FEET (6096MM).
   EXCEPTION: ONE- AND TWO-FAMILY DWELLINGS AS APPROVED BY THE FIRE CODE OFFICIAL.
2. GATES SHALL BE OF THE SWINGING OR SLIDING TYPE.
3. CONSTRUCTION OF GATES SHALL BE OF MATERIALS THAT ALLOW MANUAL OPERATION BY ONE PERSON.
4. GATE COMPONENTS SHALL ALWAYS BE MAINTAINED IN AN OPERATIVE CONDITION AND REPLACED OR REPAIRED WHEN DEFECTIVE.
5. ELECTRICALLY OPERATED GATES:
   A. SHALL BE EQUIPPED WITH A MEANS OF OPENING THE GATE BY FIRE DEPARTMENT PERSONNEL FOR EMERGENCY ACCHESS. EMERGENCY ACCESS DEVICES SHALL BE APPROVED BY THE FIRE CODE OFFICIAL.
   B. SHALL BE IN THE FULLY OPENED POSITION FOR NO MORE THAN 30 SECONDS.
   C. SHALL HAVE A MANUAL OVERRIDE SYSTEM. MANUAL OVERRIDE OPERATIONS SHALL BE LOCATED ON THE ENTRANCE SIDE OF THE GATE, OR WHEN POWER HAS FAILED, THE GATE(S) SHALL OPEN AND STAY OPEN UNTIL POWER IS RESTORED FOR NORMAL OPERATIONS.
   D. SHALL HAVE INSTALLED APPROVED PREEMPTIVE CONTROL OPENING EQUIPMENT.
   E. EXCEPTIONS.
      i. DRIVEWAYS SERVING ONE- AND TWO-FAMILY DWELLINGS AS APPROVED BY THE FIRE CODE OFFICIAL.
      ii. GATES SERVING AS AN EMERGENCY ACCESS WITH 24-HOUR STAFFED GATEHOUSES.
6. MANUAL OPENING GATES:
   A. MAY BE LOCKED WHEN APPROVED BY THE FIRE CODE OFFICIAL.
   B. IF EQUIPPED WITH A LOCK, KEYS SHALL BE PROVIDED FOR INSTALLATION INTO AN APPROVED FIRE DEPARTMENT KEY BOX. KEYS SHALL BE MAINTAINED CURRENT.
7. LOCKING DEVICE SPECIFICATIONS SHALL BE SUBMITTED FOR APPROVAL BY THE FIRE CODE OFFICIAL.
8. ELECTRIC GATE OPERATORS, WHERE PROVIDED, SHALL BE LISTED IN ACCORDANCE WITH UL 325.
9. GATES INTENDED FOR AUTOMATIC OPERATION SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED TO COMPLY WITH THE REQUIREMENTS OF ASTM F 2200.
10. A CONSTRUCTION PERMIT IN ACCORDANCE WITH SUBSECTION 503.6 IS REQUIRED TO INSTALL OR MODIFY A GATE ACROSS FIRE APPARATUS ROADWAYS.
11. MAINTENANCE OF GATES SECURING FIRE APPARATUS ACCESS. GATES SHALL BE MAINTAINED IN AN OPERATIVE CONDITION AND REPAIRED OR REPLACED WHEN DEFECTIVE. WHEN REQUIRED BY THE FIRE CODE OFFICIAL, DEFECTIVE GATES SHALL BE SECURED IN THE OPEN POSITION UNTIL REPAIRED.

CITY OF GEORGETOWN NOTES:

1. THESE CONSTRUCTION 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 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 TO THE CITY.

3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.

4. WASTEWATER MAINS AND SERVICE LINES SHALL BE SDR 26 PVC.

5. WASTEWATER MAINS SHALL BE INSTALLED WITHOUT HORIZONTAL OR VERTICAL BENDS.

6. MAXIMUM DISTANCE BETWEEN WASTEWATER MANHOLES IS 500 FEET.

7. WASTEWATER MAINS SHALL BE LOW PRESSURE AIR TESTED AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.

8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.

9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY ON DVD FORMAT PRIOR TO PAVING THE STREETS.

10. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.

11. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 FOR ALL OTHERS.

12. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 4 HOURS.

13. ALL BEND AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.

14. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.

15. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.

16. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.

17. FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TXDOT TYPE A GRADE 1.

18. HOT MIX ASPHALT CONCRETE PAVEMENT SHALL BE TYPE D UNLESS OTHERWISE SPECIFIED AND SHALL BE A MINIMUM OF 2 INCHES THICK ON PUBLIC STREETS AND ROADWAYS.

19. ALL SIDEWALK RAMPS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE.

20. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF HTE PUBLIC IMPROVEMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEAR IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.

21. 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 ON A FLASH DRIVE OR BY CLOUD SOURCE.

CITY OF GEORGETOWN WATER & WASTEWATER NOTES:

1. PIPE MATERIAL FOR WATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 200), OR DUCTILE IRON (C-115, MIN. CLASS 200) UNLESS SPECIFIED OTHERWISE.

2. PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D3034, SDR-26) UNLESS SPECIFIED OTHERWISE.

3. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR TO COORDINATE UTILITY TIE-INS AND NOTIFY HIM AT LEAST 48 HOURS PRIOR TO CONNECTING TO EXISTING LINES.

4. ALL MANHOLES SHALL HAVE ECCENTRIC CONES AND SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS. TAPPING OF FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.

5. THE CONTRACTOR MUST OBTAIN A BULK WATER PERMIT OR PURCHASE AND INSTALL A WATER METER FOR ALL WATER USED DURING CONSTRUCTION. A COPY OF THIS PERMIT MUST BE CARRIED AT ALL TIMES BY ALL WHO USE WATER. CONTRACTOR TO INSTALL ABOVE GROUND WATER TANK WITH SUPPLY LINE AS INDICATED ON PLANS.

6. LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE SCHEDULED WITH THE CITY INSPECTOR.

7. THE CONTRACTOR, AT HIS EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY CITY OF GEORGETOWN PERSONNEL.

8. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF INSPECTOR AND PROVIDE NO LESS THAN 24 HOURS NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING OR PRESSURE TESTING.

9. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES UNLESS AUTHORIZED BY THE CITY OF GEORGETOWN.

10. ALL VALVE BOXES AND COVERS SHALL BE CAST IRON.

11. TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE AND VALVE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE ENGINEER AND ACCEPTED BY THE CITY OF GEORGETOWN.

12. CONTACT CITY OF GEORGETOWN INSPECTION DEPARTMENT FOR ASSISTANCE IN OBTAINING EXISTING WATER AND WASTEWATER LOCATIONS.

13. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ASTM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

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

15. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12 A.M. AND 6 A.M.

16. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 313 AND 317, AS APPLICABLE. WHENEVER TCEQ AND CITY OF GEORGETOWN SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.

17. THE CONTRACTOR SHALL CONTACT THE "TEXAS811" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF GEORGETOWN WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES.

18. ALL MANHOLES IN UNPAVED AREAS PROVIDING DIRECT ACCESS TO A WASTEWATER LINE SHALL BE WATERTIGHT AND BEAR THE WORDING AND INSIGNIA FOR THE CITY OF GEORGETOWN.

19. THE OWNER IS RESPONSIBLE FOR ALL COST OF RELOCATION OR DAMAGE TO UTILITIES.

20. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO HIS/HER FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.

21. THE ENGINEER, IN PREPARING THESE PLANS HAS ATTEMPTED TO LOCATE ALL EXISTING UTILITIES IN THE AREAS OF EXPANSION OR NEW CONSTRUCTION. HOWEVER, THERE MAY BE UTILITIES THAT COULD NOT BE OR WERE NOT LOCATED. UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL CALL APPROPRIATE UTILITY COMPANIES FOR LOCATIONS OF THEIR UTILITIES AT LEAST 48 HOURS BEFORE COMMENCING EXCAVATION. IN THE EVENT THAT A UTILITY IS SITUATED SUCH THAT CONSTRUCTION CANNOT PROCEED AS SHOWN ON THE PLANS, THE CONSTRUCTION MANAGER/SUPERVISOR SHALL BE NOTIFIED IMMEDIATELY.

22. CONTRACTOR TO COORDINATE WITH APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION, ADJUSTMENT, OR RELOCATION OF EXISTING UTILITIES AS DESIGNATED ON PLANS.

23. THE MINIMUM HORIZONTAL SEPARATION BETWEEN WATER AND ASSOCIATED VALVING AND SEWER LINES AND ASSOCIATED MANHOLES, IS NINE (9) FEET OUTSIDE DIAMETER TO OUTSIDE DIAMETER. THE MINIMUM VERTICAL SEPARATION BETWEEN WATER AND SEWER LINES IS EIGHTEEN (18) INCHES.

24. THE TOP ELEVATION OF MANHOLES IN PAVED AREAS SHALL MATCH FINISH GRADE. THE TOP ELEVATION OF MANHOLES IN UNPAVED AREAS SHALL BE 3" (MIN.) ABOVE FINISH GRADE, UNLESS OTHERWISE NOTED ON PLANS.

25. CONTRACTOR SHALL COORDINATE INSPECTION OF UTILITY LINES WITH APPROPRIATE AUTHORITIES PRIOR TO BACKFILLING TRENCHES.

26. ALL WATER AND WASTEWATER LINES IN CITY R.O.W. AND EASEMENTS WILL MEET THE CITY OF GEORGETOWN WATER AND WASTEWATER DEPARTMENT DESIGN CRITERIA, AT A MINIMUM.

27. CITY MAINTENANCE OF UTILITIES ENDS AT THE PROPERTY LINE UNLESS IN AN EASEMENT.

28. EXTEND ALL EXISTING UTILITY MANHOLES, BOXES, COVERS, ETC. TO PROPOSED FINISH GRADE, UNLESS APPROVED OTHERWISE.

29. ALL UNDERGROUND UTILITY CONSTRUCTION WITHIN CITY R.O.W. OR PUBLIC EASEMENTS MUST BE ACCOMPLISHED IN ACCORDANCE WITH THE CITY OF GEORGETOWN STANDARD SPECIFICATIONS.

30. AN 80 MIL COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.

31. ALL WATER SERVICE, WASTEWATER SERVICE AND VALVE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:

WATER SERVICE	"W" ON TOP OF CURB
WASTEWATER SERVICE	"S" ON TOP OF CURB
VALVE	"V" ON FACE OF CURB
DRY UTILITIES	"DU" ON FACE OF CURB

32. CENTER ONE 20-FOOT 150 PSI PRESSURE RATED WASTEWATER PIPE SECTION AT ALL WATERLINE CROSSINGS.

33. 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 CHAPTER 217 (DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS) OR 30 TAC CHAPTER 290 (PUBLIC DRINKING WATER).

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08/15/2025

GENERAL NOTES 2 OF 2

BERRY CREEK CROSSING
SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 3 OF 52

2025- -SWP

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\s2502063-xNOTES.dwg | Date Plotted: August 15, 2025 | Plotted By: mwhitepaw
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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) GENERAL CONSTRUCTION NOTES

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM MUST BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES 30 TEXAS ADMINISTRATIVE CODE (TAC) §§213.5(C) AND 217.51 - 217.70 AND 30 TAC CHAPTER 217, SUBCHAPTER D, AND THE CITY OF GEORGETOWN STANDARD SPECIFICATIONS.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SEWAGE COLLECTION SYSTEM PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.

3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
- THE NAME OF THE APPROVED PROJECT;
- THE ACTIVITY START DATE; AND
- THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.

7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.

8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.

9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE. THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET 32. IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.

10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).

11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: N/A.

 IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: N/A.

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

12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.

 IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET 32. (FOR POTENTIAL FUTURE LATERALS).

 THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON PLAN SHEETS 27 TO 28 AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET 32.

13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.

14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).

15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:

 (A) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:

 (1) LOW PRESSURE AIR TEST.

 (A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS PARAGRAPH.

 (B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION.

 (I) A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE.

 (II) ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

 EQUATION C.3

 WHERE: $$T = \frac{0.085 \times D \times K}{Q}$$

 T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS
 K = 0.000419 X D X L, BUT NOT LESS THAN 1.0
 D = AVERAGE INSIDE PIPE DIAMETER IN INCHES
 L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET
 Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

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

PIPE DIAMETER (INCHES)	MINIMUM TIME (SECONDS)	MAXIMUM LENGTH FOR MINIMUM TIME (FEET)	TIME FOR LONGER LENGTH (SECONDS/FOOT)
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

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

 (E) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.

 (F) WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS SECTION.

 (G) A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.

 (2) *INFILTRATION/EXFILTRATION TEST.*

 (A) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.

 (B) AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.

 (C) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER.

 (D) FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.

 (E) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.

 (b) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:

 (1) FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL.

 (A) MANDREL SIZING.

 (I) A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTMS, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.

 (II) IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDREL, MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.

 (III) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.

 (B) MANDREL DESIGN.

 (I) A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.

 (II) A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS.

 (III) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.

 (IV) EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING.

 (C) METHOD OPTIONS.

 (I) AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.

 (II) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.

 (III) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.

 (2) FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.

 (3) A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.

 (4) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.

 (5) GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).

 (6) IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.
 (A) ALL MANHOLES MUST PASS A LEAKAGE TEST.
 (B) AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.
 (1) HYDROSTATIC TESTING.
 (A) THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.
 (B) TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.
 (C) A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE.
 (2) VACUUM TESTING.
 (A) TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.
 (B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.
 (C) STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.
 (D) AN OWNER SHALL USE A MINIMUM 60 INCH/LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE.
 (E) A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 (F) THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.
 (G) A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.
 (H) A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.

17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.5(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE:

TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. AT A MINIMUM, CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS MEET TCEQ'S "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS."

2. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI [§290.44(A)(1)].

3. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS [§290.44(A)(2)].

4. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY [§290.44(A)(3)].

5. ALL WATER LINE CROSSINGS OF WASTEWATER MAINS SHALL BE PERPENDICULAR [§290.44(E)(4)(B)].

6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE [§290.44(A)(4)].

7. THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES IS 0.25 PERCENT [§290.44(B)].

8. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES WITH VENT OPENINGS TO THE ATMOSPHERE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT [§290.44(D)(1)].

9. THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION [§290.44(F)(1)].

10. WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATERLINE SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED [§290.44(F)(2)].

11. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS.

- THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

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

 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;

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

 L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
 S = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
 D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
 P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

12. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET §290.44(E)(1)-(4).

13. THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT [§290.44(E)(5)].

14. FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION [§290.44(E)(6)].

15. SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE [§290.44(E)(7)].

16. WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS [§290.44(E)(8)].

17. THE CONTRACTOR SHALL DISINFECT THE NEW WATERLINES IN ACCORDANCE WITH AWWA STANDARD C651-14 OR MOST RECENT, THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATERLINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER [§290.44(F)(3)].

18. DECHLORINATION OF DISINFECTING WATER SHALL BE IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD C655-09 OR MOST RECENT.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
- THE NAME OF THE APPROVED PROJECT;
- THE ACTIVITY START DATE; AND
- THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.

7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.

8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.

11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
- THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
- THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
- THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
 A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
 B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
 C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

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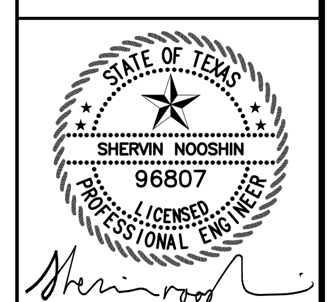

08/15/2025

TCEQ NOTES

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 4 OF 52

2025- -SWP

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh2502683-gNOTES.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez

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LEGEND

- PROPERTY BOUNDARY
- EASEMENT
- 840 EXISTING MAJOR CONTOUR
- 834 EXISTING MINOR CONTOUR
- 100YR 100-YR FEMA FLOODPLAIN
- EXISTING FENCE
- EX WL EXISTING WATER LINE
- EX WW EXISTING WASTEWATER LINE
- OE EXIST. OVERHEAD ELECTRIC
- UE EXIST. UNDERGROUND ELECTRIC
- TL TL EXIST. TRANSMISSION LINE
- EXIST. FIBER OPTIC CABLE
- EXISTING TREES
- EXISTING HERITAGE TREES
- EXISTING TREES - REMOVED
- EXISTING HERITAGE TREES - REMOVED
- EXISTING POWER POLE
- EXISTING GUY POLE
- EXISTING ELECTRIC METER
- EXISTING GRAVEL ROAD

CAUTION
EXISTING UTILITIES

CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.

THE CONTRACTOR IS ALLOWED TO REMOVE ANY ABANDONED UNDERGROUND UTILITY PART OF THE OLD RV PARK UTILITY NETWORKS. CONTRACTOR SHALL COORDINATE THE REMOVAL OF THE EXISTING OVERHEAD ELECTRICAL LINE AND POLES WITH THE OWNER AND P.E.C..

THERE MAY BE MORE UTILITIES THAN THOSE SHOWN IN THE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO: VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES, TAKE NECESSARY PRECAUTIONS TO PROTECT ALL FACILITIES ENCOUNTERED, AND SHALL NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE PROPOSED IMPROVEMENTS WITH THE OWNER OF THE FACILITIES THAT WILL BE CONNECTED OR CROSSED OR INSTALLED NEARBY. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, BOTH KNOWN AND UNKNOWN, SHALL BE REPAIRED OR RESTORED AT THE EXPENSE OF THE CONTRACTOR.

NO.	REVISION	BY	DATE

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5508 HIGHWAY 290 W
SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com
TBPE NO: 16384
TBPLS NO: 10194101

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

EXISTING CONDITIONS AND DEMOLITION PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 8 OF 52

2025- -SWP

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plansets\250903-XYCNO.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
ALL PROJECT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, PLANS AND SPECIFICATIONS PREPARED BY HRGREEN.DEVELOPMENT II, LLC AND/OR HRGREEN.DEVELOPMENT, LLC AND/OR ITS PREDECESSORS, ARE INTENDED FOR USE ON THE PROJECT ONLY. ANY REUSE, WHETHER OPEN OR WRITTEN, OR CREATION OF ADDITIONS OR APPROPRIATIONS FOR OTHER PROJECTS OR EXTENSIONS TO THIS PROJECT, EXCEPT BY AGREEMENT IN WRITING AND APPROPRIATE COMPENSATION TO HRGREEN.DEVELOPMENT II, LLC AND/OR HRGREEN.DEVELOPMENT, LLC, SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT AGREES TO INDEMNIFY AND HOLD HARMLESS HRGREEN.DEVELOPMENT II, LLC AND/OR HRGREEN.DEVELOPMENT, LLC FROM ALL CLAIMS, DAMAGES AND LOSSES ARISING OUT OF OR RESULTING THEREFROM

TREE LIST					
HERITAGE	TREE TAG	CALIPER (MULTI TRUNK)	SPECIES	CRZ	REMOVED
H	240	53" (45", 16")	TWIN LIVE OAK	53'	
H	242	46" (33" 25")	TWIN LIVE OAK	46'	
H	401	52"	LIVE OAK	52'	
H	402	29"	LIVE OAK	29'	
H	403	40"	LIVE OAK	40'	
H	404	35"	LIVE OAK	35'	
	405	20"	RED OAK	20'	
H	406	46"	LIVE OAK	46'	
H	407	34"	LIVE OAK	34'	
H	408	33"	LIVE OAK	33'	
H	409	36"	LIVE OAK	36'	
H	410	65" (45", 39")	TWIN LIVE OAK	65'	
	412	20"	LIVE OAK	20'	
	413	21"	LIVE OAK	21'	
H	414	52"	LIVE OAK	52'	
H	415	48" (31", 18", 16")	TRIPLE LIVE OAK	48'	
H	418	53"	LIVE OAK	53'	
	419	14"	ELM	14'	X
H	420	37"	LIVE OAK	37'	
	427	17"	ELM	17'	X
	428	19" (13", 11")	TWIN ELM	19'	
H	432	28" (19", 18")	TWIN LIVE OAK	28'	
H	446	26" (19", 14")	TWIN ELM	26'	
	449	22"	LIVE OAK	22'	
H	450	26" (21", 10")	TWIN LIVE OAK	26'	
	451	20"	LIVE OAK	20'	X
H	452	30"	LIVE OAK	30'	
	453	15" (10", 10")	TWIN LIVE OAK	15'	
H	456	29" (18", 12", 10")	TRIPLE LIVE OAK	29'	
	457	17"	ELM	17'	
H	458	33"	LIVE OAK	33'	
	460	14"	LIVE OAK	14'	X
	461	15"	LIVE OAK	15'	X
	462	14"	LIVE OAK	14'	X
	465	18"	LIVE OAK	18'	
	466	14"	ELM	14'	
H	467	28" (16", 15", 8")	TRIPLE LIVE OAK	28'	
H	547	50"	LIVE OAK	50'	
H	558	26"	LIVE OAK	26'	
H	559	31"	LIVE OAK	31'	
	560	19"	LIVE OAK	19'	
	567	16"	LIVE OAK	16'	
	568	15"	LIVE OAK	15'	
	569	14"	LIVE OAK	14'	
H	570	29"	LIVE OAK	29'	
H	6410	32"	LIVE OAK	32'	
	6411	24"	LIVE OAK	24'	

TREE MITIGATION

EXISTING TOTAL TREES (INCHES)	EXISTING HERITAGE TREES (26"+) (INCHES)	TOTAL HERITAGE TREES TO BE REMOVED (INCHES)	HERITAGE TREES PRESERVED (INCHES)	EXISTING PROTECTED TREES (12"-25") (INCHES)	TOTAL PROTECTED TREES TO BE REMOVED (INCHES)	PROTECTED TREES PRESERVED (INCHES)	REQUIRED HERITAGE MITIGATION (3:1 RATIO) (INCHES)	REQUIRED PROTECTED MITIGATION (1:1 RATIO FOR 40%) (INCHES)	TOTAL REQUIRED MITIGATION (INCHES)	MITIGATION AT $200/INCH ($)
1375	1027	0	1027	348	94	254	0	37.6	37.6	$7,520

EROSION AND SEDIMENTATION CONTROL NOTES:

1. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE IMPLEMENTATION, MAINTENANCE AND EFFECTIVENESS OF ALL EROSION AND SEDIMENTATION CONTROLS.
2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE, MODIFICATION AND REMOVAL DATES OF EACH EROSION AND SEDIMENTATION CONTROLS AND BMP.
3. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD, MODIFY AND REMOVE ANY EROSION AND SEDIMENTATION CONTROL ON THE SITE.
4. CONTRACTOR SHOULD UTILIZE DUST CONTROL MEASURES DURING THE SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME.
6. REFERENCE EROSION AND SEDIMENTATION CONSTRUCTION DETAILS INCLUDED IN THESE PLANS.
7. IF A DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, THE DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION OR MULCH PER CITY STANDARDS.

SEQUENCE OF MAJOR ACTIVITIES:

1. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES TO INCLUDE SILT FENCE, ROCK BERMS, AND STABILIZED CONSTRUCTION ENTRANCES WILL BE INSTALLED ACCORDING TO CONSTRUCTION PLANS AND IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
2. TREE PROTECTION MEASURES WILL ALSO BE INSTALLED FOR ALL TREES WITH CONSTRUCTION ACTIVITIES WITHIN CRITICAL ROOT ZONE.
3. TEMPORARY SPOILS, CONSTRUCTION STAGING AND CONCRETE WASHOUT AREA WILL BE CONSTRUCTED.
4. SEDIMENTATION TRAPS SHALL BE CLEANED OUT AND FILTER MEDIUM INSTALLED CONCURRENT WITH RE-VEGETATION.
5. THE DISTURBED AREA TO REMAIN PERVIOUS WILL BE VEGETATED USING THE PROCEDURES DETAILED IN THE CONSTRUCTION PLANS AND ALL TEMPORARY EROSION CONTROL MEASURES WILL BE REMOVED UPON RE-VEGETATION.
6. ALL AREAS WITHIN THE LIMITS OF CONSTRUCTION ARE EXPECTED TO BE DISTURBED DURING CONSTRUCTION.
7. TEMPORARY ROCK BERM TO BE REMOVED PRIOR TO FINAL INSPECTION.

SCALE: 1" = 60'

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- BOUNDARY LINE
- LOT LINE
- EASEMENT
- LOC — LIMITS OF CONSTRUCTION
- LOC/SF — LIMITS OF CONSTRUCTION/SILT FENCE
- SF — SILT FENCE
- TP — TREE PROTECTION
- 100YR — 100 YR FEMA FLOODPLAIN
- FLOW DIRECTION
- EXISTING TREE TO REMAIN
- EXISTING HERITAGE TREE TO REMAIN
- TREE TO BE REMOVED
- HERITAGE TREE TO BE REMOVED
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK BERM
- TEMPORARY SPOILS AREA
- STAGING AREA
- CONCRETE WASHOUT AREA

NO.	REVISION	BY	DATE

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STATE OF TEXAS
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08/15/2025

OVERALL EROSION CONTROL PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 9 OF 52

2025- -SWP

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Planset\250903-EROS.dwg | Date Plotted: August 15, 2025 | Plotted By: mwilsonjunz

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Existing Drainage Conditions												Time of Concentration Calculations									
User Inputs					Auto-Calculation		TOC Calcs	Routing Analysis Inputs					Sheet Flow				Shallow Concentrated Flow (Unpaved)			Pipe/Channel Flow 1		
Contributing Area	Area (sf)	CN (Pervious)	CN (Impervious)	Impervious Cover (sf)	Area (ac)	Impervious Cover (%)	TOC (min)	Area (sq. mi.)	Composite Curve Number	Lag Time	Reach Lag (if required)	Contributing Area	Length	Slope (ft/ft)	Roughness Coefficient	T_{sheet}	Length (ft)	Slope (ft/ft)	$T_{unpaved}$	Length (ft)	Velocity (ft)	$T_{channel}$ (min)
EX-01	2,489,620	77	98	463,724	57.15	18.6%	29.46	0.08930	80.9	17.68		EX-01	100	0.005	0.240	22.39	904	0.052	4.10	1071	6	2.98
EX-02	493,706	77	98	21,171	11.33	4.3%	26.08	0.01771	77.9	15.65	0.00	EX-02	100	0.005	0.240	22.39	477	0.035	2.63	378	6	1.05

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

LEGEND

- P-1 / 5.00 Ac — DRAINAGE AREA NAME / DRAINAGE AREA (IN ACRES)
- TIME OF CONCENTRATION
- POI-15 — DRAINAGE DESIGN POINT
- DIRECTION OF FLOW
- DRAINAGE AREA
- 835 — EXISTING MAJOR CONTOUR
- 834 — EXISTING MINOR CONTOUR
- 835 — PROPOSED MAJOR CONTOUR
- 834 — PROPOSED MINOR CONTOUR
- 100YR — 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE

DRAINAGE NOTES:

1. REFER TO DETENTION WAIVER STUDY APPROVED WITH THE ORIGINAL (2021-23-PP) AND REVISED (2024-20-PP) PRELIMINARY PLAT.
2. FLOW IN CREEK AND UPSTREAM BASINS NOT CONSIDERED. ONLY BASINS SHOWN ARE CONSIDERED FOR DRAINAGE ANALYSIS.
3. IMPERVIOUS COVER IN PROPOSED CONDITION INCLUDES TXDOT TURN LANE INCLUDED IN SITE DEVELOPMENT PLAN, "BERRY CREEK APARTMENTS - PHASE 1", CITY PROJECT NO. 2022-74-SDP.

Existing Conditions - Flows & Volumes - Atlas 14

ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
EX-01	81.80	164.00	225.90	338.40	9.80	19.80	27.50	41.90
EX-02	21.60	44.90	62.50	94.70	1.80	3.70	5.20	8.00
POI-01	81.80	164.00	225.90	338.40	9.80	19.80	27.50	41.90
POI-02	21.60	44.90	62.50	94.70	1.80	3.70	5.20	8.00

Proposed (Interim) Conditions - Flows & Volumes - Atlas 14

ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
PR-01	55.00	105.20	142.50	209.80	6.50	12.60	17.20	25.90
PR-02	12.30	25.10	34.90	52.70	1.40	2.90	4.00	6.10
PR-03	28.50	59.40	82.90	125.80	2.20	4.60	6.50	10.10
PR-04	7.60	15.80	22.00	33.40	0.60	1.30	1.80	2.80
POI-01	64.30	126.10	172.30	256.00	8.70	17.20	23.80	36.00
POI-02	15.10	31.50	44.00	66.90	2.00	4.10	5.80	8.90

Flow & Volume Comparison (Interim - Existing) - Atlas 14

ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
POI-01	-17.50	-37.90	-53.60	-82.40	-1.10	-2.60	-3.70	-5.90
POI-02	-6.50	-13.40	-18.50	-27.80	0.20	0.40	0.60	0.90

NO.	REVISION	BY	DATE

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STATE OF TEXAS
SHERVIN NOOSHIN
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LICENSED PROFESSIONAL ENGINEER
08/15/2025

EXISTING DRAINAGE AREA MAP

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 13 OF 52

2025- -SWP

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Proposed (Interim) Drainage Conditions												Time of Concentration Calculations										
User Inputs					Auto-Calculation		TOC Calcs	Routing Analysis Inputs					Sheet Flow				Shallow Concentrated Flow (Unpaved)			Pipe/Channel Flow 1		
Contributing Area	Area (sf)	CN (Pervious)	CN (Impervious)	Impervious Cover (sf)	Area (ac)	Impervious Cover (%)	TOC (min)	Area (sq. mi.)	Composite Curve Number	Lag Time	Reach Lag (if required)	Contributing Area	Length	Slope (ft/ft)	Roughness Coefficient	T_{sheet}	Length (ft)	Slope (ft/ft)	$T_{unpaved}$	Length (ft)	Velocity (ft)	$T_{channel}$ (min)
PR-01	1,475,486	77	98	481,150	33.87	32.6%	28.48	0.05293	83.8	17.09	0.99	PR-01	100	0.005	0.240	22.39	904	0.052	4.10	716	6	1.99
PR-02	371,797	77	98	47,815	8.54	12.9%	25.87	0.01334	79.7	15.52	0.21	PR-02	100	0.005	0.240	22.39	477	0.035	2.63	304	6	0.84
PR-03	626,864	77	98	35,833	14.39	5.7%	6.00	0.02249	78.2	3.60		PR-03	100	0.219	0.240	4.94	59	0.280	0.12	264	6	0.73
PR-04	171,718	77	98	12,200	3.94	7.1%	8.02	0.00616	78.5	4.81		PR-04	30	0.015	0.240	5.51	282	0.020	2.06	163	6	0.45

SCALE: 1" = 100'

LEGEND

- P-1 / 5.00 Ac — DRAINAGE AREA NAME / DRAINAGE AREA (IN ACRES)
- TIME OF CONCENTRATION
- POI-15 — DRAINAGE DESIGN POINT
- DIRECTION OF FLOW
- DRAINAGE AREA
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 100YR — 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE

DRAINAGE NOTES:

1. REFER TO DETENTION WAIVER STUDY APPROVED WITH THE ORIGINAL (2021-23-PP) AND REVISED (2024-20-PP) PRELIMINARY PLAT.
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3. IMPERVIOUS COVER IN PROPOSED CONDITION INCLUDES TXDOT TURN LANE INCLUDED IN SITE DEVELOPMENT PLAN, "BERRY CREEK APARTMENTS - PHASE 1", CITY PROJECT NO. 2022-74-SDP.

Existing Conditions - Flows & Volumes - Atlas 14								
ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
EX-01	81.80	164.00	225.90	338.40	9.80	19.80	27.50	41.90
EX-02	21.60	44.90	62.50	94.70	1.80	3.70	5.20	8.00
POI-01	81.80	164.00	225.90	338.40	9.80	19.80	27.50	41.90
POI-02	21.60	44.90	62.50	94.70	1.80	3.70	5.20	8.00

Proposed (Interim) Conditions - Flows & Volumes - Atlas 14								
ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
PR-01	55.00	105.20	142.50	209.80	6.50	12.60	17.20	25.90
PR-02	12.30	25.10	34.90	52.70	1.40	2.90	4.00	6.10
PR-03	28.50	59.40	82.90	125.80	2.20	4.60	6.50	10.10
PR-04	7.60	15.80	22.00	33.40	0.60	1.30	1.80	2.80
POI-01	64.30	126.10	172.30	256.00	8.70	17.20	23.80	36.00
POI-02	15.10	31.50	44.00	66.90	2.00	4.10	5.80	8.90

Flow & Volume Comparison (Interim - Existing) - Atlas 14								
ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
POI-01	-17.50	-37.90	-53.60	-82.40	-1.10	-2.60	-3.70	-5.90
POI-02	-6.50	-13.40	-18.50	-27.80	0.20	0.40	0.60	0.90

NO.	REVISION	BY	DATE

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SHERVIN NOOSHIN
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08/15/2025

PROPOSED DRAINAGE AREA MAP

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

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DRAINAGE NOTES:

1. REFER TO DETENTION WAIVER STUDY APPROVED WITH THE ORIGINAL (2021-23-PP) AND REVISED (2024-20-PP) PRELIMINARY PLAT.
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BERRY CREEK CROSSING - SHARED IMPROVEMENTS
RATIONAL METHOD FLOW CALCULATIONS FOR STORM INLETS

BASIN LABEL	INLET LABEL	INLET TYPE*	AREA (SQ.FT)	AREA (AC)	IMPERVIOUS (LOTS) (SF)	IMPERVIOUS (ROADS) (SF)	IMPERVIOUS %	PERVIOUS %	TC (MIN)	2-YR			10-YR			25-YR			100-YR		
										C	I	Q	C	I	Q	C	I	Q	C	I	Q
1	A1	CGRD	18,723	0.43	0	5,247	28%	72%	7.1	0.44	5.97	1.13	0.47	8.02	1.61	0.49	9.18	1.93	0.53	11.12	2.51
2	A17	CGRD	5,386	0.12	0	5,386	100%	0%	5.0	0.95	6.48	0.76	0.95	8.64	1.02	0.95	9.84	1.16	0.95	11.88	1.40

BERRY CREEK CROSSING - SHARED IMPROVEMENTS
TIME OF CONCENTRATION CALCULATIONS

Contributing Area	Sheet Flow				Shallow Concentrated Flow (Unpaved)				Gutter Flow		
	Length (ft)	Slope (ft/ft)	Roughness Coefficient	T_{sheet}	Length (ft)	Slope (ft/ft)	Roughness Coefficient	$T_{unpaved}$	Length (ft)	Velocity (ft/s)	Tpaved
1	30	0.011	0.24	1.63	130	0.01	0.24	5.20	81	6	0.23
2	0	0	0	0.00	0	0	0	0.00	295	6	0.82

Curb Inlets On Grade Calculation Summary: 25 year

Drainage Area No.	Inlet No.	Q_{25} (cfs)	Q_{pass} (cfs)	Q_{total} (cfs)	Slope (%)	n	Ku	Street Width (ft)	Crown Height (ft)	Inlet Depression, a (ft)	K0	K1	K2	y0 (ft)	a	b	Flow Spread, T (ft)	H1 (ft)	H2 (ft)	Qa/La (cfs/ft)	Length (ft)	Qa	Q_{pass} (cfs)	% Captured	Bypass to Inlet
1	A1	1.93	0.00	1.93	3.80%	0.015	0.560	34.00	0.500	0.42	2.85	0.50	3.03	0.24	0.0588	0.0017	4.85	0.66	0.42	0.70	10.00	6.97		100%	0.00
2	A17	1.16	22.16	23.32	1.00%	0.015	0.560	40.00	0.500	0.42	2.85	0.50	2.89	Overflow	0.0500	0.0013	20.00	0.92	0.42	0.97	10.00	9.69	13.62	42%	0.00

Curb Inlets On Grade Calculation Summary: 100 year

Drainage Area No.	Inlet No.	Q_{100} (cfs)	Q_{pass} (cfs)	Q_{total} (cfs)	Slope (%)	n	Ku	Street Width (ft)	Crown Height (ft)	Inlet Depression, a (ft)	K0	K1	K2	y0 (ft)	a	b	Flow Spread, T (ft)	H1 (ft)	H2 (ft)	Qa/La (cfs/ft)	Length (ft)	Qa	Q_{pass} (cfs)	% Captured	Bypass to Inlet
1	A1	2.51	0.00	2.51	3.80%	0.015	0.560	34.00	0.500	0.42	2.85	0.50	3.03	0.27	0.0588	0.0017	5.38	0.68	0.42	0.72	10.00	7.19		100%	0.00
2	A17	1.40	31.79	33.18	1.00%	0.015	0.560	40.00	0.500	0.42	2.85	0.50	2.89	Overflow	0.0500	0.0013	20.00	0.92	0.42	0.97	10.00	9.69	23.49	29%	0.00

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

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STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED
PROFESSIONAL ENGINEER
08/15/2025

NO.	REVISION	BY	DATE

INLET DRAINAGE AREA MAP & CALCULATIONS

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 15 OF 52

2025- -SWP

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Plot Style: LandDev Global.ctb
Template: LDC_03052022.DWT
Xref: C:\Users\mvaldez\Desktop\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plansheets\250268\3-mainDWM.dwg | Date Plotted: September 05, 2025 | Plotted By: collin.mixon

BERRY CREEK CROSSING SHARED IMPROVEMENTS - TSS REMOVAL SUMMARY

DRAINAGE AREA	BMP TYPE	MAX TSS REMOVAL EFFICIENCY	BASIN AREA	PRE-DEVELOPMENT I.C.	PROPOSED I.C.		POST-DEVELOPMENT I.C.		TCEQ REQUIRED 80% TSS LOAD REMOVAL	CITY OF GEORGETOWN REQUIRED 85% POND TSS LOAD REMOVAL	PROVIDED TSS LOAD REMOVAL	VOLUME REQUIRED	VOLUME PROVIDED
					MF 1	SHARED IMPROVEMENTS							
			AC	AC	AC	AC	AC	%	LB	LB	LB	CF	CF
BDP-01 (E/X)	BATCH DETENTION POND	91%	33.87	1.22	9.51	0.31	11.04	33%	8,543	9,077	10,000	69,512	230,710
BDP-02 (E/X)	BATCH DETENTION POND	91%	8.54	0.53	0.00	0.57	1.10	13%	497	528	1,225	22,234	95,112
BP-01	BY-PASS	0%	14.00	0.11	0.05	0.00	0.16	1%	44				
BP-02	BY-PASS	0%	3.94	0.00	0.08	0.20	0.28	7%	244				
BP-03	BY-PASS	0%	0.62	0.07	0.00	0.16	0.23	37%	137		0		
VFS-01	VEGETATIVE FILTER STRIP	85%	0.12	0.00	0.06	0.00	0.06	49%	51		56		
VFS-02	VEGETATIVE FILTER STRIP	85%	0.27	0.00	0.11	0.00	0.11	40%	96		106		
TOTAL:			**61.36**	**1.93**	**9.81**	**1.24**	**12.97**	**21%**	**9,611**	**9,606**	**11,387**		

1 - FOR THE GEORGETOWN TSS REMOVAL REQUIREMENT, WE CONSIDER 85% OF TSS REMOVAL FOR THE DRAINAGE AREA THAT DRAINS TOWARD THE BATCH DETENTION PONDS.

SCALE: 1" = 100'

LEGEND

- P-1 / 5.00 Ac — DRAINAGE AREA NAME / DRAINAGE AREA (IN ACRES)
- TIME OF CONCENTRATION
- POI-15 — DRAINAGE DESIGN POINT
- DIRECTION OF FLOW
- DRAINAGE AREA
- 835 — EXISTING MAJOR CONTOUR
- 834 — EXISTING MINOR CONTOUR
- 835 — PROPOSED MAJOR CONTOUR
- 834 — PROPOSED MINOR CONTOUR
- 100YR — 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE

DRAINAGE NOTES:

1. REFER TO DETENTION WAIVER STUDY APPROVED WITH THE ORIGINAL (2021-23-PP) AND REVISED (2024-20-PP) PRELIMINARY PLAT.
2. FLOW IN CREEK AND UPSTREAM BASINS NOT CONSIDERED. ONLY BASINS SHOWN ARE CONSIDERED FOR DRAINAGE ANALYSIS.
3. IMPERVIOUS COVER IN PROPOSED CONDITION INCLUDES TXDOT TURN LANE INCLUDED IN SITE DEVELOPMENT PLAN, "BERRY CREEK APARTMENTS - PHASE 1", CITY PROJECT NO. 2022-74-SDP.

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DEVELOPMENT TX

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

PROPOSED WATER QUALITY DRAINAGE AREA MAP

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 16 OF 52

2025- -SWP

NO.	REVISION	BY	DATE

ACCEPTANCE OF THESE PLANS DOES NOT RELIEVE THE DEVELOPER'S ENGINEER OF RESPONSIBILITY FOR ALL CLIENT'S PROJECTS. THE ENGINEER OF RECORD SHALL ASSUME RESPONSIBILITY FOR COMPLIANCE WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. THE ENGINEER OF RECORD SHALL PERFORM DESIGNS AND PREPARE PLANS AND SPECIFICATIONS WITH REASONABLE CARE AND DILIGENCE AND SHALL BE LIABLE FOR PROFESSIONAL ERRORS AND OMISSIONS AS REQUIRED BY LAW. THE ENGINEER OF RECORD SHALL BE RESPONSIBLE ONLY FOR THE PLANS PREPARED BY THE ENGINEER OF RECORD AND SHALL NOT BE RESPONSIBLE FOR ANY UNAUTHORIZED CHANGES TO OR USES OF THE PLANS. THE ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SAFETY PRECAUTIONS OR PROGRAMS IN CONNECTION WITH THE PROJECT, AND SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

Plot Style: LandDev Global.ctb
Template: LDC_C3D2022.DWT
Saved: C:\Users\cchristianson\Documents\Projects\berry creek crossing\commercial lot 1 & shared improvements\03_ACAD\Planset\250268S-WYDAM.dwg | Date Plotted: September 09, 2025 | Plotted By: cchristianson

BATCH DETENTION POND - A

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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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 * =	61.36	acres
Predevelopment impervious area within the limits of the plan * =	1.93	acres
Total post-development impervious area within the limits of the plan * =	12.97	acres
Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = BDP-01 (EX)

Total drainage basin/outfall area =	33.87	acres
Predevelopment impervious area within drainage basin/outfall area =	1.22	acres
Post-development impervious area within drainage basin/outfall area =	11.04	acres
Post-development impervious fraction within drainage basin/outfall area =	0.33	
$L_{M\ THIS\ BASIN}$ * =	8547	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	33.87	acres
A_I =	11.04	acres
A_P =	22.83	acres
L_R =	11482	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 10000 lbs.

F = 0.87

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	1.44	inches
Post Development Runoff Coefficient =	0.27	
On-site Water Quality Volume =	48012	cubic feet

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

Off-site area draining to BMP =	7.32	acres
Off-site Impervious cover draining to BMP =	2.21	acres
Impervious fraction of off-site area =	0.30	
Off-site Runoff Coefficient =	0.26	
Off-site Water Quality Volume =	9915	cubic feet
Storage for Sediment =	11585	
Total Capture Volume (required water quality volume(s) x 1.20) =	69512	cubic feet
1/2 WQV =	34756	

BATCH DETENTION POND - B

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	61.36	acres
Predevelopment impervious area within the limits of the plan * =	1.93	acres
Total post-development impervious area within the limits of the plan * =	12.97	acres
Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = BDP-02 (EX)

Total drainage basin/outfall area =	8.54	acres
Predevelopment impervious area within drainage basin/outfall area =	0.53	acres
Post-development impervious area within drainage basin/outfall area =	1.10	acres
Post-development impervious fraction within drainage basin/outfall area =	0.13	
$L_{M\ THIS\ BASIN}$ * =	496	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	8.54	acres
A_I =	1.10	acres
A_P =	7.44	acres
L_R =	1225	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 1225 lbs.

F = 1.00

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	4.00	inches
Post Development Runoff Coefficient =	0.15	
On-site Water Quality Volume =	18529	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 =	3706	
Total Capture Volume (required water quality volume(s) x 1.20) =	22234	cubic feet
1/2 WQV =	11117	

VEGETATED FILTER STRIP - 1

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	61.36	acres
Predevelopment impervious area within the limits of the plan * =	1.93	acres
Total post-development impervious area within the limits of the plan * =	12.97	acres
Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = VFS-01

Total drainage basin/outfall area =	0.12	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.06	acres
Post-development impervious fraction within drainage basin/outfall area =	0.49	
$L_{M\ THIS\ BASIN}$ * =	51	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	0.12	acres
A_I =	0.06	acres
A_P =	0.06	acres
L_R =	56	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 56 lbs.

F = 1.00

VEGETATED FILTER STRIP - 2

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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where:
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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 * =	61.36	acres
Predevelopment impervious area within the limits of the plan * =	1.93	acres
Total post-development impervious area within the limits of the plan * =	12.97	acres
Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = VFS-02

Total drainage basin/outfall area =	0.27	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.11	acres
Post-development impervious fraction within drainage basin/outfall area =	0.41	
$L_{M\ THIS\ BASIN}$ * =	96	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	0.27	acres
A_I =	0.11	acres
A_P =	0.16	acres
L_R =	106	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 106 lbs.

F = 1.00

BY-PASS - 1

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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where:
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P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	61.36	acres
Predevelopment impervious area within the limits of the plan * =	1.93	acres
Total post-development impervious area within the limits of the plan * =	12.97	acres
Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = BP-01

Total drainage basin/outfall area =	14.00	acres
Predevelopment impervious area within drainage basin/outfall area =	0.11	acres
Post-development impervious area within drainage basin/outfall area =	0.16	acres
Post-development impervious fraction within drainage basin/outfall area =	0.01	
$L_{M\ THIS\ BASIN}$ * =	44	lbs.

BY-PASS - 2

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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Predevelopment impervious area within the limits of the plan * =	1.93	acres
Total post-development impervious area within the limits of the plan * =	12.97	acres
Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = BP-02

Total drainage basin/outfall area =	3.94	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.28	acres
Post-development impervious fraction within drainage basin/outfall area =	0.07	
$L_{M\ THIS\ BASIN}$ * =	244	lbs.

BY-PASS - 3

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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 * =	61.36	acres
Predevelopment impervious area within the limits of the plan * =	1.93	acres
Total post-development impervious area within the limits of the plan * =	12.97	acres
Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = BP-03

Total drainage basin/outfall area =	0.62	acres
Predevelopment impervious area within drainage basin/outfall area =	0.07	acres
Post-development impervious area within drainage basin/outfall area =	0.23	acres
Post-development impervious fraction within drainage basin/outfall area =	0.37	
$L_{M\ THIS\ BASIN}$ * =	139	lbs.

THESE PLANS AND DESIGNS FOR BERRY CREEK DEVELOPMENT TX, LLC SHALL BE AT THE CLIENT'S SOLE RISK, AND QUALITY SHALL BE AS INDICATED. NO REPRODUCTIONS, INCLUDING BUT NOT LIMITED TO, FACSIMILES OR PUBLICATIONS SHALL BE MADE WITHOUT SPECIFIC WRITTEN VERIFICATION OR ADAPTION BY HRGREEN DEVELOPMENT TX, LLC. ANY REUSE, WITHOUT SPECIFIC VERIFICATION OR ADAPTION SHALL BE AT USER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO HRGREEN DEVELOPMENT TX, LLC. ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM

Plot Style: LandDev Global.ctb
Template: LDC_03052022.DWT
Xref: C:\Users\cmontgomery.creek.crossing\commercial lot 1 & shared improvements\03_ACAD\Revised\20220803\WORKM.dwg | Date Plotted: September 09, 2025 | Plotted By: caitlin.mixon

DATE | BY | REVISION | NO.

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HRGreen® DEVELOPMENT TX

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED
PROFESSIONAL ENGINEER

08/15/2025

PROPOSED WATER QUALITY CALCULATIONS

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 17 OF 52

2025- -SWP

LEGEND

- P-1 / 5.00 Ac — DRAINAGE AREA NAME / DRAINAGE AREA (IN ACRES)
- TIME OF CONCENTRATION
- POI-15 — DRAINAGE DESIGN POINT
- DIRECTION OF FLOW
- DRAINAGE AREA
- 835 — EXISTING MAJOR CONTOUR
- 834 — EXISTING MINOR CONTOUR
- 835 — PROPOSED MAJOR CONTOUR
- 834 — PROPOSED MINOR CONTOUR
- 100YR — 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE

DRAINAGE NOTES:

1. REFER TO DETENTION WAIVER STUDY APPROVED WITH THE ORIGINAL (2021-23-PP) AND REVISED (2024-20-PP) PRELIMINARY PLAT.
2. FLOW IN CREEK AND UPSTREAM BASINS NOT CONSIDERED. ONLY BASINS SHOWN ARE CONSIDERED FOR DRAINAGE ANALYSIS.
3. IMPERVIOUS COVER IN PROPOSED CONDITION INCLUDES TXDOT TURN LANE INCLUDED IN SITE DEVELOPMENT PLAN, "BERRY CREEK APARTMENTS - PHASE 1", CITY PROJECT NO. 2022-74-SDP.

WATER QUALITY NOTE:

1. ULTIMATE WATER QUALITY DRAINAGE AREAS AND CALCULATIONS FROM THE BERRY CREEK CROSSING PHASE 1 WPAP APPROVAL.

BERRY CREEK CROSSING - FUTURE ULTIMATE CONDITION - MAXIMUM IMPERVIOUS COVER ALLOWED

Lot Number	1	2	3	4	5	6	7	Turn Lanes	Total
Land Use	C-3	C-3	C-3	C-3	MF-2	MF-2	C-3		
Lot Area (ac)	2.13	5.40	3.76	4.58	23.42	17.73	3.72		**60.74**
Maximum I.C. Allowed (%)	70%	70%	70%	70%	50%	50%	70%		
Impervious Cover (ac)	1.49	3.78	2.63	3.21	11.71	8.86	2.60	0.25	**34.54**

BERRY CREEK CROSSING - FUTURE ULTIMATE CONDITION - IMPERVIOUS COVER BREAKDOWN

DRAINAGE AREA	LOTS 1	2	3	4	5	6	7	Turn Lanes	TOTALS
	C-3	C-3	C-3	C-3	MF-2	MF-2	C-3		
BDP-01			0.70	0.92	11.14	8.54	2.60	0.13	24.02
BDP-02	1.49	3.63	1.94	2.29				0.13	9.47
VFS-01					0.26				0.26
VFS-02						0.06			0.06
VFS-03						0.11			0.11
BP-01					0.31	0.16			0.47
BP-02		0.15							0.15
Total	1.49	3.78	2.63	3.21	11.71	8.86	2.60	0.25	**34.54**
	70%	70%	70%	70%	50%	50%	70%		

BERRY CREEK CROSSING - FUTURE ULTIMATE CONDITION - WATER QUALITY SUMMARY

DRAINAGE AREA	BMP TYPE	MAX TSS REMOVAL EFFICIENCY	AREA	PRE-DEVELOPMENT I.C.		POST-DEVELOPMENT I.C.		TCEQ REQUIRED 80% TSS LOAD REMOVAL	COG REQUIRED 80% TSS LOAD REMOVAL	PROVIDED TSS LOAD REMOVAL
			AC	AC	%	AC	%	LB	LB	LB
BDP-01	BATCH DETENTION POND	91%	33.62	0.00	0.0%	24.02	71.4%	20,907	22,213	22,525
BDP-02	BATCH DETENTION POND	91%	12.67	0.00	0.0%	9.47	74.8%	8,243	8,759	8,950
VFS-01	VEGETATIVE FILTER STRIP	85%	0.88	0.00	0.0%	0.26	29.2%	223	223	251
VFS-02	VEGETATIVE FILTER STRIP	85%	0.12	0.00	0.0%	0.06	50.4%	53	53	58
VFS-03	VEGETATIVE FILTER STRIP	85%	0.27	0.00	0.0%	0.11	40.6%	95	95	105
BP-01	BY-PASS		12.29	0.00	0.0%	0.47	3.8%	411	411	
BP-02	BY-PASS		0.89	0.00	0.0%	0.15	16.9%	131	131	
TOTAL:			**60.74**	**0.00**	**0%**	**34.54**	**57%**	**30,063**	**31,884**	**31,889**

OFFSITE AREAS

DRAINAGE AREA	BMP TYPE	MAX TSS REMOVAL EFFICIENCY	AREA	PRE-DEVELOPMENT I.C.		POST-DEVELOPMENT I.C.	
			AC	AC	%	AC	%
OS-01	OFFSITE AREA TO BE INCLUDED IN BDP-01		7.32	2.21	30%	2.21	30%
TOTAL:			**7.32**	**2.21**		**2.21**	

Notes:
- The BMPs have been designed for the maximum impervious cover allowed for the whole site per the PUD Ordinance 2021-68.
- City of Georgetown 85% TSS load removal requirement only required for ponds.
- The impervious cover of the two proposed turn

NO.	REVISION	BY	DATE

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PHONE: 512.872.6696
HRGreen.com
TBPE NO. 16384
TBPLS NO. 10194101

DEVELOPMENT TX

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

ULTIMATE WATER QUALITY DRAINAGE AREA MAP

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 18 OF 52

2025- -SWP

Plot Style: LandDev Global.ctb
Template: LDC_C3D2022.DWT
Saved: August 15, 2025 | Saved By: mvelasquez
Xref: C:\Users\mvelasquez\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Permits\250905-DAMWQ.PD.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
ALL RIGHTS RESERVED. THESE PLANS, BEING THE PROPERTY OF HRGREEN DEVELOPMENT TX, LLC, SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT AND ALL PERSONS ACTING THROUGH CLIENT AGREE TO RELEASE, INDEMNIFY AND HOLD HARMLESS HRGREEN DEVELOPMENT TX, LLC AND ITS OFFICERS, EMPLOYEES, AND CONSULTANTS FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM. ANY REUSE, MODIFICATION, ADAPTATION OR PUBLICATION OF THESE PLANS WITHOUT THE EXPRESS WRITTEN PERMISSION AND APPROPRIATE COMPENSATION TO HRGREEN DEVELOPMENT TX, LLC SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT AND ALL PERSONS ACTING THROUGH CLIENT AGREE TO RELEASE, INDEMNIFY AND HOLD HARMLESS HRGREEN DEVELOPMENT TX, LLC AND ITS OFFICERS, EMPLOYEES, AND CONSULTANTS FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM.

BATCH DETENTION POND - A

mmission on Environmental Quality

al Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVELOPED
Date Prepared: 6/22/2023

nformation is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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d Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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

Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
redevelopment impervious area within the limits of the plan * =	0.00	acres
d-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

nber of drainage basins / outfalls areas leaving the plan area = 6

sin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = BDP-01

Total drainage basin/outfall area =	33.62	acres
velopment impervious area within drainage basin/outfall area =	0.00	acres
velopment impervious area within drainage basin/outfall area =	24.02	acres
opment impervious fraction within drainage basin/outfall area =	0.71	
$L_{M\ THIS\ BASIN}$ =	20907	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	22213	lbs. Per COG

proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

aximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_C x 34.6 + A_P x 0.54)

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 =	33.62	acres
A_I =	24.02	acres
A_P =	9.60	acres
L_R =	24352	lbs

action of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 22525 lbs.

F = 0.92

pture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	2.00	inches
Post Development Runoff Coefficient =	0.52	
On-site Water Quality Volume =	127033	cubic feet

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

Off-site area draining to BMP =	7.32	acres
Off-site Impervious cover draining to BMP =	2.21	acres
Impervious fraction of off-site area =	0.30	
Off-site Runoff Coefficient =	0.26	
Off-site Water Quality Volume =	13756	cubic feet
Storage for Sediment =	28158	
pture Volume (required water quality volume(s) x 1.20) =	**168947**	cubic feet

BATCH DETENTION POND - B

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVEL
Date Prepared: 6/22/2023

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = BDP-02

Total drainage basin/outfall area =	12.67	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	9.47	acres
Post-development impervious fraction within drainage basin/outfall area =	0.75	
$L_{M\ THIS\ BASIN}$ =	8243	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	8759	lbs. Per COG

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_C x 34.6 + A_P x 0.54)

where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	12.67	acres
A_I =	9.47	acres
A_P =	3.20	acres
L_R =	9593	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 8950 lbs.

F = 0.93

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 =	2.20	inches
Post Development Runoff Coefficient =	0.56	
On-site Water Quality Volume =	56366	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 =	11273	
Total Capture Volume (required water quality volume(s) x 1.20) =	**67639**	cubic feet

VEGETATED FILTER STRIP - 1

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FU
Date Prepared: 6/22/2023

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = VFS-01

Total drainage basin/outfall area =	0.88	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.26	acres
Post-development impervious fraction within drainage basin/outfall area =	0.29	
$L_{M\ THIS\ BASIN}$ =	223	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	237	lbs. Per COG

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_C x 34.6 + A_P x 0.54)

where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	0.88	acres
A_I =	0.26	acres
A_P =	0.62	acres
L_R =	251	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 251 lbs.

F = 1.00

16. Vegetated Filter Strips Designed as Required in RG-348 Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and
the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or
across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

VEGETATED FILTER STRIP - 2

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVEL
Date Prepared: 6/22/2023

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = VFS-02

Total drainage basin/outfall area =	0.12	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.06	acres
Post-development impervious fraction within drainage basin/outfall area =	0.50	
$L_{M\ THIS\ BASIN}$ =	53	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	56	lbs. Per COG

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_C x 34.6 + A_P x 0.54)

where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	0.12	acres
A_I =	0.06	acres
A_P =	0.06	acres
L_R =	58	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 58 lbs.

F = 1.00

16. Vegetated Filter Strips Designed as Required in RG-348 Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and
the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or
across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

VEGETATED FILTER STRIP - 3

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVEL
Date Prepared: 6/22/2023

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = VFS-03

Total drainage basin/outfall area =	0.27	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.11	acres
Post-development impervious fraction within drainage basin/outfall area =	0.41	
$L_{M\ THIS\ BASIN}$ =	95	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	101	lbs. Per COG

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_C x 34.6 + A_P x 0.54)

where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	0.27	acres
A_I =	0.11	acres
A_P =	0.16	acres
L_R =	105	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 105 lbs.

F = 1.00

16. Vegetated Filter Strips Designed as Required in RG-348 Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and
the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or
across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

BY-PASS - 1

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVELOPED
Date Prepared: 6/22/2023

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 * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = BP-01

Total drainage basin/outfall area =	12.29	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.47	acres
Post-development impervious fraction within drainage basin/outfall area =	0.04	
$L_{M\ THIS\ BASIN}$ =	411	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	436	lbs. Per COG

BY-PASS - 2

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVELOPED
Date Prepared: 6/22/2023

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.
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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = BP-02

Total drainage basin/outfall area =	0.89	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.15	acres
Post-development impervious fraction within drainage basin/outfall area =	0.17	
$L_{M\ THIS\ BASIN}$ =	131	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	139	lbs. Per COG

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08/15/2025

ULTIMATE WATER QUALITY CALCULATIONS

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 19 OF 52

2025- -SWP

DATE | BY | REVISION | NO.

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Plot Style: Landdev Global.ctb
Template: LDC_C3D2022.DWT
Base Location: C:\Users\mvillarreal\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\01_ACAD\Plans\sh250983-DAMWQ-FD.dwg | Date Plotted: August 15, 2025 | Plotted By: mvillarreal

KEY MAP
N.T.S

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

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- LIMITS OF CONSTRUCTION
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- FENCE
- RETAINING WALL
- TREE WELL
- CURB/EOP
- TREE TO REMAIN
- TREE TO REMAIN - HERITAGE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- PRESSURE REDUCING VALVE
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT

PAVING LEGEND

- ASPHALT - "DRIVE AREAS" (REFER TO GEOTECH. REPORT FOR SPECIFICATIONS - SEE SHEET ##)
- TEMPORARY 6-INCH COMPACTED FLEX BASE ACCESS ROAD
- ASPHALT - SECTION DESIGN PROVIDED BY TxDOT (REFER TO SHEET 39)

ABBREVIATIONS

BW - BOTTOM OF WALL (GROUND)
EG - EXISTING GRADE
EP - EDGE OF PAVEMENT
G - PROPOSED GRADE (GROUND)
HP - HIGH POINT
TC - TOP OF CURB
TW - TOP OF WALL

GRADING NOTES:

1. FILL SHOULD BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY TxDOT -114 - E, AND PER GEOTECHNICAL ENGINEER'S RECOMMENDATION.
2. VEGETATE ALL DISTURBED AREAS PER CITY OF GEORGETOWN SPECIFICATIONS.

PAVEMENT NOTES:

1. CONTRACTOR SHALL REFER TO THE GEOTECNICAL REPORT "SUBSURFACE EXPLORATION AND FOUNDATION ANALYSIS PROPOSED NEW BERRY CREEK APARTMENTS, GEORGETOWN, TEXAS" BY INTEC, PROJECT NO. S221751, DATED SEPTEMBER 16, 2022, INCLUDING ALL REVISIONS AND ADDENDA THAT MAY HAVE BEEN RELEASED AFTER THE NOTED DATE FOR ALL PAVING DESIGN AND RECOMMENDATIONS.
2. THE INFORMATION PRESENTED IN THE GEOTECHNICAL REPORT SHALL SUPERCEDE ANY CONFLICTING INFORMATION PRESENTED IN THIS PAVING PLAN.
3. CONTRACTOR SHALL CONTACT THE ENGINEER IF THERE IS ANY DISCREPANCY BETWEEN THIS PAVING PLAN AND THE GEOTECHICAL REPORT.
4. FIRE APPARATUS ACCESS ROADS MUST BE CONSTRUCTED OF ASPHALT OR CONCRETE WITH MAXIMUM GRADES OF 13% FOR ASPHALT AND 15% FOR CONCRETE, EXCLUDING THE TEMPORARY 6" FLEX BASE ACCESS ROAD.
5. PAVEMENT IDENTIFIED AS HEAVY DUTY SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF A 75,000 POUNDS LIVE-LOAD UNDER ALL WEATHER CONDITIONS.

NO.	REVISION	BY	DATE

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LICENSED PROFESSIONAL ENGINEER

08/15/2025

OVERALL GRADING & PAVING PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 20 OF 52

2025- -SWP

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Permits\2509365.GPR, -Key | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
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INSET DETAIL #1

SCALE: 1" = 10'

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- LIMITS OF CONSTRUCTION
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- FENCE
- RETAINING WALL
- TREE WELL
- CURB/EOP
- TREE TO REMAIN
- TREE TO REMAIN - HERITAGE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- PRESSURE REDUCING VALVE
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT

ABBREVIATIONS

BW - BOTTOM OF WALL (GROUND)
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EP - EDGE OF PAVEMENT
G - PROPOSED GRADE (GROUND)
HP - HIGH POINT
TC - TOP OF CURB
TW - TOP OF WALL

GRADING NOTES:

1. FILL SHOULD BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY TxDOT -114 - E, AND PER GEOTECHNICAL ENGINEER'S RECOMMENDATION.
2. VEGETATE ALL DISTURBED AREAS PER CITY OF GEORGETOWN SPECIFICATIONS.

KEY MAP

N.T.S

NO.	REVISION	BY	DATE

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08/15/2025

GRADING PLAN A

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 21 OF 52

2025- -SWP

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Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\drt250983-GRR..dwg | Date Plotted: August 15, 2025 | Plotted By: mwheuser

MATCH LINE - SEE PLAN A

BLOCK A
LOT 4
4.45 AC.

BLOCK A
LOT 3
4.11 AC.

RIBBON CURB

S 74°53'10" W 353.11'

ACCESS PERMITTED
DOC # 2005014498

CONCRETE REMAINS

HP: 9+27.12
ELEV: 728.31

HP: 13+14.83
ELEV: 725.23

LP: 7+12.35
ELEV: 725.69

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

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- LOC — LIMITS OF CONSTRUCTION
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- FENCE
- RETAINING WALL
- TREE WELL
- CURB/EOP
- TREE TO REMAIN
- TREE TO REMAIN - HERITAGE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- PRESSURE REDUCING VALVE
- WASTEWATER LINE
- WASTEWATER MANHOLE
- C.O. WASTEWATER CLEANOUT

ABBREVIATIONS

BW - BOTTOM OF WALL (GROUND)
EG - EXISTING GRADE
EP - EDGE OF PAVEMENT
G - PROPOSED GRADE (GROUND)
HP - HIGH POINT
TC - TOP OF CURB
TW - TOP OF WALL

GRADING NOTES:

1. FILL SHOULD BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY TxDOT -114 - E, AND PER GEOTECHNICAL ENGINEER'S RECOMMENDATION.
2. VEGETATE ALL DISTURBED AREAS PER CITY OF GEORGETOWN SPECIFICATIONS.

IH 35
SH 130
KEY MAP
N.T.S

NO.	REVISION	BY	DATE

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08/15/2025

GRADING PLAN B

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 22 OF 52

2025- -SWP

BLOCK A
LOT 1
1.56 AC.

BLOCK A
LOT 2
5.74 AC.

BLOCK A
LOT 3
4.11 AC.

BLOCK A
LOT 4
4.45 AC.

BLOCK A
LOT 5
15.87 AC.

BLOCK A
LOT 7
3.72 AC.

EXISTING
WQ POND

IH 35
FRONTAGE ROAD

SH 130
FRONTAGE ROAD

PERMANENT BUFFER EASEMENT DOC.# 2025013508

SHARED ACCESS EASEMENT DOC.# 2025013508

ACCESS PERMITTED DOC.# 2005015488

UTILITY EASEMENT # 1 (CALLED 0.932-ACRES) DOCUMENT NO. 2017009837

PUBLIC UTILITY EASEMENT DOCUMENT NO. 2017009837

STORM C1

STORM C2

STORM B1

STORM A2

STORM A1

FFE 722.00

FFE 721.00

FFE 714.50

FFE 712.50

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

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- 100 YR FEMA FLOODPLAIN
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- PRESSURE REDUCING VALVE
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT

DRAINAGE NOTES:

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. REFER TO THE LANDSCAPE/HARDSCAPE PLANS FOR ADDITIONAL DRAINAGE AND FINE GRADING FOR ALL AMENITIES.
3. ALL PUBLIC STORM SEWER LINES SHALL BE CLASS III RCP.
4. ALL PRIVATE STORM SEWER LINES SHALL BE HDPE.

NO.	REVISION	BY	DATE

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08/15/2025

OVERALL STORM (PRIVATE) PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

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2025- -SWP

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BLOCK A
LOT 1
1.56 AC.

EXISTING
WQ POND

BLOCK A
LOT 2
5.74 AC.

LARRY D. KOKEL AND DALE ILLG
(CALLED 73.1153 ACRES)
DOCUMENT NO. 9665744

PERMANENT BUFFER EASEMENT DOC # 2025033508

SHARED ACCESS EASEMENT DOC # 2025033508

S 12°29'08" E 68.94'

N 17°34'16" E 176.97'

S 76°55'52" E 682.59'

S 74°53'40" W 353.11'

PERENNIAL WATERCOURSE

FIRE HYDRANT, WATER METER, WATER VALVE & WATER LINE

OVERHEAD ELECTRIC

CONCRETE REMAINS

STA. 4+85.60 STORM C2
4'X4' JUNCTION BOX C4
RIM: 730.14
24" HDPE FL IN = 724.13 (S)
24" HDPE FL OUT = 724.13 (E)

±50 LF 24" HDPE @ 1.50%

STA. 4+35.98 STORM C2
HORZ. DEFL.
24" HDPE FL IN = 723.39 (W)
24" HDPE FL OUT = 723.39 (SE)

±65 LF 24" HDPE @ 1.50%

STA. 3+70.89 STORM C2
WYE
24" HDPE FL IN = 722.41 (NW)
18" HDPE FL IN = 722.91 (W)
24" HDPE FL OUT = 722.41 (SE)

±52 LF 24" HDPE @ 1.50%

STA. 5+37.13 STORM C2
STUB
24" HDPE FL OUT = 724.90 (N)

STA. 1+38.03 LAT C2-3
10' CURB INLET XX4 (37)
RIM: 729.19
18" HDPE FL OUT = 724.63 (E)

±38 LF 18" HDPE @ 4.51%

±24 LF 24" HDPE @ 1.50%

STA. 3+47.17 STORM C2
HORZ. DEFL.
24" HDPE FL IN = 722.05 (NW)
24" HDPE FL OUT = 722.05 (SE)

±28 LF 24" HDPE @ 1.50%

STA. 3+18.94 STORM C2
WYE
24" HDPE FL IN = 721.63 (NW)
18" HDPE FL IN = 722.13 (N)
24" HDPE FL OUT = 721.63 (SE)

±42 LF 24" HDPE @ 1.50%

STA. 2+76.46 STORM C2
HORZ. DEFL.
24" HDPE FL IN = 720.99 (NW)
24" HDPE FL OUT = 720.99 (E)

STORM C2

STA. 1+08.00 LAT C2-1
HORZ. DEFL.
18" HDPE FL IN = 720.40 (N)
18" HDPE FL OUT = 720.40 (SE)

±8 LF 18" HDPE @ 1.00%

STA. 1+59.20 STORM C2
WYE
18" HDPE FL IN = 720.32 (NW)
24" HDPE FL IN = 719.82 (W)
24" HDPE FL OUT = 719.82 (E)

STA. 1+24.51 STORM C2
HORZ. DEFL.
24" HDPE FL IN = 719.47 (W)
24" HDPE FL OUT = 719.47 (E)

±25 LF 24" HDPE @ 1.00%

±50 LF 36" HDPE @ 5.00%

UTILITY CROSSING
STA. 3+69.09 STORM C2
=STA. 14+47.47 WW A

STA. 1+23.16 LAT C2-2
10' CURB INLET XX4 (35)
RIM: 728.29
18" HDPE FL OUT = 723.73 (S)

±16 LF 18" HDPE @ 9.92%

STA. 1+29.84 LAT C2-1
STUB
18" HDPE FL OUT = 720.62 (S)

±119 LF 36" HDPE @ 5.00%

UTILITY CROSSING
STA. 1+25.34 LAT C2-1
=STA. 5+39.76 WL A

±22 LF 18" HDPE @ 1.00%

±117 LF 24" HDPE @ 1.00%

UTILITY CROSSING
STA. 3+44.53 STORM C1
=STA. 11+50.99 WW A

STA. 3+74.50 STORM C1
STUB
36" HDPE FL OUT = 720.73 (N)

STA. 1+34.00 STORM C1
36" HEADWALL
CONTRACTOR TO USE CAUTION WHILE CONSTRUCTING THE STORM PIPE AND HEADWALLS TO NOT DAMAGE THE EXISTING POND CLAY LINER.
CONTRACTOR TO SEAL EXISTING CLAY LINER AROUND THE PROPOSED PIPE/HEADWALL TO PREVENT LEAKAGE. HW C1
RIM: 709.00
36" HDPE FL IN = 705.40 (S)

±72 LF 36" HDPE @ 5.00%

STORM C1

STA. 2+05.71 STORM C1
5'x5' JUNCTION BOX C2
RIM: 716.95
36" HDPE FL IN = 712.29 (S)
36" HDPE FL OUT = 708.99 (N)

UTILITY CROSSING
STA. 3+09.70 STORM C1
=STA. 5+96.15 WL A

STA. 3+24.50 STORM C1
=STA. 3+24.50 STORM C1
5'X5' JUNCTION BOX
RIM:726.16
36 FL IN = 718.23 (S)
24 FL IN = 719.23 (W)
36" HDPE FL OUT = 718.23 (N)

STA. ??? STORM B1
STUB
18" HDPE FL OUT = 719.17 (S)

UTILITY CROSSING
STA. 1+67.39 STORM B2
=STA. 8+67.16 WL A

±20 LF 18" HDPE @ 2.00%

STA. 1+14.63 STORM B1
HORZ. DEFL.
18" HDPE FL IN = 718.77 (N)
18" HDPE FL OUT = 718.77 (SE)

±10 LF 18" HDPE @ 2.00%

STA. 1+22.20 STORM B1
HORZ. DEFL.
18" HDPE FL IN = 718.57 (NW)
18" HDPE FL OUT = 718.57 (E)

±41 LF 18" HDPE @ 2.00%

STA. 1+60.00 STORM B1
STUB
24" HDPE FL OUT = 717.60 (N)

STORM B1

STA. 1+00.00 STORM B1
STUB
24" HDPE FL IN = 717.00 (S)

UTILITY CROSSING
STA. 1+01.94 STORM B1
=STA. 9+13.81 WL A

±25 LF 24" HDPE @ 1.00%

STA. 1+24.99 STORM B1
4'X4' JUNCTION BOX B1
RIM: 723.87
18" HDPE FL IN = 717.75 (W)
24" HDPE FL IN = 717.25 (S)
24" HDPE FL OUT = 717.25 (N)

UTILITY CROSSING
STA. 1+37.76 STORM B1
=STA. 8+33.58 WW A

±35 LF 24" HDPE @ 1.00%

MATCH LINE - SEE PLAN B

SCALE: 1" = 30'

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- 100 YR FEMA FLOODPLAIN
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- PRESSURE REDUCING VALVE
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT

DRAINAGE NOTES:

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. REFER TO THE LANDSCAPE/HARDSCAPE PLANS FOR ADDITIONAL DRAINAGE AND FINE GRADING FOR ALL AMENITIES.
3. ALL PUBLIC STORM SEWER LINES SHALL BE CLASS III RCP.
4. ALL PRIVATE STORM SEWER LINES SHALL BE HDPE.

KEY MAP
N.T.S

NO.	REVISION	BY	DATE

Know what's below. Call before you dig.

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SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com

TBPE NO: 16384
TBPLS NO: 10194101

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DEVELOPMENT TX

STATE OF TEXAS
SHERWIN HOOSHIN
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LICENSED PROFESSIONAL ENGINEER
08/15/2025

STORM (PRIVATE) PLAN A

BERRY CREEK CROSSING
SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 24 OF 52

2025- -SWP

ALL PROJECT DOCUMENTS, INCLUDING, BUT NOT LIMITED TO, PLANS AND SPECIFICATIONS, PROVIDED BY HRGREEN DEVELOPMENT, TX, LLC (HRGREEN), ARE INTENDED FOR USE ON THIS PROJECT ONLY. ANY REUSE, WITHOUT SPECIFIC WRITTEN VERIFICATION OR ADAPTATION BY HRGREEN DEVELOPMENT, TX, LLC, SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT SHALL INDEMNIFY, DEFEND, AND HOLD HARMLESS HRGREEN DEVELOPMENT, TX, LLC FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

Sheet Location: P:\Athens Dynamic\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_AC&DP\Revit\24250383-SDP6_rev1 | Date Plotted: August 15, 2025 | Plotted By: mvetsayan

18" HDPE FL IN = 718.77 (N)
18" HDPE FL OUT = 718.77 (SE)

±10 LF 18" HDPE @ 2.00%

STA. 1+22.20 STORM B1
HORZ. DEFL.
18" HDPE FL IN = 718.57 (NW)
18" HDPE FL OUT = 718.57 (E)

±41 LF 18" HDPE @ 2.00%

STA. 1+60.00 STORM B1
STUB
24" HDPE FL OUT = 717.60 (N)

1+00

STORM B1

1+60

18" HDPE FL IN = 717.75 (W)
24" HDPE FL IN = 717.25 (S)
24" HDPE FL OUT = 717.25 (N)

UTILITY CROSSING
STA. 1+37.76 STORM B1
=STA. 8+33.58 WW A

±35 LF 24" HDPE @ 1.00%

MATCH LINE - SEE PLAN A

BLOCK A
LOT 4
4.45 AC.

BLOCK A
LOT 5
15.87 AC.

KEY MAP
N.T.S

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

LEGEND

- 830 — EXISTING MAJOR CONTOUR
- 833 — EXISTING MINOR CONTOUR
- 835 — PROPOSED MAJOR CONTOUR
- 836 — PROPOSED MINOR CONTOUR
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- 100 YR FEMA FLOODPLAIN
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- PRESSURE REDUCING VALVE
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT

DRAINAGE NOTES:

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. REFER TO THE LANDSCAPE/HARDSCAPE PLANS FOR ADDITIONAL DRAINAGE AND FINE GRADING FOR ALL AMENITIES.
3. ALL PUBLIC STORM SEWER LINES SHALL BE CLASS III RCP.
4. ALL PRIVATE STORM SEWER LINES SHALL BE HDPE.

±41 LF 18" HDPE @ 2.00%

STA. 3+80.00 STORM A2
5' DIA SSMH A7
RIM: 730.00
18" HDPE FL IN = 722.68 (SW)
24" HDPE FL OUT = 722.18 (E)

4+21

4+00

STA. 4+20.61 STORM A2
STUB
18" HDPE FL OUT = 723.49 (NE)

3+00

±229 LF 24" HDPE @ 2.00%

STORM A2

2+00

STA. 1+50.61 STORM A2
5' DIA SSMH XX4 (10)
RIM: 725.75
24" HDPE FL IN = 717.59 (W)
30" HDPE FL OUT = 717.09 (S)

UTILITY CROSSING
STA. 1+62.16 STORM A2
=STA. 1+88.16 WW D

±38 LF 30" HDPE @ 0.50%

±14 LF 30" HDPE @ 0.50%

1+00

STA. 1+12.50 STORM A2
HORZ. DEFL.
30" HDPE FL IN = 716.90 (N)
30" HDPE FL OUT = 716.90 (S)

STA. 0+98.70 STORM A2
CONNECTION TO 30" HDPE STUB
(CITY PROJ. NO. 2022-74-SDP)
CONTRACTOR TO VERIFY
LOCATION PRIOR TO
CONNECTION. CONTACT
ENGINEER FOR ANY
DISCREPANCIES.
30" HDPE FL IN = 716.83 (N)

0+50

STA. 7+61.43 STORM A1
4'X4' JUNCTION BOX A6
RIM: 724.22
24" HDPE FL OUT = 712.26 (E)

7+71

±221 LF 24" HDPE @ 3.80%

7+00

6+00

STORM A1

STA. 5+40.00 STORM A1
NULL STRUCTURE
24" HDPE FL IN = 703.84 (W)
30" HDPE FL OUT = 703.84 (E)

UTILITY CROSSING
STA. 4+91.93 STORM A1

±99 LF 30" HDPE @ 3.80%

5+00

STA. 4+40.93 STORM A1
5' DIA SSMH A5
RIM: 708.76
30" HDPE FL IN = 700.08 (W)
30" HDPE FL OUT = 700.08 (SE)

4+00

±83 LF 30" HDPE @ 3.80%

STA. 3+58.00 STORM A1
5' DIA SSMH A4
RIM: 707.04
30" HDPE FL IN = 696.93 (NW)
30" HDPE FL OUT = 696.93 (E)

3+00

±58 LF 30" HDPE @ 3.50%

±50 LF 30" HDPE @ 5.00%

STA. 3+00.00 STORM A1
5'x5' JUNCTION BOX A3
RIM: 703.07
30" HDPE FL IN = 694.90 (W)
30" HDPE FL OUT = 689.90 (E)

STA. 2+50.00 STORM A1
5' DIA SSMH A2
RIM: 699.41
30" HDPE FL IN = 687.40 (W)
30" HDPE FL OUT = 682.75 (SE)

STORM A1

2+00

±115 LF 30" HDPE @ 5.00%

STA. 1+35.00 STORM A1
30" HEADWALL
CONTRACTOR TO USE CAUTION WHILE
CONSTRUCTING THE STORM PIPE AND
HEADWALLS TO NOT DAMAGE THE
EXISTING POND CLAY LINER.
CONTRACTOR TO SEAL EXISTING
CLAY LINER AROUND THE PROPOSED
PIPE/HEADWALL TO PREVENT LEAKAGE. HW A1
RIM: 680.08
30" HDPE FL IN = 677.00 (NW)

1+00

NO.	REVISION	BY	DATE

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08/15/2025

STORM (PRIVATE) PLAN B

BERRY CREEK CROSSING
SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 25 OF 52

2025- -SWP

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_AC4D\Plans\b250983-SDR_dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez

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0 60' 120'

SCALE: 1" = 60'

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- AUTOMATIC AIR RELEASE VALVE
- FLUSH VALVE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL

WATER NOTES:

1. ALL PROPOSED WATERLINES, EXCEPT FIRE LEADS, SHALL BE PVC C900 DR 18 PER CITY SPECIFICATIONS.
2. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
3. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
4. CONTRACTOR TO REFERENCE IRRIGATION PLANS BY LANDSCAPE ARCHITECT.
5. CONTRACTOR TO ADD AN RPZ BACKFLOW PREVENTER AT FIRE RISERS AND IRRIGATION METERS.
6. CONTRACTOR TO ENSURE ALL FIRE HYDRANTS, METERS AND VALVES ARE NOT TO BE PLACED IN SIDEWALKS.
7. WET TAP TO AN EXISTING WATER LINE WILL REQUIRE THE USE OF A FULL BODY TAPPING SLEEVE AND VALVE.
8. THRUST BLOCKING SHALL BE PROVIDED AT BENDS, PI'S, TEES & FITTINGS ACCORDING TO CITY SPECIFICATIONS.
9. ALL JOINT RESTRAINTS SHALL BE IN ACCORDANCE TO CITY OF GEORGETOWN SPECIFICATIONS.
10. ANY JOINT DEFLECTION, VERTICAL OR HORIZONTAL, SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
11. WATERLINES SHALL BE AT DEPTH TO PROVIDE 36" MINIMUM COVER.

WASTEWATER NOTES:

1. ALL PROPOSED WASTEWATER PIPES TO BE PVC SDR-26 UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. ALL WASTEWATER MANHOLES & CLEANOUTS TO BE COATED PER CITY SPECIFICATIONS.
3. ANY JOINT DEFLECTION (VERTICAL OR HORIZONTAL) SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
4. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
5. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
6. ALL MANHOLES LOCATED IN PAVEMENT ARE TO BE RAISED TO FINISHED GRADE.

WASTEWATER AND WATER CROSSING NOTES:

WHEN THE WASTEWATER LINE PIPE CROSSES BELOW A WATER SUPPLY PIPE, EACH PORTION OF THE WASTEWATER PIPE WITHIN NINE FEET OF THE WATER SUPPLY PIPE MUST BE ENCASED IN CEMENT-STABILIZED:

1. THE CEMENT STABILIZED SAND MUST INCLUDE AT LEAST 160 POUNDS OF CEMENT FOR EVERY CUBIC YARD.
2. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE QUARTER PIPE DIAMETER BELOW THE CENTERLINE OF THE COLLECTION PIPE.
3. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE FULL PIPE DIAMETER ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE, OR 12-INCHES ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE WHICH EVER IS GREATER.

NO.	REVISION	BY	DATE

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STATE OF TEXAS
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08/15/2025

OVERALL WT & WW (PRIVATE) PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 26 OF 52

2025- -SWP

Sheet Location: P:\Athens Dynamic\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh250908-3-UTIL.dwg | Date Plotted: August 15, 2025 | Plotted By: mvalenzuela

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BLOCK A
LOT 1
1.56 AC.

BLOCK A
LOT 2
5.74 AC.

EXISTING
WQ POND

LARRY D. KOKEL AND DALE ILLIG
(CALLED 73.153 ACRES)
DOCUMENT NO. 9663744

PERMANENT BUFFER EASEMENT DOC.# 2025033508

SHARED ACCESS EASEMENT DOC.# 2025033508

STA. 1+00.00 WL A
1-12"X12" TAPPING SLEEVE;
1-12" GATE VALVE;
1-22.5° BEND;
1-11.25° BEND
CONNECTION TO EXISTING 12" WL
CONTRACTOR TO FIELD VERIFY LOCATION PRIOR TO CONNECTION AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS.
FL=725.98

FIRE HYDRANT W/ BACKFLOW METER, WATER VALVE & 12" WATER CAP ON TONIC

12" PVC WL A

STA. 2+53.02 WL A
1-22.5 ° BEND
12" FL=725.54

STA. 3+02.65 WL A
1-22.5 ° BEND
12" FL=725.04

STA. 14+84.85 WW A
6" WW STUB
6" PVC FL OUT = 717.91 (SW)

UTILITY CROSSING
STA. 14+47.47 WW A
=STA. 3+69.09 STORM C2

UTILITY CROSSING
STA. 14+67.32 WW A
=STA. 3+47.42 WL A

±48 LF 6" PVC @ 1.00%

STA. 14+37.02 WW A
4' DIA WWMH A9
RIM: 730.56
6" PVC FL IN = 717.43 (NE)
8" PVC FL OUT = 717.26 (SE)

STA. 3+79.34 WL A
1-22.5 ° BEND
12" FL=723.89

STA. 4+31.87 WL A
1-22.5 ° BEND
12" FL=722.21

±75 LF 8" PVC @ 1.00%

UTILITY CROSSING
STA. 5+39.76 WL A
=STA. 1+25.34 LAT C2-1

STA. 13+62.30 WW A
4' DIA WWMH A8
RIM: 729.75
8" PVC FL IN = 716.52 (W)
8" PVC FL OUT = 716.42 (E)

±200 LF 8" PVC @ 1.00%

UTILITY CROSSING
STA. 5+96.15 WL A
=STA. 3+09.70 STORM C1

UTILITY CROSSING
STA. 11+50.99 WW A
=STA. 3+44.53 STORM C1

STA. 11+62.67 WW A
4' DIA WWMH A7
RIM: 727.52
8" PVC FL IN = 714.42 (W)
8" PVC FL OUT = 714.32 (E)

±97 LF 8" PVC @ 1.00%

STA. 10+65.75 WW A
4' DIA WWMH A6
RIM: 729.06
8" PVC FL IN = 713.35 (W)
8" PVC FL OUT = 713.25 (E)

STA. 9+54.92 WL A
1 - 12" PVC CAP MJ
1 - AUTOMATIC FLUSH VALVE
FL=718.00

CLEANOUT XX3 (17)
RIM: 723.33
6" FL OUT = 708.73 (SE)

UTILITY CROSSING
STA. 8+67.16 WL A
=STA. 1+67.39 STORM B2

UTILITY CROSSING
STA. 1+38.29 WW C
=STA. 9+24.91 WL A

UTILITY CROSSING
STA. 9+13.81 WL A
=STA. 1+01.94 STORM B1

±254 LF 8" PVC @ 2.00%

UTILITY CROSSING
STA. 8+33.58 WW A
=STA. 1+37.76 STORM B1

STA. 8+11.85 WW A
4' DIA WWMH A5
RIM: 723.48
8" PVC FL IN = 708.17 (W)
6" PVC FL IN = 708.23 (NW)
8" PVC FL OUT = 708.07 (NE)

9+55
±49 LF 6" PVC @ 1.00%

±93 LF

MATCH LINE - SEE PLAN B

STA. 5+42.58 WW E
4' DIA WWMH E2
RIM: 731.50
8" PVC FL OUT = 721.80 (E)

±104 LF 8" PVC @ 0.50%

MATCH LINE - SEE PLAN B

SCALE: 1" = 30'

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- AUTOMATIC AIR RELEASE VALVE
- FLUSH VALVE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL

WATER NOTES:

1. ALL PROPOSED WATERLINES, EXCEPT FIRE LEADS, SHALL BE PVC C900 DR 18 PER CITY SPECIFICATIONS.
2. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
3. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
4. CONTRACTOR TO REFERENCE IRRIGATION PLANS BY LANDSCAPE ARCHITECT.
5. CONTRACTOR TO ADD AN RPZ BACKFLOW PREVENTER AT FIRE RISERS AND IRRIGATION METERS.
6. CONTRACTOR TO ENSURE ALL FIRE HYDRANTS, METERS AND VALVES ARE NOT TO BE PLACED IN SIDEWALKS.
7. WET TAP TO AN EXISTING WATER LINE WILL REQUIRE THE USE OF A FULL BODY TAPPING SLEEVE AND VALVE.
8. THRUST BLOCKING SHALL BE PROVIDED AT BENDS, PIS, TEES & FITTINGS ACCORDING TO CITY SPECIFICATIONS.
9. ALL JOINT RESTRAINTS SHALL BE IN ACCORDANCE TO CITY OF GEORGETOWN SPECIFICATIONS.
10. ANY JOINT DEFLECTION, VERTICAL OR HORIZONTAL, SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
11. WATERLINES SHALL BE AT DEPTH TO PROVIDE 36" MINIMUM COVER.

WASTEWATER NOTES:

1. ALL PROPOSED WASTEWATER PIPES TO BE PVC SDR-26 UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. ALL WASTEWATER MANHOLES & CLEANOUTS TO BE COATED PER CITY SPECIFICATIONS.
3. ANY JOINT DEFLECTION (VERTICAL OR HORIZONTAL) SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
4. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
5. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
6. ALL MANHOLES LOCATED IN PAVEMENT ARE TO BE RAISED TO FINISHED GRADE.

WASTEWATER AND WATER CROSSING NOTES:

WHEN THE WASTEWATER LINE PIPE CROSSES BELOW A WATER SUPPLY PIPE, EACH PORTION OF THE WASTEWATER PIPE WITHIN NINE FEET OF THE WATER SUPPLY PIPE MUST BE ENCASED IN CEMENT-STABILIZED:

1. THE CEMENT STABILIZED SAND MUST INCLUDE AT LEAST 160 POUNDS OF CEMENT FOR EVERY CUBIC YARD.
2. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE QUARTER PIPE DIAMETER BELOW THE CENTERLINE OF THE COLLECTION PIPE.
3. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE FULL PIPE DIAMETER ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE, OR 12-INCHES ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE WHICH EVER IS GREATER.

NO.	REVISION	BY	DATE

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WATER & WW (PRIVATE) PLAN A

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 27 OF 52

2025- -SWP

Sheet Location: P:\athena downs\berry creek crossing\commercial lot 1 & shared improvements\03_ACAD\Planset\250283-UTIL.dwg | Date Plotted: September 09, 2025 | Plotted By: cconnell

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STA. 11+50.99 WW A
=STA. 3+44.53 STORM C1

STA. 11+62.67 WW A
4' DIA WWMH A7
RIM: 727.52
8" PVC FL IN = 714.42 (W)
8" PVC FL OUT = 714.32 (E)

±97 LF 8" PVC @ 1.00%

STA. 10+65.75 WW A
4' DIA WWMH A6
RIM: 729.06
8" PVC FL IN = 713.35 (W)
8" PVC FL OUT = 713.25 (E)

±254 LF 8" PVC @ 2.00%

UTILITY CROSSING
STA. 8+67.16 WL A
=STA. 1+67.39 STORM B2

UTILITY CROSSING
STA. 9+24.91 WL A
=STA. 1+01.94 STORM B1

UTILITY CROSSING
STA. 9+13.81 WL A
=STA. 1+01.94 STORM B1

UTILITY CROSSING
STA. 8+33.58 WW A
=STA. 1+37.76 STORM B1

STA. 8+11.85 WW A
4' DIA WWMH A5
RIM: 723.48
8" PVC FL IN = 708.17 (W)
6" PVC FL IN = 708.23 (NW)
8" PVC FL OUT = 708.07 (NE)

RIM: 723.33
6" FL OUT = 708.73 (SE)

±49 LF 6" PVC @

MATCH LINE - SEE PLAN A

MATCH LINE - SEE PLAN A

STA. 7+19.27 WW A
4' DIA WWMH A4
RIM: 721.85
8" PVC FL IN = 707.33 (SW)
8" PVC FL OUT = 707.23 (E)

±93 LF 8" PVC @ 0.80%

±197 LF 8" PVC @ 0.80%

STA. 5+22.59 WW A
4' DIA WWMH A3
RIM: 719.09
8" PVC FL IN = 705.65 (W)
8" PVC FL OUT = 705.55 (E)

±32 LF 8" PVC @ 0.80%

STA. 4+90.20 WW A
4' DIA WWMH A2
RIM: 718.35
8" PVC FL IN = 705.29 (W)
8" PVC FL OUT = 705.19 (S)

±354 LF 8" PVC @ 0.80%

STA. 1+35.75 WW A
4' DIA WWMH A1
RIM: 717.23
8" PVC FL IN = 702.36 (N)
8" PVC FL OUT = 702.26 (SE)

±36 LF 8" PVC @ 0.80%

STA. 1+00.00 WW A
CONNECTION TO 5' WWMH
(CITY PROJ. NO. 2022-74-SDP)
CONTRACTOR TO VERIFY
LOCATION PRIOR TO
CONNECTION. CONTACT
ENGINEER FOR ANY
DISCREPANCIES.
8" PVC FL IN = 701.97 (NW)

STA. 5+42.58 WW E
4' DIA WWMH E2
RIM: 731.50
8" PVC FL OUT = 721.80 (E)

±104 LF 8" PVC @ 0.50%

STA. 4+38.54 WW E
4' DIA WWMH E1
RIM: 731.76
8" PVC FL IN = 721.28 (W)
8" PVC FL OUT = 721.18 (SE)

±296 LF 8" PVC @ 0.50%

STA. 1+42.26 WW E
CONNECTION TO 8" WW STUB
(CITY PROJ. NO. 2022-74-SDP)
CONTRACTOR TO VERIFY
LOCATION PRIOR TO
CONNECTION. CONTACT
ENGINEER FOR ANY
DISCREPANCIES.
8" PVC FL IN = 719.70 (NW)

BLOCK A
LOT 3
4.11 AC.

BLOCK A
LOT 4
4.45 AC.

BLOCK A
LOT 5
15.87 AC.

KEY MAP
N.T.S

SCALE: 1" = 30'

LEGEND

- 830 — EXISTING MAJOR CONTOUR
- 833 — EXISTING MINOR CONTOUR
- 835 — PROPOSED MAJOR CONTOUR
- 836 — PROPOSED MINOR CONTOUR
- 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- WW — WASTEWATER LINE
- WASTEWATER MANHOLE
- C.O. — WASTEWATER CLEANOUT
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- AUTOMATIC AIR RELEASE VALVE
- FLUSH VALVE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- SD — STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL

WATER NOTES:

1. ALL PROPOSED WATERLINES, EXCEPT FIRE LEADS, SHALL BE PVC C900 DR 18 PER CITY SPECIFICATIONS.
2. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
3. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
4. CONTRACTOR TO REFERENCE IRRIGATION PLANS BY LANDSCAPE ARCHITECT.
5. CONTRACTOR TO ADD AN RPZ BACKFLOW PREVENTER AT FIRE RISERS AND IRRIGATION METERS.
6. CONTRACTOR TO ENSURE ALL FIRE HYDRANTS, METERS AND VALVES ARE NOT TO BE PLACED IN SIDEWALKS.
7. WET TAP TO AN EXISTING WATER LINE WILL REQUIRE THE USE OF A FULL BODY TAPPING SLEEVE AND VALVE.
8. THRUST BLOCKING SHALL BE PROVIDED AT BENDS, PI'S, TEES & FITTINGS ACCORDING TO CITY SPECIFICATIONS.
9. ALL JOINT RESTRAINTS SHALL BE IN ACCORDANCE TO CITY OF GEORGETOWN SPECIFICATIONS.
10. ANY JOINT DEFLECTION, VERTICAL OR HORIZONTAL, SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
11. WATERLINES SHALL BE AT DEPTH TO PROVIDE 36" MINIMUM COVER.

WASTEWATER NOTES:

1. ALL PROPOSED WASTEWATER PIPES TO BE PVC SDR-26 UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. ALL WASTEWATER MANHOLES & CLEANOUTS TO BE COATED PER CITY SPECIFICATIONS.
3. ANY JOINT DEFLECTION (VERTICAL OR HORIZONTAL) SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
4. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
5. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
6. ALL MANHOLES LOCATED IN PAVEMENT ARE TO BE RAISED TO FINISHED GRADE.

WASTEWATER AND WATER CROSSING NOTES:

WHEN THE WASTEWATER LINE PIPE CROSSES BELOW A WATER SUPPLY PIPE, EACH PORTION OF THE WASTEWATER PIPE WITHIN NINE FEET OF THE WATER SUPPLY PIPE MUST BE ENCASED IN CEMENT-STABILIZED:

1. THE CEMENT STABILIZED SAND MUST INCLUDE AT LEAST 160 POUNDS OF CEMENT FOR EVERY CUBIC YARD.
2. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE QUARTER PIPE DIAMETER BELOW THE CENTERLINE OF THE COLLECTION PIPE.
3. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE FULL PIPE DIAMETER ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE, OR 12-INCHES ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE WHICH EVER IS GREATER.

NO.	REVISION	BY	DATE

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AUSTIN, TX 78735
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DEVELOPMENT TX

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER

08/15/2025

WATER & WW (PRIVATE) PLAN B

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 28 OF 52

2025- -SWP

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Sheet Location: P:\Athena Documents\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sk20250813-UTIL.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

TYPE OF STRUCTURE	REACH LENGTH	MAXIMUM DRAINAGE AREA	SLOPE
SILT FENCE	N/A	2 ACRES	0 – 10%
	200 FEET	2 ACRES	10 – 20%
	100 FEET	1 ACRE	20 – 30%
	50 FEET	1/2 ACRE	> 30%
TRIANGLE FILTER DIKE	100 FEET	1/2 ACRE	< 30% SLOPE
	50 FEET	1/4 ACRE	> 30% SLOPE
ROCK BERM *, **	500 FEET	< 5 ACRES	0 – 10%

* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW.

** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES
EC01 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SW3P) THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS.

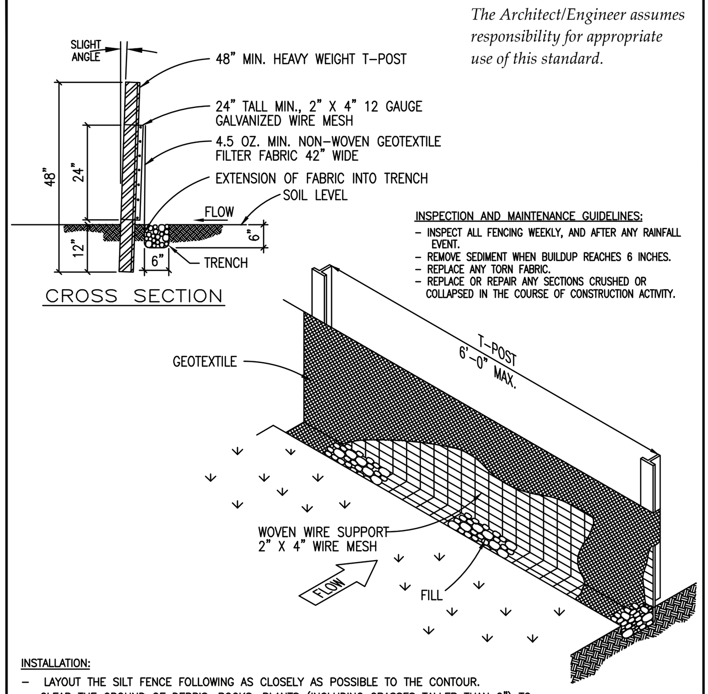
1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARD'S AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100lb/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 82% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10–DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS . RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1–1/2 INCHES HIGH WITH 95% *COVERAGE*, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED–ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'–4') BEHIND THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.
20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES
EC01A | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

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

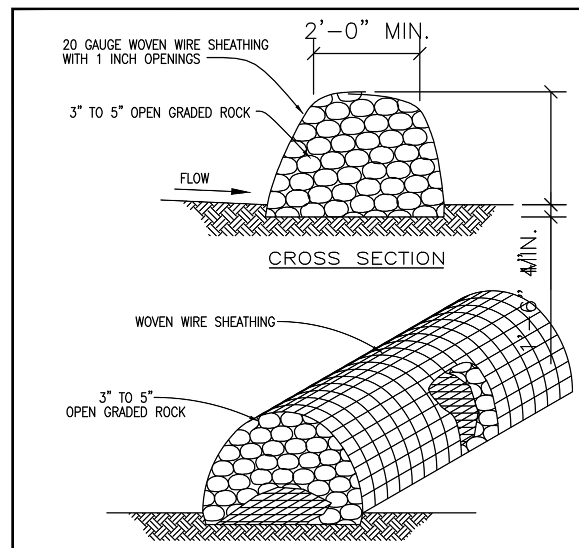


INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

INSTALLATION:
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T–POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T–POST WITH 11 1/2 GAUGE GALVANIZED T–POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SILT FENCE DETAIL
EC02 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



INSTALLATION:
- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

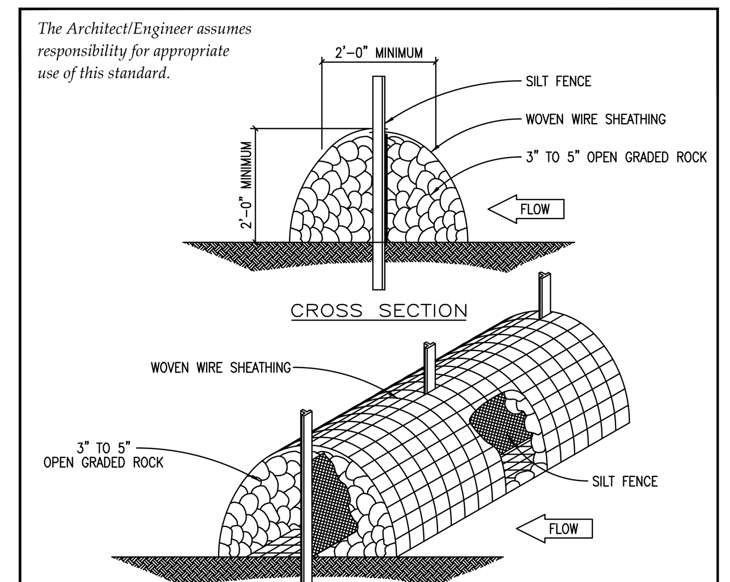
INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
ROCK BERM DETAIL
EC03 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

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

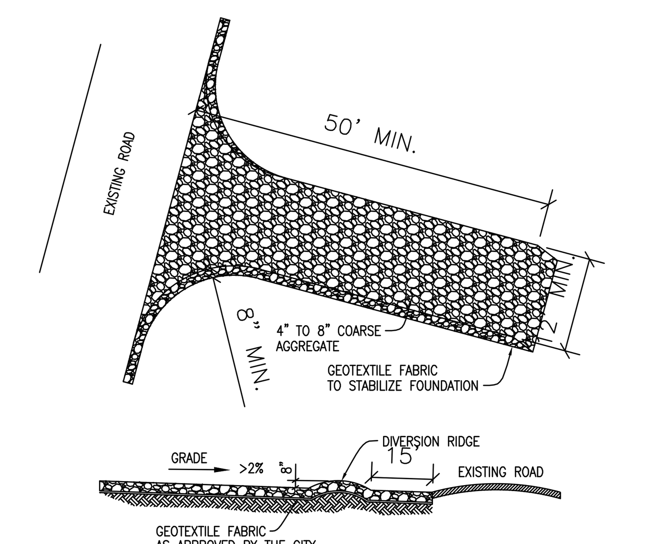


INSTALLATION:
- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT. INSTALLATION SHOULD BE AS DESCRIBED IN DRAWING NO. EC–02 "SILT FENCE DETAIL".
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE AND ON BOTH SIDES OF THE SILT FENCE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE CONTRACTOR. FOR THE INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE ON ROCK BERM.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- THE BERM SHOULD BE REPLACES WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
HIGH SERVICE ROCK BERM DETAIL
EC04 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



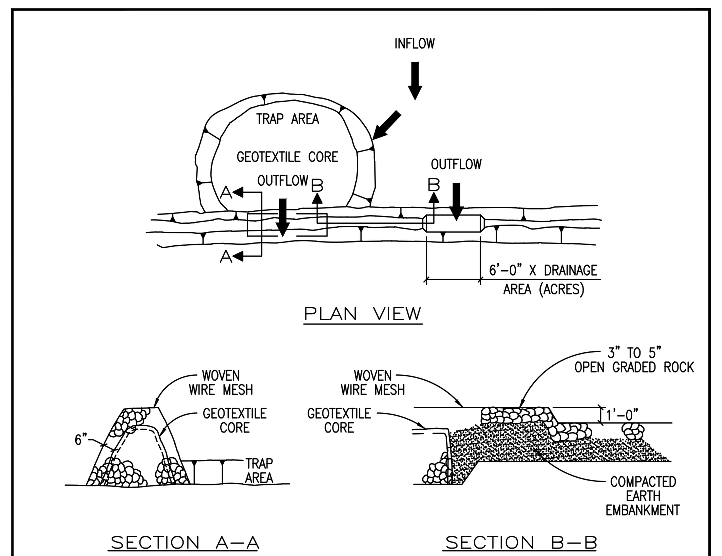
INSTALLATION:
- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

INSPECTIONS AND MAINTENANCE GUIDELINES:
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS–OF–WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY.
- WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STABILIZED CONSTRUCTION ENTRANCE
EC06 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



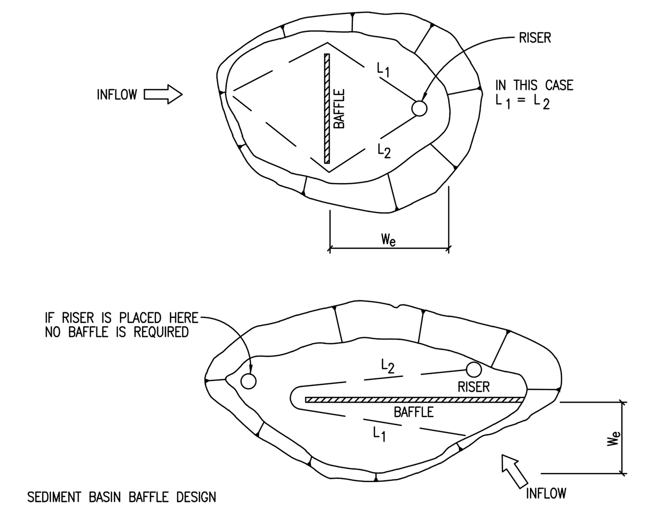
INSTALLATION:
- LOCATE THE SEDIMENT TRAP SO AS TO DISTURB AS FEW TREES AS POSSIBLE.
- CLEAR AND GRUB THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MATS.
- LAYOUT THE WIRE MESH AND THEN THE GEOTEXTILE FABRIC.
- CONSTRUCT THE GEOTEXTILE CORE AND CORRESPONDING ROCK EMBANKMENT TO THE DESIGNATED HEIGHT AND CONFIGURATION.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE. SECURE WITH TIE WIRE.
- PLACE THE EMBANKMENT MATERIAL IN 8 TO 12 INCH LIFTS AND MACHINE COMPACT.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- TRASH AND OTHER DEBRIS SHOULD BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO HALF OF THE DESIGN DEPTH OF THE TRAP.
- SEDIMENT REMOVED FROM THE TRAP SHOULD BE DEPOSITED IN AN APPROVED SPOILS AREA AND IN SUCH A MANNER THAT IT WILL NOT CAUSE ADDITIONAL SILTATION.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SEDIMENT TRAP DETAIL
EC07 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



SEDIMENT BASIN BAFFLE DESIGN

$W_e = A / (L_1 + L_2)$

W_e = EFFECTIVE WIDTH OF BASIN

A = SURFACE AREA OF BASIN WHEN FILLED TO RISER CREST

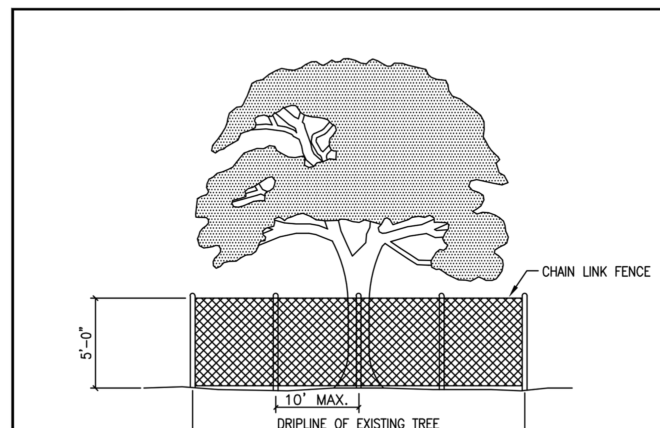
L_1, L_2 = SHORTEST TRAVEL DISTANCE AROUND THE BAFFLE FROM INLET TO OUTLET

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE.
- ACCUMULATED SILT SHOULD BE REMOVED AND THE BASIN SHOULD BE RE–GRADED TO ITS ORIGINAL DIMENSIONS AT SUCH POINT THAT THE CAPACITY OF THE IMPOUNDMENT HAS BEEN REDUCED TO 1/2 OF ITS ORIGINAL STORAGE CAPACITY.
- THE REMOVED SEDIMENT SHOULD BE STOCKPILED OR REDISTRIBUTED IN AREAS THAT ARE PROTECTED FROM EROSION.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SEDIMENT BASIN BAFFLE DESIGN
EC08 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

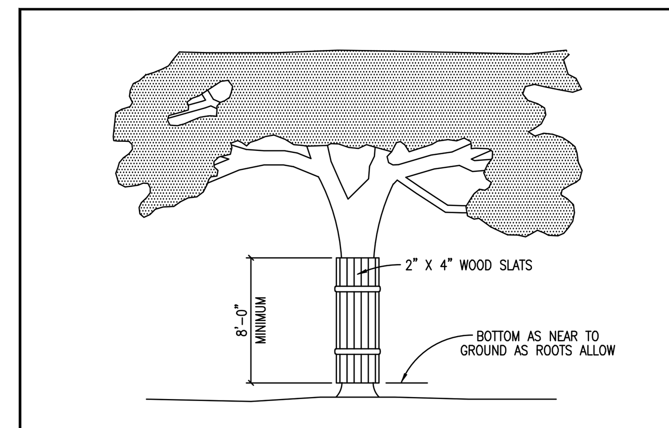


NOTES:
1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MATERIALS.
   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
   C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'–0") TO BUILDING.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TREE PROTECTION – CHAIN LINK FENCE
EC09 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB

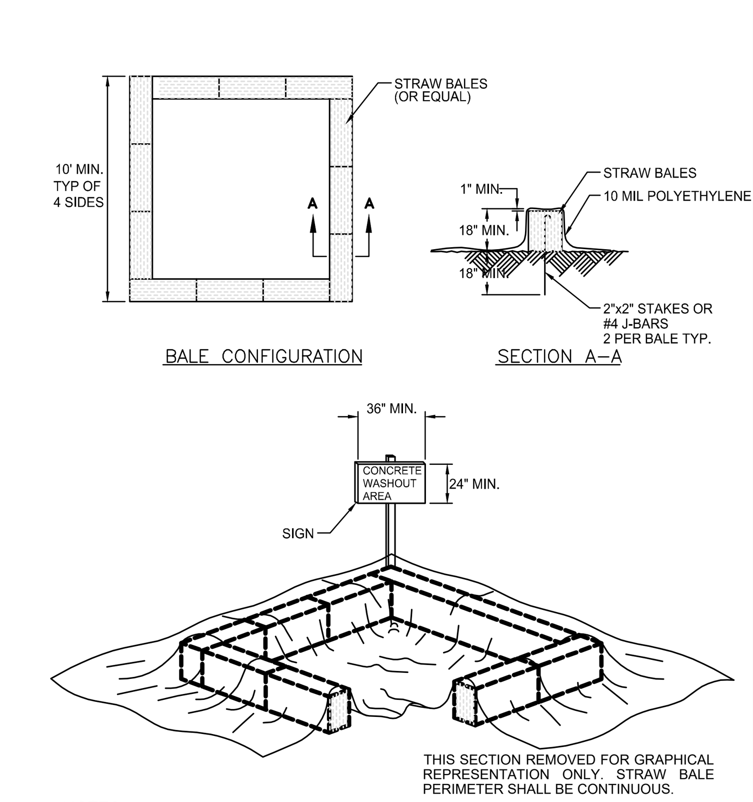


NOTES:
1. WHERE ANY EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN FOUR FEET (4'–0") TO A TREE TRUNK; PROTECT THE TRUNK WITH STRAPPED–ON–PLANKING TO A HEIGHT OF EIGHT FEET (8'–0"), OR TO THE LIMITS OF LOWER BRANCHING IN ADDITION TO THE REDUCED FENCING PROVIDED.
2. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO (2) DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE, AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
3. PRIOR EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINE. MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT, TO MINIMIZE DAMAGE TO REMAINING ROOTS.
4. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES SHOULD BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
5. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
6. NO LANDSCAPE TOPSOIL DRESSING GREATER THE FOUR INCHES (4") SHALL BE PERMITTED WITHIN THE DRIPLINE OF A TREE. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
7. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.

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

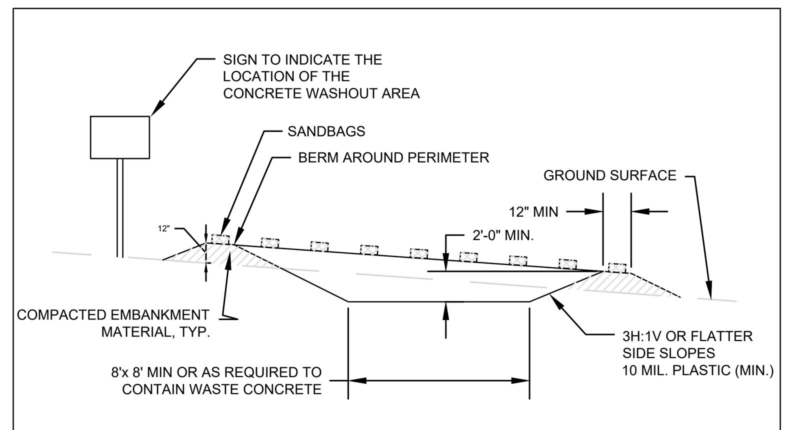
ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TREE PROTECTION – WOOD SLATS
EC10 | SCALE: NTS | DATE: 1/2003 | DRAWN BY: MRS | APPROVED BY: TRB



NOTES:
1. FACE SIGN TOWARD NEAREST STREET OR ACCESS POINT
2. CONCRETE WASHOUT SHALL BE LOCATED BEHIND CURB AND 50 FT. MINIMUM FROM DRAINAGE INLETS OR WATERCOURSES

CONCRETE WASHOUT AREA
N.T.S.



NOTES:
1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. VEHICLE TRACKING CONTROL (DETAIL SW-14) IS REQUIRED IF ACCESS TO CONCRETE WASHOUT AREA IS OFF PAVEMENT.
3. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
4. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
5. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN ACCEPTED WASTE SITE.
6. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.

CONCRETE WASHOUT AREA
N.T.S.

Figure 1.4-F Silt Fence Typical Placement – Two Slopes

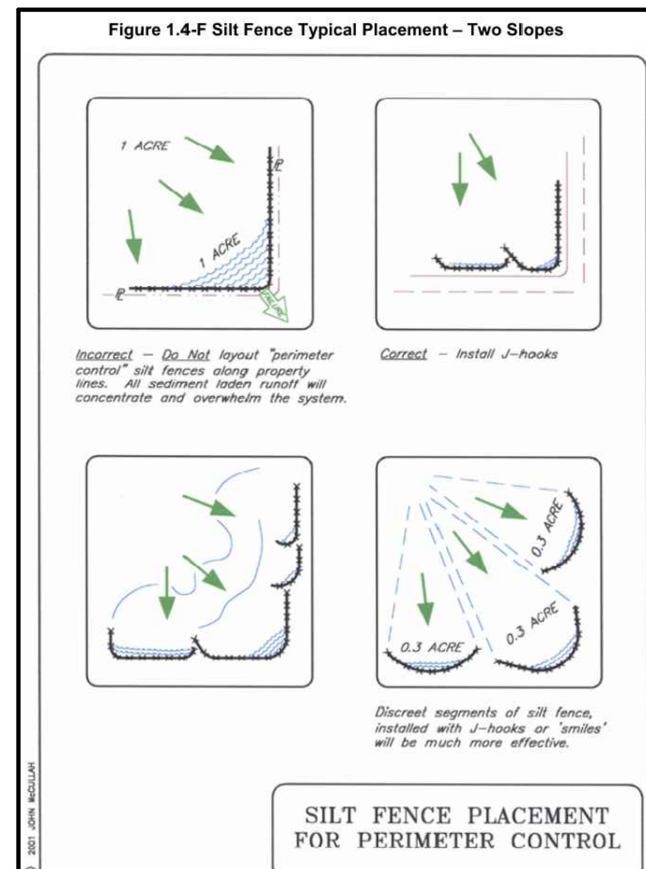


Figure 1.4-G Silt Fence Placement for Perimeter Control

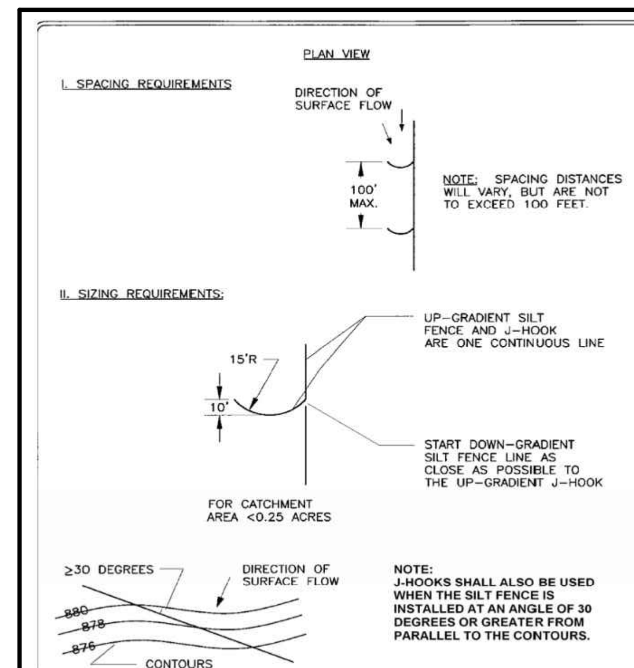


Figure 1.4-H Silt Fence J - Hook Detail (N.T.S.)

H. Triangular Sediment Filter Dikes.

(See Standard Specifications manual item 648S and Specifications manual item 648S *for detail)*

1. Description.

A temporary barrier constructed of wire mesh and geotextile fabric, installed along a flat area.

2. Purpose.

The purpose of a triangular sediment filter dike is to intercept and detain water-borne sediment from a stabilized construction entrance, roadway

---

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LICENSED PROFESSIONAL ENGINEER
08/15/2025

EROSION CONTROL DETAILS

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 29 OF 52

2025- -SWP

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh2502683-dtEROS.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
ALL PROJECT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, PLANS AND SPECIFICATIONS FURNISHED BY HR GREEN DEVELOPMENT TX, LLC UNDER THIS PROJECT ARE INTENDED FOR USE ON THIS PROJECT ONLY. ANY REUSE, WITHOUT SPECIFIC WRITTEN VERIFICATION OR ADOPTION BY HR GREEN DEVELOPMENT TX, LLC, SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS COMPANY FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEYS' FEES ARISING OUT OF OR RESULTING THEREFROM.

NOTES:
1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI CONCRETE.
2. STORM SEWER PIPE MATERIAL TO BE R.C.P. (CLASS III) UNLESS OTHERWISE APPROVED BY THE CITY OF GEORGETOWN.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
CURB INLET DETAIL	SD09
	NTS 1/2003

NOTES:
1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI CONCRETE.
2. STORM SEWER PIPE MATERIAL TO BE R.C.P. (CLASS III) UNLESS OTHERWISE APPROVED BY THE CITY OF GEORGETOWN.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
CURB DRAIN INLET TYPICAL SECTION	SD10
	NTS 1/2003

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

NOTES:
1. STANDARD STORM SEWER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480A V–1420\,1480A\ COVER TO BE STAMPED WITH "STORM SEWER".
2. STANDARD STORM SEWER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 41420012 00145391.
4. FOR BOLTED STORM SEWER MANHOLE SET REFER TO DETAIL SD11A.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
STANDARD STORM SEWER MANHOLE SET	SD11
	NTS 1/2003

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

NOTES:
1. BOLTED STORM SEWER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480APT V–1420\,1480215PT. COVER TO BE STAMPED WITH "STORM SEWER"
2. BOLTED STORM SEWER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 00148393 41420015.
4. FOR STANDARD STORM SEWER MANHOLE SET REFER TO DETAIL SD11.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
BOLTED STORM SEWER MANHOLE SET	SD11A
	NTS 1/2006

MANHOLE PLAN

CITY OF GEORGETOWN NOTES:

MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

A. ALL MANHOLES SHALL BE 48" I.D. R.C.P., CLASS III, WITH RUBBER O–RING GASKET JOINTS CONFORMING TO ASTM C478, C433 AND C76.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW–07) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. MANHOLES MAY HAVE A FLAT LID, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY CALVERT CONCRETE OR APPROVED EQUAL M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING, AND O–RING JOINT CONFORMING TO ASTM C443.
F. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C–923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE–TENTH OF A FOOT (0.1').
H. GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM OF FIVE (5) GRADE RINGS ARE ALLOWED.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
STANDARD STORM SEWER MANHOLE PLAN	SD12
	NTS 1/2003

NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C–478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF–SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH STORM SEWER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE. REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS–20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
STANDARD STORM SEWER MANHOLE – SECTION	SD13
	NTS 1/2003

MINIMUM RIP–RAP QUANTITIES	
PIPE	SQ. YDS.
18"	6.2
24"	6.9
27"	7.8
30"	9.5
36"	10.4
42"	12.0
48"	14.3
54"	16.4

NOTES:
1. WHEN HEADWALLS AND WINGWALLS ARE REQUIRED, THEY SHALL CONFORM TO THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARDS, OR AS DIRECTED BY THE CITY.
2. ENERGY DISSIPATERS SHALL BE REQUIRED IF PIPE VELOCITY IS GREATER THAN 5.0 F.P.S. OR AS DIRECTED BY THE CITY OF GEORGETOWN.
3. SUPPORT REINFORCING WIRE MESH REQUIRED AS SUPPORT FOR APPROACH SLAB AND SHALL BE SUPPORTED BY REBAR CHAIRS OR OTHER APPROVED METHODS.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
TYPICAL CONCRETE RIP–RAP AT PIPE	SD19
	NTS 1/2003

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
CONCRETE TRANCH CAP DETAIL FOR STORM SEWER	SD39
	NTS 1/2003

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

NOTES:
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE IN LIFTS NOT TO EXCEED 6" AND EACH LIFT THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
6. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
TRENCH, EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY FOR STORM SEWER	SD40
	NTS 1/2003

NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY FOR STORM SEWER	SD41
	NTS 1/2003

NOTES
1. PIPE SHALL BE REINFORCED CONCRETE PIPE CLASS III UNLESS THE DEPTH OF PIPE REQUIRES A STRONGER CLASS.
2. ALL FITTINGS AND WYES SHALL BE MANUFACTURED AND NOT CONSTRUCTED ON THE PROJECT WITHOUT PRIOR APPROVAL FROM THE CITY.
3. ALL JOINTS SHALL BE WRAPPED WITH MARFI–140–N GEOTEXTILE FABRIC OR APPROVED EQUIVALENT. EACH JOINT SHALL BE WRAPPED WITH 18" WIDE FABRIC CENTERED ON THE JOINT.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
TRENCH AND EMBEDMENT DETAIL (PROFILE) FOR STORM SEWER	SD42
	NTS 1/2003

RIP-RAP CLASSIFICATION SPECIFICATIONS

CLASS 1 RIP-RAP

No more than 10% of the stone will have a diameter greater than twelve (12) inches; no more than 50% of the stone will have a diameter less than ten (10) inches; and no more than 10% of the stone will have a diameter of less than six (6) inches. The thickness of the rip-rap liner will be no less than twelve (12) inches.

CLASS 2 RIP-RAP

No more than 10% of the stone will have a diameter greater than sixteen (16) inches; no more than 50% of the stone will have a diameter less than twelve (12) inches; and no more than 10% of the stone will have a diameter of less than six (6) inches. The thickness of the rip-rap liner will be no less than sixteen (16) inches.

CLASS 3 RIP-RAP

No more than 10% of the stone will have a diameter greater than twenty two (22) inches; no more than 50% of the stone will have a diameter less than sixteen (16) inches; and no more than 10% of the stone will have a diameter of less than eight (8) inches. The thickness of the rip-rap liner will be no less than twenty two (22) inches.

CLASS 4 RIP-RAP

No more than 10% of the stone will have a diameter greater than twenty seven (27) inches; no more than 50% of the stone will have a diameter less than twenty two (22) inches; and no more than 10% of the stone will have a diameter of less than ten (10) inches. The thickness of the rip-rap liner will be no less than twenty seven (27) inches.

CLASS 5 RIP-RAP

No more than 10% of the stone will have a diameter greater than thirty four (34) inches; no more than 50% of the stone will have a diameter less than twenty seven (27) inches; and no more than 10% of the stone will have a diameter of less than sixteen (16) inches. The thickness of the rip-rap liner will be no less than thirty four (34) inches.

CITY OF AUSTIN WATER AND WASTEWATER UTILITY	TYPICAL BOX MANHOLE 760 mm (30") & LARGER PIPE
Kathi L Payne 2-17-00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 506S-5

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	STANDARD HEADWALL AND ENERGY DISSIPATORS
Bill Barker 8/16/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 508S-13 1 OF 2

NOTES:
1. ALL CONCRETE SHALL BE TYPE "C" AS PER SPEC. 403S. CONCRETE FOR STURCTURES.
2. CHAMFER ALL EXTERNAL VISIBLE CORNERS.
3. DISSIPATOR BLOCKS REQUIRED ON DISCHARGE HEADWALLS ONLY.

D	457 mm (18")	533 mm (21")	610 mm (24")	685 mm (27")	765 mm (30")	838 mm (33")	914 mm (36")	1067 mm (42")	1219 mm (48")	1372 mm (54")	1524 mm (60")	
A	225 mm (9")	250 mm (10")	300 mm (12")	350 mm (14")	375 mm (15")	400 mm (16")	450 mm (18")	525 mm (21")	600 mm (24")	675 mm (27")	750 mm (30")	
B	150 mm (6")	175 mm (7")	200 mm (8")	225 mm (9")	250 mm (10")	275 mm (11")	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")	
C	2.29 m (90")	2.67 m (105")	3.05 m (120")	3.43 m (135")	3.81 m (150")	4.19 m (165")	4.57 m (180")	5.33 m (210")	6.10 m (240")	6.86 m (270")	7.62 m (300")	
L	1.37 m (54")	1.60 m (63")	1.83 m (72")	2.06 m (81")	2.29 m (90")	2.51 m (99")	2.74 m (108")	3.20 m (126")	3.66 m (144")	4.11 m (162")	4.57 m (180")	
E	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	700 mm (28")	800m (32")	900 mm (36")	1000 mm (40")	

DIMENSIONS IN MILLIMETERS. METERS AND (INCHES).
DISCHARGE VELOCITIES GREATER THAN 3 METERS/SECOND (10 fps) REQUIRE ROCK OUTLET PROTECTION.

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	STANDARD HEADWALL AND ENERGY DISSIPATORS
Bill Barker 8/16/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 508S-13 2 OF 2

NO.	REVISION	BY	DATE

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STATE OF TEXAS SHERWIN HOOSHIN 96807 LICENSED PROFESSIONAL ENGINEER
08/15/2025

STORM DETAILS

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 31 OF 52

2025- -SWP

Sheet Location: P:\Athens Dynamic\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03. ACAD\Plansets\2025\083-xSTRM.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelarquez
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SEE DETAIL WW-03

MANHOLE PLAN

CITY OF GEORGETOWN NOTES:

MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

A. ALL MANHOLES SHALL BE 48" I.D., R.C.P., CLASS III, WITH RUBBER PROFILE GASKET – SINGLE OFF–SET JOINT CONFORMING TO ASTM C478, C433 AND C76.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW–07) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. MANHOLES MAY HAVE A FLAT LID, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY HANSEN PIPE AND PRECAST OR APPROVED EQUAL. M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING AND WITH PROFILE GASKET – SINGLE OFF–SET JOINT CONFORMING TO ASTM C443.
F. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C–923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE–TENTH OF A FOOT (0.1').
H. GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM ADJUSTMENT OF 12" ARE ALLOWED.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STANDARD MANHOLE – PLAN

WW02

NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C–478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF–SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL. COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE. REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS–20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
9. MANHOLE BASE BEDDING MATERIAL SPECS, FOR 3/4" WASHED GRAVEL:
   SIDE SIZE 2", PERCENT (%) RETAINED 0
   SIDE SIZE 1 1/2", % RETAINED 0–10
   SIDE SIZE 1", % RETAINED 45–75
   SIDE SIZE 3/4", % RETAINED 85–100
   SIDE SIZE 3/8", % RETAINED 95–100

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STANDARD MANHOLE – SECTION

WW03

NOTES:
1. CONCRETE ENCASEMENT FOR DROP CONNECTION TO BE POURED INTEGRALLY WITH BOTH MANHOLE SLAB AND WALL.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO FEET (2') OR MORE ABOVE THE MAIN INVERT CHANNEL.
3. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
4. WHEN P.V.C. IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS MAY BE UTILIZED IN THE DROP ASSEMBLY ONLY.
5. MINIMUM PIPE SIZE FOR DROP IS EIGHT INCHES (8").
6. SEE STANDARD MANHOLE DETAIL (DWG. # WW–03) FOR ADDITIONAL REQUIREMENTS.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
DROP CONNECTION–PRECAST MANHOLE TYPE "A"

WW04

NOTES:
1. TO BE USED WHERE DROP IS SIX INCHES (6") TO TWO FEET (2'–0").
2. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
3. CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED SLAB TO EXTEND UNDER THE DROP CONNECTION.
4. SLOPE MANHOLE ITSELF WITH A 1:2 SLOPE FROM MANHOLE WALL TO CHANNEL.
5. INVERT SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR 4" DEEP.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
DROP CONNECTION–PRECAST MANHOLE TYPE "B"

WW05

FLOW PATTERNS FOR INVERT CHANNELS

SECTION "A–A"

NOTES:
1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
3. CHANNELS FOR FUTURE CONSTRUCTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND, AND COVERED WITH 1" OF MORTAR.
4. SLOPE MANHOLE ITSELF WITH A 1:2 SLOPE FROM MANHOLE WALL TO CHANNEL.
5. INVERT SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR 4" DEEP.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
FLOW PATTERNS FOR INVERT CHANNELS

WW06

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

NOTES:
1. STANDARD WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480A V–1420/1480Z1, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. STANDARD WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING #1420012 D01445390.
4. FOR BOLTED WASTEWATER MANHOLE SET REFER TO DETAIL WW07A.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STANDARD WASTEWATER MANHOLE SET

WW07

NOTES:
1. BOLTED WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480APT V–1420/1480Z1PT, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. BOLTED WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING D01483392 41420015.
4. FOR STANDARD WASTEWATER MANHOLE SET REFER TO DETAIL WW07.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
BOLTED WASTEWATER MANHOLE SET

WW07A

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
48"x58" TO 33"x38"x36" TALL ECCENTRIC CONCRETE SECTION

WW08

NOTES:
1. AVAILABLE WITH CAST IRON RING AND COVER CAST IN PLACE.
2. PERMITTED ONLY WITH WRITTEN APPROVAL FROM GEORGETOWN UTILITY SYSTEMS, CITY OF GEORGETOWN

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
48" MANHOLE FLAT LID

WW09

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
FLEXIBLE "SEAL BOOT" CONNECTOR

WW10

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SEWER CLEAN–OUT DETAIL

WW12

SADDLE TEE				
PART NO.	SIZE	L1	H	F
52635	8"x4"	5.625	5.059	1.448

PLASTIC TRENDS INC. – 1/8 BEND – SPIGOT					
PART NO.	SIZE	A	B	C	D
Z 408	6	11.270	6.148	1.810	6.090

NOTES:
1. FLEXIBLE SADDLE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
2. SADDLE TEE SHALL BE ORIENTATED 45° TO MAIN. (SEE SEWER SERVICE CONNECTIONS DETAIL – DWG # WW–13)
3. EXCAVATE AROUND EXISTING 8–INCH PIPE, EXPOSING SUFFICIENT ROOM FOR S.S. CLAMPS.
4. THOROUGHLY CLEAN AND DRY THE MATING SURFACE WITH RAG OR PAPER TOWEL. MAKE SURE THEY ARE FREE OF DUST AND MOISTURE.
5. MARK THE SIZE OF THE HOLE TO BE CUT USING THE GASKET SKIRT OR THE SADDLE ITSELF AS THE TEMPLATE.
6. SAW CUT THE SECTION OF THE PIPE WHERE THE SADDLE WILL BE LOCATED, WITH A SABER OR KEY HOLE SAW.
7. TEST TO MAKE SURE SADDLE FITS HOLE PROPERLY.
8. SERVICE PIPE SHALL NOT EXTEND MORE THAN ONE–HALF INCH INTO THE MAIN.
9. PLACE GASKET SKIRT AND SADDLE OVER OPENING AND TIGHTEN BAND CLAMPS EVENLY UNTIL SADDLE IS FIRMLY ATTACHED TO THE PIPE. APPLY PRESSURE ON THE SADDLE AGAINST THE PIPE WHILE TIGHTENING THE CLAMPS AS INDICATED ABOVE. DO NOT OVER TIGHTEN, DO NOT STRIP THREAD.
10. REPLACE THE BEDDING AND BACKFILL IN ACCORDANCE WITH THE TRENCH EMBEDMENT DETAIL.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
GASKETED SEWER FITTING FOR SEWER SERVICE CONNECTIONS TO EXISTING MAINS

WW13A

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER NON–PAVED AREAS

WW16

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY

WW18

NOTES:
1. SEE STANDARD MANHOLE DETAIL (DWG. # WW–03) FOR ADDITIONAL REQUIREMENTS.
2. VENT OPENING TO BE MIN. 4" ABOVE FINISHED GRADE OR MIN. 1' ABOVE 100 YEAR FLOOD ELEVATION.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TYPICAL MANHOLE WITH VENT

WW19

NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C–478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF–SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL. COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE. REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS–20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
9. MANHOLE BASE BEDDING MATERIAL SPECS, FOR 3/4" WASHED GRAVEL:
   SIDE SIZE 2", PERCENT (%) RETAINED 0 SIDE SIZE 1 1/2", % RETAINED 0–10
   SIDE SIZE 1", % RETAINED 45–75 SIDE SIZE 3/4", % RETAINED 85–100
   SIDE SIZE 3/8", % RETAINED 95–100
10. ALL PVC PIPE SHALL BE REMOVED FROM INVERT.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
PRECAST MANHOLE ON CAST–IN–PLACE FOUNDATION

WW20

NOTE:
INSTALLATION OF THE CONCRETE CASTING IS REQUIRED FOR AND APPLIES TO ALL TYPES OF MANHOLES TO BE LOCATED IN THE ROADWAY.

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

APPROVED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CONCRETE CASTING MANHOLE DETAIL

WW21

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER NON–PAVED AREAS AT ABANDONED UTILITY CROSSINGS

WW13

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LICENSED PROFESSIONAL ENGINEER
08/15/2025

WATER & WW DETAILS 1 OF 2

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 32 OF 52

2025- -SWP

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plansets\250825-dtl.dTL .dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
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CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS

ADOPTED 6/21/2006 | NTS | 1/2003 | W02

NOTES:
1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT THE CENTERLINE AS SHOWN ON DETAIL "A".
2. WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISHED GRADE.
3. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9. CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
4. ROTATE THE CORPORATION STOP SO THAT THE OPERATING NUT IS ACTUATED FROM THE VERTICAL POSITION RATHER THAN THE HORIZONTAL. SEE STD. RISER FOR CORP. STOP DETAIL, (DWG # W08).
5. SERVICE LINES SHALL BE CONTINUOUS FROM CORPORATION STOP TO CORPORATION STOP WITH NO FITTINGS IN BETWEEN.
6. SERVICE CASING SHALL NOT BE INSTALLED BY WATER JETTING UNDER ROADWAY.
7. CASING REQUIRED FOR ALL PAVEMENT CROSSINGS. 4" SDR-26 REQUIRED FOR OPEN-CUT. STEEL CASING PIPE REQUIRED FOR JACK AND BORE. LIMITS OF CASING SHOULD EXTEND SIX FEET BEYOND THE EDGE OF PAVEMENT OR BACK-OF-CURB.
8. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. METER BOX TO BE CAPABLE OF HOUSING ITRON AUTOMATIC METER READING DEVICE. USE DFW-PLASTICS, INC. PART NO. 1200.SBAMR OR APPROVED EQUAL.
11. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY. SEE DETAIL W23.
12. CASING SHALL EXTEND OUT TO WITHIN 4' INSIDE OF THE R.O.W. LINE, ON BOTH SIDES.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL WATER SERVICE-ELEVATION

ADOPTED 01/23/2013 | NTS | 1/2013 | W03

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

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SINGLE WATER SERVICE PLAN

ADOPTED 01/23/2013 | NTS | 1/2013 | W04

NOTES:
1. VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR – 6 INCHES FROM INSTALLED FINISH GRADE.
2. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL – SERIES 2500
   B. MUELLER – 2360 SERIES
   C. CLOW

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL VALVE SETTING

ADOPTED 6/21/2006 | NTS | 1/2003 | W07

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD RISER BOX FOR CORPORATION STOP

ADOPTED 6/21/2006 | NTS | 1/2003 | W08

NOTES:
1. FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. ALL FIRE HYDRANT EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED SILVER USING A HIGH GRADE ENAMEL.
4. HEEL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
5. THE FOLLOWING ARE ACCEPTABLE ARE:
   A. KENNEDY – M67
   B. AMERICAN DARLING – B-84B
   C. CLOW MEDALLION
6. DOUBLE BLUE REFLECTOR "PYE-LITES" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED AT CENTERLINE OF STREET PERPENDICULAR TO HYDRANT.
7. ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MIL. POLYETHYLENE FILM.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL FIRE HYDRANT INSTALLATION

ADOPTED 6/21/2006 | NTS | 1/2003 | W10

ALL THRUST BLOCKS SHALL BE FORMED. LAID FORMS SHALL BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO COVERING. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKS, FOR PRESSURE MAINS FOUR INCHES (4") AND GREATER, CONCRETE SHALL HAVE 2,500 P.S.I. MINIMUM STRENGTH AT TWENTY EIGHT (28) DAYS AND BEAR AGAINST UNDISTURBED STABLE SOILS. AREA OF CONTACT SHALL BE GOVERNED BY SIZE, MAXIMUM PRESSURE IN PIPE, AND BEARING CAPACITY OF SOIL. PROTECT FITTINGS, BOLTS, ETC., BY COVERING WITH VISQUEEN OR OTHER ACCEPTABLE MATERIAL. CONCRETE SHALL BE A MINIMUM OF TWELVE INCHES (12") THICK.

PIPE SIZE	THRUST BLOCK AREA REQUIRED	PIPE SIZE	THRUST BLOCK AREA REQUIRED	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	
16"	24.0 SQ. FT.			

* THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

VALVES ARE FOR 90° BENDS, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. PLUS 33% SAFETY FACTOR FOR OTHER SOILS AND PRESSURES, THE AREA REQUIRED IS IN DIRECT PROPORTION.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN

ADOPTED 6/21/2006 | NTS | 1/2003 | W11

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD AIR RELEASE VALVE FOR WATER MAIN

ADOPTED 6/21/2006 | NTS | 1/2003 | W12

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD AIR RELEASE VALVE FOR WATER MAIN

ADOPTED 6/21/2006 | NTS | 1/2003 | W13

NOTES:
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE IN LIFTS NOT TO EXCEED 6" AND EACH LIFT THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
6. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY

ADOPTED 6/21/2006 | NTS | 1/2003 | W17

NOTES:
1. TEST STATION SHALL BE HANDLEY INDUSTRIES INC. – 2 INCH CATHODIC TEST STATIONS OR APPROVED EQUAL.
2. THE 15" ABS PLASTIC BOX SHALL BE A FLANGED TOP FOR INSTALLATION AT GROUND LEVEL.
3. ALL TERMINALS ARE TO BE MADE OF SOLID BRASS.
4. PLASTIC LIDS SHALL BE COLOR BLUE AND MARKED "WATER".
5. TEST TERMINALS ARE TO BE INCORPORATED WITH HANDLEY VALVE BOXES.
6. BURY SPLICE SHALL BE 3M DIRECT BURY SPLICE (DBR) OR APPROVED EQUAL.
7. TEST STATIONS SHALL BE INSTALLED AT EACH FIRE HYDRANT LOCATION.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRACER WIRE INSTALLATION AND TEST STATION LOCATION

ADOPTED 6/21/2006 | NTS | 1/2003 | W18

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
FIRE HYDRANT SAMPLING POINT

ADOPTED 6/21/2006 | NTS | 1/2003 | W19

NOTES:
1. SEE VALVE SETTING DETAIL, DWG. #W–07.
2. ACCEPTABLE GATE VALVES ARE:
   A. MUELLER – 2360 SERIES
   B. CLOW

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
INLINE VALVE INSTALLATION

ADOPTED 6/21/2006 | NTS | 1/2003 | W21

NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY

ADOPTED 6/21/2006 | NTS | 1/2003 | W22

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
METER BOX (NON–TRAFFIC AREAS)

ADOPTED 6/21/2006 | NTS | 1/2003 | W23

DIMENSION					
PIPE SIZE	A	B	MANDREL O.D.	PIPE O.D.	WALL THINNESS
6" SDR 26	3.9"	5.0"	5.993"	6.275"	0.274"
8" SDR 26	4.5"	6.0"	7.366"	8.400"	0.323"
10" SDR 26	5.5"	7.5"	9.207"	10.500"	0.404"
12" SDR 26	7.0"	9.0"	10.961"	12.500"	0.481"
15" SDR 26	9.0"	11.5"	13.418"	15.300"	0.588"

NOTES:
1. AFTER WELDING IS COMPLETED, TRUE THE OUTSIDE DIAMETER DIMENSION. FOR THE FULL LENGTH OF "B" TO 0.010".
2. MANDREL OD MUST BE EQUAL TO 95% OF THE ID OF THE PIPE
3. ADJUSTABLE MANDREL NOT ACCEPTABLE.
4. REFERENCE THE PIPE MANUFACTURER'S SPECIFICATIONS FOR MANDREL SIZE AND SUPPLY CALCULATED DIMENSIONS IN A SUBMITTAL.
5. A PROVING RING IS REQUIRED.
6. MANDREL WILL HAVE AN ODD NUMBER OF RUNNERS (9 OR MORE).

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	PIPE MANDREL	
RECORDED COPY SIGNED BY LAURIE MOYER, P.E.	2-15-2015 APPROVED/ ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	510S-PM-SM N.T.S. STANDARD DETAIL

WATERLINE / WASTEWATER LINE CROSSING DETAIL
N.T.S.

NO.	DATE	BY	REVISION

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WATER & WW DETAILS 2 OF 2

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 33 OF 52

2025- -SWP

Sheet Location: P:\athena.donsmithberry creek crossing\commercial lot 1 & shared improvements\03_ACAD\Sheets\250508S-sht(TTL).dwg | Date Plotted: September 09, 2025 | Plotted By: rcampbell
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Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh2502683-XCOND TURN.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
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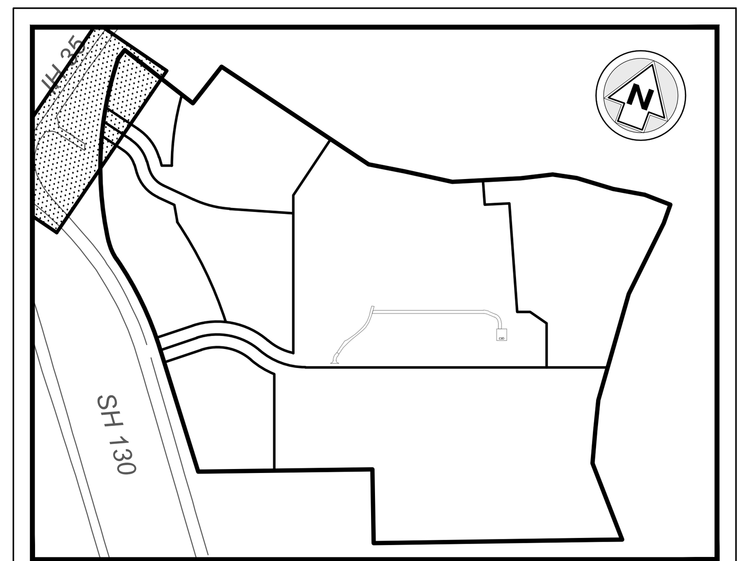


KEY MAP
N.T.S

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

LEGEND

- PROPERTY BOUNDARY
- EASEMENT
- EXISTING MAJOR CONTOUR (840)
- EXISTING MINOR CONTOUR (834)
- 100-YR FEMA FLOODPLAIN (100YR)
- EXISTING FENCE
- EXISTING WATER LINE (EX WL)
- EXISTING WASTEWATER LINE (EX WW)
- EXIST. OVERHEAD ELECTRIC (OE)
- EXIST. UNDERGROUND ELECTRIC (UE)
- EXIST. TRANSMISSION LINE (TL)
- EXIST. FIBER OPTIC CABLE (EX FO)
- EXISTING TREES
- EXISTING HERITAGE TREES
- EXISTING TREES - REMOVED
- EXISTING HERITAGE TREES - REMOVED
- EXISTING POWER POLE
- EXISTING GUY POLE
- EXISTING ELECTRIC METER
- EXISTING GRAVEL ROAD

CAUTION
EXISTING UTILITIES

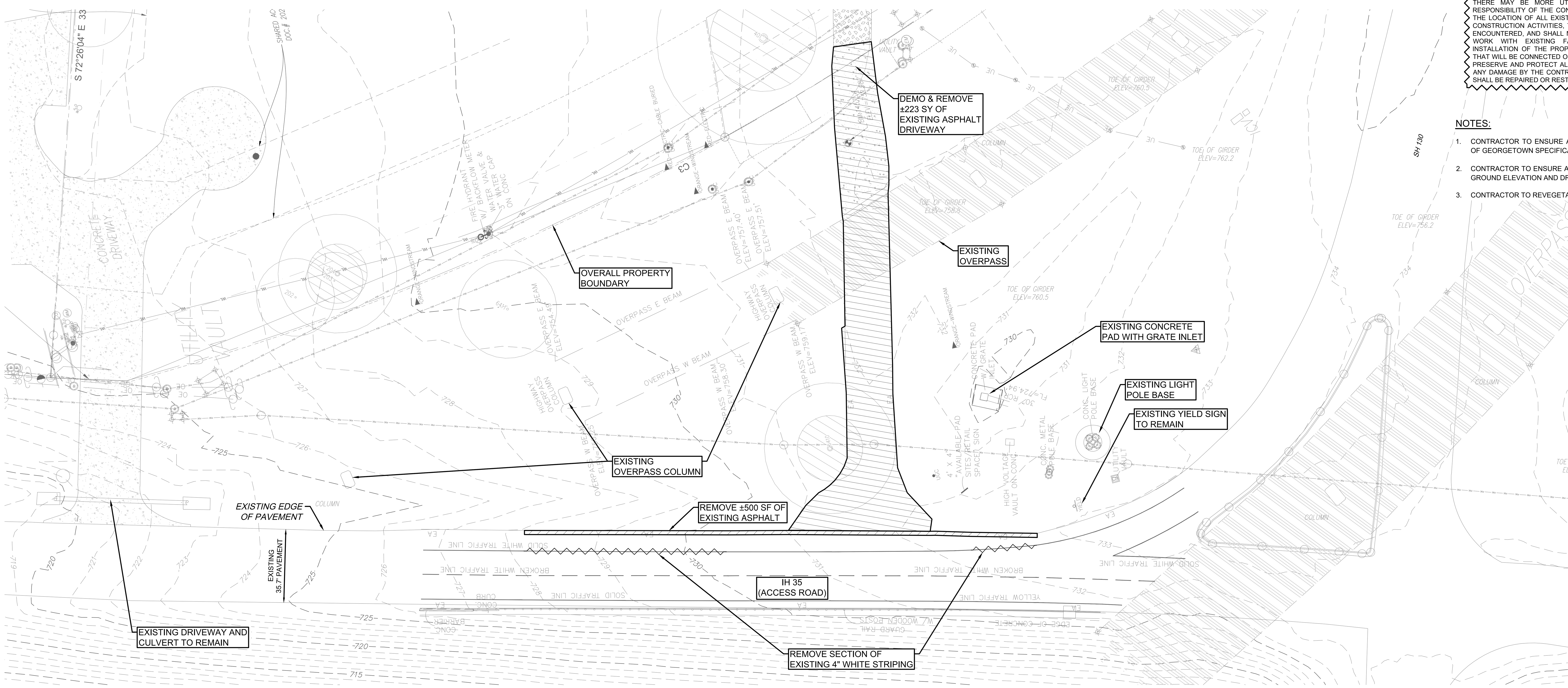
CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.

THE CONTRACTOR IS ALLOWED TO REMOVE ANY ABANDONED UNDERGROUND UTILITY PART OF THE OLD RV PARK UTILITY NETWORKS. CONTRACTOR SHALL COORDINATE THE REMOVAL OF THE EXISTING OVERHEAD ELECTRICAL LINE AND POLES WITH THE OWNER AND P.E.C..

THERE MAY BE MORE UTILITIES THAN THOSE SHOWN IN THE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO: VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES, TAKE NECESSARY PRECAUTIONS TO PROTECT ALL FACILITIES ENCOUNTERED, AND SHALL NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE PROPOSED IMPROVEMENTS WITH THE OWNER OF THE FACILITIES THAT WILL BE CONNECTED OR CROSSED OR INSTALLED NEARBY. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, BOTH KNOWN AND UNKNOWN, SHALL BE REPAIRED OR RESTORED AT THE EXPENSE OF THE CONTRACTOR.

NOTES:

1. CONTRACTOR TO ENSURE ALL DEMOLITION WORK IS PERFORMED TO TXDOT AND CITY OF GEORGETOWN SPECIFICATIONS.
2. CONTRACTOR TO ENSURE ALL DEBRIS IS REMOVED FROM SITE AND TO MATCH EXISTING GROUND ELEVATION AND DRAINAGE PATTERN CONDITION.
3. CONTRACTOR TO REVEGETATE ALL DISTURBED AREAS.



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TURN LANE EXISTING CONDITIONS & DEMO PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET **34** OF **52**

2025- -SWP

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh250983-EROS TURN.dwg | Date Plotted: August 15, 2025 | Plotted By: mvalenzuela
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EROSION AND SEDIMENTATION CONTROL NOTES:

1. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE IMPLEMENTATION, MAINTENANCE AND EFFECTIVENESS OF ALL EROSION AND SEDIMENTATION CONTROLS.
2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE, MODIFICATION AND REMOVAL DATES OF EACH EROSION AND SEDIMENTATION CONTROLS AND BMP.
3. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD, MODIFY AND REMOVE ANY EROSION AND SEDIMENTATION CONTROL ON THE SITE.
4. CONTRACTOR SHOULD UTILIZE DUST CONTROL MEASURES DURING THE SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME.
6. REFERENCE EROSION AND SEDIMENTATION CONSTRUCTION DETAILS INCLUDED IN THESE PLANS.
7. IF A DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, THE DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION OR MULCH PER CITY STANDARDS.

SEQUENCE OF MAJOR ACTIVITIES:

1. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES TO INCLUDE SILT FENCE, ROCK BERMS, AND STABILIZED CONSTRUCTION ENTRANCES WILL BE INSTALLED ACCORDING TO CONSTRUCTION PLANS AND IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
2. TREE PROTECTION MEASURES WILL ALSO BE INSTALLED FOR ALL TREES WITH CONSTRUCTION ACTIVITIES WITHIN CRITICAL ROOT ZONE.
3. TEMPORARY SPOILS, CONSTRUCTION STAGING AND CONCRETE WASHOUT AREA WILL BE CONSTRUCTED.
4. SEDIMENTATION TRAPS SHALL BE CLEANED OUT AND FILTER MEDIUM INSTALLED CONCURRENT WITH RE-VEGETATION.
5. THE DISTURBED AREA TO REMAIN PERVIOUS WILL BE VEGETATED USING THE PROCEDURES DETAILED IN THE CONSTRUCTION PLANS AND ALL TEMPORARY EROSION CONTROL MEASURES WILL BE REMOVED UPON RE-VEGETATION.
6. ALL AREAS WITHIN THE LIMITS OF CONSTRUCTION ARE EXPECTED TO BE DISTURBED DURING CONSTRUCTION.
7. TEMPORARY ROCK BERM TO BE REMOVED PRIOR TO FINAL INSPECTION.

KEY MAP
N.T.S

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- BOUNDARY LINE
- LOT LINE
- EASEMENT
- LOC — LIMITS OF CONSTRUCTION
- LOC/SF — LIMITS OF CONSTRUCTION/SILT FENCE
- SF — SILT FENCE
- TP — TREE PROTECTION
- 100YR — 100 YR FEMA FLOODPLAIN
- FLOW DIRECTION
- EXISTING TREE TO REMAIN
- EXISTING HERITAGE TREE TO REMAIN
- TREE TO BE REMOVED
- HERITAGE TREE TO BE REMOVED
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK BERM
- TEMPORARY SPOILS AREA
- STAGING AREA
- CONCRETE WASHOUT AREA

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TURN LANE EROSION CONTROL PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 35 OF 52

2025- -SWP

NO.	REVISION	BY	DATE

EXISTING DRAINAGE AREA - TxDOT

PROPOSED DRAINAGE AREA - TxDOT

N

0 100' 200'

SCALE: 1" = 100'

LEGEND

- P-1 / 5.00 Ac — DRAINAGE AREA NAME / DRAINAGE AREA (IN ACRES)
- TIME OF CONCENTRATION
- POI-15 — DRAINAGE DESIGN POINT
- DIRECTION OF FLOW
- DRAINAGE AREA
- 8.35 — EXISTING MAJOR CONTOUR
- 8.34 — EXISTING MINOR CONTOUR
- 8.35 — PROPOSED MAJOR CONTOUR
- 8.34 — PROPOSED MINOR CONTOUR
- 100YR — 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE

BERRY CREEK - TXDOT TURN LANE - EXISTING CONDITIONS
RATIONAL METHOD FLOW CALCULATIONS

BASIN	AREA	AREA	IMPERVIOUS	PERVIOUS	TC	2-YR			5-YR			10-YR			25-YR			50-YR			100-YR		
LABEL	(SQ FT)	(AC)	%	%	(MIN)	C	I	Q	C	I	Q	C	I	Q	C	I	Q	C	I	Q	C	I	Q
E1-TxDOT	80,193	1.84	3%	97%	17.0	0.22	3.58	1.46	0.22	4.82	1.96	0.22	5.78	2.35	0.22	7.11	2.89	0.22	8.16	3.32	0.22	9.27	3.77
E2-TxDOT	48,777	1.12	7%	93%	16.2	0.25	3.67	1.01	0.25	4.93	1.36	0.25	5.91	1.63	0.25	7.26	2.01	0.25	8.33	2.30	0.25	9.46	2.61

BERRY CREEK - TXDOT TURN LANE - PROPOSED CONDITIONS
RATIONAL METHOD FLOW CALCULATIONS

BASIN	AREA	AREA	IMPERVIOUS	PERVIOUS	TC	2-YR			5-YR			10-YR			25-YR			50-YR			100-YR		
LABEL	(SQ FT)	(AC)	%	%	(MIN)	C	I	Q	C	I	Q	C	I	Q	C	I	Q	C	I	Q	C	I	Q
P1-TxDOT	80,193	1.84	0%	100%	17.0	0.20	3.58	1.32	0.20	4.82	1.77	0.20	5.78	2.13	0.20	7.11	2.62	0.20	8.16	3.01	0.20	9.27	3.41
P2-TxDOT	48,777	1.12	14%	86%	10.3	0.30	4.45	1.49	0.30	5.94	1.98	0.30	7.09	2.37	0.30	8.65	2.89	0.30	9.86	3.30	0.30	11.11	3.71

Time of Concentration

Drainage Area	Sheet Flow				Shallow Concentrated Flow (Unpaved)				Gutter Flow		
	Length	Slope	Roughness Coefficient	T_{sheet}	Length	Slope	Roughness Coefficient	$T_{unpaved}$	Length	Velocity	T_{paved}
	ft	ft/ft		min	ft	ft/ft		min	ft	ft/s	min
E1-TxDOT	30	0.015	0.24	1.40	390	0.01	0.24	15.60		6.0	0.00
E2-TxDOT	30	0.015	0.24	1.40	370	0.01	0.24	14.80		6.0	0.00
P1-TxDOT	30	0.015	0.24	1.40	390	0.01	0.24	15.60		6.0	0.00
P2-TxDOT	30	0.015	0.24	1.40	207	0.01	0.24	8.28	238	6.0	0.66

NET CHANGE IN FLOW (cfs)		
	POI-01	POI-02
2 YR	-0.14	0.47
5 YR	-0.19	0.62
10 YR	-0.22	0.74
25 YR	-0.28	0.88
50 YR	-0.32	0.99
100 YR	-0.36	1.10

Rainfall Intensity-Duration-Frequency Coefficients for Texas

Based on "National Oceanic and Atmospheric Administration's (NOAA) Atlas 14
Precipitation-Frequency Atlas of the United States, Volume 11 Version 2.0: Texas" (Perica et al. 2018)

Parameter Selection
1. Select Units: English
2. Select Methodology: Annual Maximum Series (AMS)
3. Select County: WILLIAMSON
4. Select County Zone: San Gabriel River
5. Select Time of Concentration (t_C): 5 Minute

Coefficient	Design Annual Exceedance Probability (Design Annual Recurrence Interval)						
	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)	0.2% (500-year)
e	0.8119	0.8046	0.8016	0.7994	0.7991	0.7992	0.7991
b	54.2839	72.4906	87.6084	109.8397	128.9278	150.9468	213.8342
d (min)	11.4257	12.0761	12.7018	13.7038	14.6108	15.8200	19.6722
Intensity (inches/hour)	5.59	7.39	8.75	10.57	11.95	13.34	16.50

Note: Williamson County has 4 rainfall zones. Williamson County uses customized IDF zones derived by the county. Since Williamson County county has more than 1 rainfall zone, consider using the accompanying Google Earth file to accurately locate a project.

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TXDOT DRAINAGE AREA MAPS

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 36 OF 52

2025- -SWP

Sheet Location: P:\Allhena Dumain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Planset\250825-DRAIN-TxDOT.dwg | Data Plotted: August 15, 2025 | Plotted By: mwiesner
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CULVERT - TXDOT

CULVERT D		
Q_2 (cfs)	=	1.49
HGL_2 (ft)	=	0.72
HW_2 (ft)	=	0.62
Q_5 (cfs)	=	1.98
HGL_5 (ft)	=	0.77
HW_5 (ft)	=	0.73
Q_{10} (cfs)	=	2.37
HGL_{10} (ft)	=	0.81
HW_{10} (ft)	=	0.81
Q_{25} (cfs)	=	2.69
HGL_{25} (ft)	=	0.84
HW_{25} (ft)	=	0.87
Q_{50} (cfs)	=	3.3
HGL_{50} (ft)	=	0.89
HW_{50} (ft)	=	0.99
Q_{100} (cfs)	=	3.71
HGL_{100} (ft)	=	0.93
HW_{100} (ft)	=	1.06

GRADING NOTES:

1. ALL CONSTRUCTION WITH IN INTERSTATE HIGHWAY 35 (IH 35) TO BE IN ACCORDANCE WITH THESE PLANS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION SPECIFICATIONS.
2. REFER TO THE GEOTECNICAL REPORT "SUBSURFACE EXPLORATION AND FOUNDATION ANALYSIS PROPOSED NEW BERRY CREEK APARTMENTS, GEORGETOWN, TEXAS" BY INTEC, PROJECT NO. S221751, FROM SEPTEMBER 16, 2020 INCLUDING ALL REVISIONS AND ADDENDA THAT MAY HAVE BEEN RELEASED AFTER THE NOTED DATE.
3. TOPOGRAPHIC DATA SHOWN HEREON BASED ON SURVEY PROVIDED BY FOREST SURVEYING & MAPPING ON JULY 2021.
4. IF CONTRACTOR FINDS A DISCREPANCY WITH THE TOPOGRAPHIC INFORMATION ON THESE PLANS, HE/SHE SHOULD CONTACT THE CONSTRUCTION MANAGER / SUPERVISOR IMMEDIATELY.
5. ALL PROPOSED ELEVATIONS ARE TO FINISH GRADE OR NATURAL GROUND UNLESS OTHERWISE NOTED.
6. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED AND GRADED TO DRAIN.
7. ANY TEMPORARY SPOILS STOCKPILE MUST BE LOCATED OUTSIDE OF ANY TREE DRIPLINES AND IN THE TEMPORARY SPOILS AREA DESIGNATED ON THE APPROVED PLANS. ALL SURPLUS MATERIAL WILL BE DISPOSED OF OFF SITE.
8. THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE CITY ENVIRONMENTAL INSPECTOR AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO THE REMOVAL. THIS NOTIFICATION SHALL INCLUDE THE DISPOSAL LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.
9. ALL DEBRIS AND EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE IN A MANNER NOT TO DAMAGE THE OWNER PRIOR ACCEPTANCE OF THE PROJECT.
10. THE GEOTECHNICAL ENGINEER SHALL APPROVE ALL FILL MATERIAL PROVIDED PRIOR TO PLACING AND COMPACTING. THE PLASTICITY INDEX MUST BE LESS THAN 15.
11. UNLESS NOTED OTHERWISE, SPREAD FILL MATERIAL IN 8-INCH LIFTS AND COMPACT EACH LIFT TO 95% TO 105% OF THE MAXIMUM DENSITY, AS DETERMINED BY THE SDHPT TEST METHOD TEX 113-E, WITHIN +/- 3% OF THE OPTIMUM MOISTURE CONTENT FOR ALL PLACEMENT OF FILL MATERIAL.
12. ALL SLOPES GREATER THAN 3 TO 1 SHALL BE STABILIZED BY RIP RAP OR OTHER APPROVED METHODS. A STRUCTURAL ENGINEER MUST PROVIDE DETAILS FOR CONCRETE OR ROCK RIP RAP. EARTH SLOPES GREATER THAN 3 TO 1 WILL REQUIRE RECOMMENDATIONS FROM A GEOTECHNICAL ENGINEER.
13. GRADING WITHIN THE 1/2 CRITICAL ROOT ZONE OF ALL HERITAGE AND PROTECTED TREES, IDENTIFIED BY A HATCH PATTERN ON THESE PLANS, SHALL BE LIMITED TO LESS THAN 6 INCHES OF DISTURBANCE. NO GRADING ACTIVITY WITH DISTURBANCE OF MORE THAN 4 INCHES IS ALLOWED IN THE 1/4 CRITICAL ROOT ZONE.
14. GRADING WORK WITHIN THE 1/2 CRITICAL ROOT ZONE OF ALL HERITAGE TREES SHALL BE DONE BY HAND OR WITH RUBBER TIRED EQUIPMENT.
15. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TOWARD INLETS / CULVERTS.

DRAINAGE NOTES:

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. ALL PUBLIC STORM SEWER LINES SHALL BE CLASS III RCP.

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TURN LANE GRADING

BERRY CREEK CROSSING SHARED IMPROVEMENTS

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GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 37 OF 52

2025- -SWP

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plansets\20250903-TxDOT.GBPL - by | Date Plotted: August 15, 2025 | Plotted By: mwilliams
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Sewage Collection System (SCS)

Berry Creek Crossing
Shared Improvements

CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

September 9th, 2025

HR Green Project No: 2502787

Prepared For:
IH35 SH130 L.P.
6002 Camp Bullis Road
San Antonio, Texas 78257

Prepared By:
HR Green Development TX, LLC
5508 Highway 290 West, Suite 150
Austin, Texas 78735
TBPE Firm No. F-16384

09/09/2025

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Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Berry Creek Crossing Shared Improvements						**2. Regulated Entity No.:**			
3. Customer Name: IH35 SH130, LP						**4. Customer No.: CN605683812**			
5. Project Type: (Please circle/check one)	New **X**		Modification			Extension		Exception	
6. Plan Type: (Please circle/check one)	WPAP	CZP	SCS **X**	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	Residential		Non-residential **X**			**8. Site (acres):**		5.34	
9. Application Fee:	$917		**10. Permanent BMP(s):**			Batch Detention Ponds			
11. SCS (Linear Ft.):	1,834		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson County		**14. Watershed:**			Berry Creek			

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 ___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. Christine Campbell
Print Name of Customer/Authorized Agent Christine Campbell 09/09/2025 Signature of Customer/Authorized Agent Date

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

General Information Form

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Christine Campbell, P.E.

Date: 09/09/2025

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: Berry Creek Crossing Shared Improvements
2. County: Williamson
3. Stream Basin: Brazos River Basin
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Rajeev Puri
   Entity: IH35 SH130, LP
   Mailing Address: 6002 Camp Bullis Road
   City, State: San Antonio, TX Zip: 78257
   Telephone: 210-863-0717 FAX: _____
   Email Address: rpuri@athenadomain.com

8. Agent/Representative (If any):

   Contact Person: Christine Campbell
   Entity: HR Green Development TX, LLC
   Mailing Address: 5508 US Highway 290 West, Suite #150
   City, State: Austin, TX Zip: 78735
   Telephone: 512-872-6696 FAX: _____
   Email Address: christine.campbell@hrgreen.com

9. Project Location:

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

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

    Located on the northeast corner of N IH 35 & SH 130.

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

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

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

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

    ☒ Survey staking will be completed by this date: August 27, 2025

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

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

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

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

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

HRGreen.
DEVELOPMENT TX

5508 HIGHWAY 290 WEST
SUITE 150
AUSTIN, TX 78735
512.872.6696
HRGREEN.COM

TBPE NO: 16384
TBPLS NO: 10194101

BERRY CREEK CROSSING
SHARED IMPROVEMENTS

LOCATION MAP

P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\02_Engineering\Documents\Reports\Engineering Report\Exhibits\Work\Location Map.dwg, August 05, 2025, 3:01 PM, collin.robson

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

GEORGETOWN QUADRANGLE
TEXAS–WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

Edwards Aquifer Recharge Zone

Edwards Aquifer Contributing Zone

Edwards Aquifer Transition Zone

Overall Property Boundary

LAKE GEORGETOWN
ELEVATION 791

GEORGETOWN

Produced by the United States Geological Survey
Control by USGS and NOS/NOAA
Compiled from aerial photographs taken 1974. Field checked 1975
Map edited 1982
North American Datum of 1927 (NAD 27). Projection and 10 000-foot ticks: Texas Coordinate System, central zone (Lambert Conformal Conic)
Blue 1000-meter Universal Transverse Mercator ticks, zone 14
North American Datum of 1983 (NAD 83) is shown by dashed corner ticks. The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software
Red tint indicates areas in which only landmark buildings are shown
Fine red dashed lines indicate selected fence lines
Areas covered by dashed light-blue pattern are subject to controlled inundation

UTM GRID AND 1982 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION
3097-313

ROAD CLASSIFICATION
Primary highway, hard surface
Secondary highway, hard surface
Light-duty road, hard or improved surface
Unimproved road
Interstate Route
U. S. Route
State Route

GEORGETOWN, TX
30097-F6-TF-024
1982
DMA 6445 II NW-SERIES V882

ISBN 0-607-51004-8

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program

Regulatory Zones
30 TAC Chapter 213- Edwards Aquifer
Effective March 1990

This map was produced by the Groundwater Planning and Assessment Team of the Texas Commission on Environmental Quality to detail the boundaries of the regulatory zones of the Edwards Aquifer Protection Program, as described in Texas Administrative Code Title 30, Part 1, §213.3. No other claims are made to the accuracy or completeness of the data or to its suitability for a particular use. For more information about the Edwards Aquifer Protection Program, please contact the TCEQ Regional Offices in San Antonio or Austin. Printed June 2006.

ATTACHMENT C – PROJECT NARRATIVE

The Berry Creek Crossing Shared Improvements development is a proposed private right of way and utility improvements project located in the City of Georgetown and Williamson County. The project site is located within the Edwards Aquifer Recharge Zone, and within the Berry Creek watershed. The project site encompasses 5.34-acres (limits of construction) located on the northeast corner of N IH 35 & SH 130. The project site is a mix of a previously used mobile homes park and undeveloped wooded land with grass. This site is fully under the City of Georgetown's jurisdiction and is a part of the Planned Unit Development [PUD] (No. 2021-52). Runoff flows northeast towards Berry Creek. This project site is not located within the boundaries of a 100-year floodplain as defined by FEMA FIRM panel No. 48491C0292F dated December 20, 2019.

The proposed site's SCS system will be composed of a total of 1,834 LF of wastewater line. There is 1,737 LF of 8-inch (8") 115 psi (ASTM D3034) gravity wastewater pipe, 40 LF of 6-inch (6") pressure rated (ASTM D2241) wastewater pipe, and 57 LF of 6-inch (6") gravity wastewater pipe. The proposed improvements will tie into the 8" wastewater lines (permitted in 2022-74-SDP, TCEQ EAPP ID No. 11003306) to the lift station (permitted in 2022-20-CON, TCEQ EAPP ID No. 11003132). This lift station ultimately flows to the Pecan Branch WWTP for treatment. The Pecan Branch Wastewater Treatment Plant has the capacity to adequately treat the proposed peak flow.

The proposed development proposes ~1.24 acres of impervious cover (23.2%) and will have the associated runoff treated by two existing batch detention ponds approved and built per 2023-11-CON (TCEQ EAPP ID No. 11003583). Based on the 80% TSS removal requirement by TCEQ and the contribution from the previously proposed Berry Creek Apartments, we need to provide 9,611 lbs. of TSS removal for the total 11.05 acres of impervious cover proposed in Berry Creek Apartments as well as this Berry Creek Crossing Shared Improvements. The batch detention ponds are designed to handle a fully developed condition of approximately 24.02 (BDP-01) & 9.47 (BDP-02) acres of impervious cover, providing 22,525 (BDP-01) & 8,950 (BDP-02) lbs. of TSS removal respectively. As shown in the calculations, the BMPs satisfy the TSS removal requirement. The 85% TSS removal requirement by the City of Georgetown is also satisfied by the batch detention ponds.

Refer to the construction plans for water quality calculations. Refer to the attached Berry Creek Drainage Improvements for the existing batch detention pond designs and TCEQ approval (EAPP ID No. 11003583). Refer to the table below for the proposed sedimentation treatment breakdown provided.

A tree demolition schedule is included in the construction plans.

The associated combination of roadways, drainage, water quality, water, and wastewater improvements will be designed and built to serve this development.

BERRY CREEK CROSSING - FUTURE ULTIMATE CONDITION - WATER QUALITY SUMMARY										
DRAINAGE AREA	BMP TYPE	MAX TSS REMOVAL EFFICIENCY	AREA	PRE-DEVELOPMENT I.C.		POST-DEVELOPMENT I.C.		TCEQ REQUIRED 80% TSS LOAD REMOVAL	COG REQUIRED 85% TSS LOAD REMOVAL	PROVIDED TSS LOAD REMOVAL
			AC	AC	%	AC	%	LB	LB	LB
BDP-01	BATCH DETENTION POND	91%	33.62	0.00	0.0%	24.02	71.4%	20,907	22,213	22,525
BDP-02	BATCH DETENTION POND	91%	12.67	0.00	0.0%	9.47	74.8%	8,243	8,759	8,950
VFS-01	VEGETATIVE FILTER STRIP	85%	0.88	0.00	0.0%	0.26	29.2%	223	223	251
VFS-02	VEGETATIVE FILTER STRIP	85%	0.12	0.00	0.0%	0.06	50.4%	53	53	58
VFS-03	VEGETATIVE FILTER STRIP	85%	0.27	0.00	0.0%	0.11	40.6%	95	95	105
BP-01	BY-PASS		12.29	0.00	0.0%	0.47	3.8%	411	411	
BP-02	BY-PASS		0.89	0.00	0.0%	0.15	16.9%	131	131	
TOTAL:			**60.74**	**0.00**	**0%**	**34.54**	**57%**	**30,063**	**31,884**	**31,889**

aci consulting
austin • denver

GEOLOGIC ASSESSMENT FOR THE APPROXIMATELY 11.44-ACRE BERRY CREEK CROSSING TRACT

Williamson County, Texas

May 2023

Submitted to:
IH35 SH130, LP
6002 Camp Bullis Road,
San Antonio, Texas 78257

Prepared by:
aci consulting
1001 Mopac Circle
Austin, Texas 78746
TBPG Firm License No. 50260

aci project #: 22-18-029

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Geologist: Mark T. Adams Telephone: (512) 347-9000

Date: May 3, 2023 Fax: (512) 306-0974

Representing: aci Group LLC TBPG License No. 50260 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

5/5/2023

Regulated Entity Name: Berry Creek Crossing

Project Information

1. Date(s) Geologic Assessment was performed: April 20, 2023
2. Type of Project:

   ☒ WPAP ☐ AST
   ☒ SCS ☐ UST
3. Location of Project:

   ☒ Recharge Zone
   ☐ Transition Zone
   ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
See Section 4.0: Soils and Geology		

** Soil Group Definitions (Abbreviated)*

A. *Soils having a high infiltration rate when thoroughly wetted.*
B. *Soils having a moderate infiltration rate when thoroughly wetted.*
C. *Soils having a slow infiltration rate when thoroughly wetted.*
D. *Soils having a very slow infiltration rate when thoroughly wetted.*

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

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

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

   Applicant's Site Plan Scale: 1" = 100'
   Site Geologic Map Scale: 1" = 100'
   Site Soils Map Scale (if more than 1 soil type): 1" = 300'

9. Method of collecting positional data:

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

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

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

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

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

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

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

    ☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

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May 2023

Geologic Assessment for the additional 11-acre portion of the Berry Creek Crossing Tract located in Williamson County, Texas

1.0 INTRODUCTION

The Texas Commission on Environmental Quality (TCEQ) regulates activities that have the potential to pollute the Edwards Aquifer through the Edwards Aquifer Protection Program. Projects meeting a certain criterion over the Edwards Aquifer Recharge Zone must submit an Edwards Aquifer Protection Plan (EAPP).

The purpose of this report is to identify all potential pathways for contaminant movement to the Edwards Aquifer and provide sufficient geologic information so that the appropriate Best Management Practices (BMPs) can be proposed in the Edwards Aquifer Protection Plan (EAPP). This report complies with the requirements of Title 30, Texas Administrative Code (TAC) Chapter 213 relating to the protection of the Edwards Aquifer Recharge Zone. Per the Rules, the Geologic Assessment must be completed by a Geologist licensed according to the Texas Geoscience Practice Act.

2.0 PROJECT INFORMATION

The additional 11-acre portion of the Berry Creek Crossing Tract, hereafter referred to as the subject area or site, is located northeast of the intersection of Interstate Highway 35 and Texas 130 Toll, in the City of Georgetown, Williamson County Texas (**Attachment A, Figure 1**). Pedestrian investigations of the 11.44-acre tract were performed on January 2, 2018, by Andrew Marlow, G.I.T., and Marcos Cardenas, under the supervision of Mark Adams, P.G. with **aci consulting**. Previous investigations of a larger 47-acre portion of the Berry Creek Crossing Tract, located immediately south of the 11.44-acre subject area, were conducted by **aci consulting** in June of 2018. The findings for that portion of the tract are not included in this report.

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP) and Sewage Collection System Plan (SCS). The site is approximately 11.44 acres in total. The proposed site use is for high-density, mixed-use development. The scope of the report consists of a

site reconnaissance, field survey, and review of existing data and reports. Features identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards Aquifer Recharge Zone features. The ranking of the features will determine their viability as "sensitive" features.

3.0 INVESTIGATION METHODS

The following investigation methods and activities were used to develop this report:

- Review of existing files and literature to determine the regional geology and any known caves associated with the project area;
- Review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the project area, if available;
- Site reconnaissance by a registered professional geologist to identify and examine caves, recharge features, and other significant geological structures;
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone; and
- Review of historic aerial photographs to determine if there are any structural features present, and to determine any past disturbances on the subject property.

4.0 SOILS AND GEOLOGY

The following includes a site-specific description of the soils, geologic stratigraphy, geologic structure, and karstic characteristics as they relate to the Edwards aquifer. Also included in this section is a review of historic aerials for presence of geologic changes or changes to manmade features in bedrock.

Soils

According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey (2023), four soil units occur within the subject property (**Attachment A, Figure 2**):

- BkrG - Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes

The Brackett component makes up 38 percent of the map unit. Slopes are 8 to 30 percent. This component is on stair stepped ridges on dissected plateaus. The parent material consists of residuum weathered from limestone. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement

in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: D.

- EaD—Eckrant cobbly clay, 1 to 8 percent slopes

The Eckrant component makes up 85 percent of the map unit. Slopes are 1 to 8 percent. This component is on ridges on dissected plateaus. The parent material consists of residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 4 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: D.

- KrB—Krum silty clay, 1 to 3 percent slopes

The Krum component makes up 100 percent of the map unit. Slopes are 1 to 3 percent. This component is on stream terraces on dissected plains. The parent material consists of clayey alluvium of Pleistocene age derived from mixed sources. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: C.

- OkA—Oakalla silty clay loam, 0 to 2 percent slopes, frequently flooded

The Oakalla component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on dissected plateaus. The parent material consists of loamy alluvium derived from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrinkswell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria. Hydrologic Soil Group: C.

Geologic Stratigraphy

According to the *Geologic Map of the Georgetown Quadrangle, Texas*, two geologic units occur within the subject property (**Attachment A, Figure 3**). These units and a description by Collins (1997) are as follows:

- Quaternary Alluvium (Qal)

"Gravel, sand, silt and clay along streams and rivers; inundated regularly. Gravel is mostly limestone and chert. Along minor drainages, includes undivided low terrace deposits. Includes some local bedrock outcrops that are undivided."

- Quaternary Undivided Alluvium (Qu)

"Sand, silt, clay, and some gravel. Includes terrace alluvium, local drainageway alluvium, and slope-wash alluvium."

Site-Specific Stratigraphic Column

Formation	Members	Thickness (Collins, 1997)
N/A	Quaternary Alluvium (Qal)	0-10 feet
N/A	Quaternary Undivided Alluvium (Qu)	0-50 feet

Geologic Structure

The geologic strata associated with the Edwards Aquifer include the Georgetown Limestone Formation of the Washita Group, the Edwards Limestone Group which is interfingered with the Comanche Peak Formation, followed by the Walnut formation, and finally the Glen Rose Formation of the Trinity Group. These Groups dip gently to the southeast and are a characterized by the Balcones Fault Escarpment, a zone of en echelon normal faults downthrown to the southeast. Locally, the dominant structural trend of faults within the area is 15°, as evidenced by the mapped fault patterns (**Attachment A, Figure 4**). Thus, all features that have a trend ranging from 0° to 30° are considered "on trend" and were awarded the additional 10 points in the Geologic Assessment Table.

The subject area is underlain by Qal and Qu (Collins 1997), which consists of unconsolidated sediments such as sand, silt, and clay deposited through fluvial processes. Evidence of erosion is apparent with various channelized drainages, steep topography, and vuggy rock located throughout the site. The majority of the site contained loose soils and organic materials typical of areas located near floodplains. No bedrock or other geologic outcrops or formations were observed within the subject area.

Karstic Characteristics

In limestone landscapes, karst is expressed by erratically developed cavernous porosity from dissolution of bedrock as water combined with weak acids moves through the subsurface. Karst terrains are typical of the Edwards Limestone, occurring across a vast region of Central Texas, including the Balcones Fault Escarpment. The features produced by karst processes include, but are not limited to, sinkholes, solution cavities, solution enlarged fractures, and caves. These features can eventually provide conduits for fluid movement such as surface water runoff, as "point recharge" to the Edwards Aquifer. Faults and manmade features within bedrock can also provide conduits for point recharge in many cases.

According to Edwards aquifer zone map produced by the TCEQ (2005), the entire subject area is within the northern segment of the Edwards aquifer Recharge Zone. Thus, all karst features identified as sensitive within the project limits have the potential to be point recharge features into the Edwards aquifer.

Review of Historic Aerials

Aerial photographs were reviewed for the site and unpaved roads can be seen on the subject property since the first aerial image dated 1941 (**Attachment C**). Structures can first be seen on the subject property in the 1974 aerial through the 1995 aerial. The paved parking lot in the northwest can first be seen in the 2004 aerial. The expansion of I-35 to the west can be seen in the 1954 aerial. I-35 is expanded again and SH-130 to the south can first be seen in the 2004 aerial. The subject property remains relatively unchanged through the 2016 aerial.

5.0 GEORGETOWN WATER QUALITY ORDINANCE

On February 24, 2015, the City of Georgetown (CoGt) passed a finalized ordinance regarding water quality regulations over the Edwards Aquifer Recharge Zone (EARZ),

which established setbacks or buffers around springs and streams in the EARZ as well as for occupied salamander sites. **aci consulting** scientists surveyed the subject area as part of the Geologic Assessment (GA) and included obtained pertinent information on springs, streams, and Georgetown Salamander Critical Habitat Units (CHUs) as part of the assessment.

aci consulting verified that the entire site is contained within the Edwards Aquifer Recharge Zone (EARZ), based on the mapped boundaries. There were no springs or mapped salamander sites or known surface or subsurface CHUs within the subject area. Additionally, there are no mapped flowlines or waterbodies within the site, according to the National Hydrography Dataset (NHD), nor are there any mapped wetlands within the site according to the National Wetland Inventory (NWI). There is one mapped flowline offsite, Berry Creek. Berry Creek is a tributary of the San Gabriel River and is located to the east of the subject area flowing to the southeast. The drainage within the subject property flows into Berry Creek. The nearest CHU for the Georgetown Salamander occurs approximately 3.5 miles southwest of the project area, along the North Fork San Gabriel River.

According to the City of Georgetown Edwards Aquifer Recharge Zone Water Quality Ordinance, the boundaries of the "Stream Buffer" are to coincide with the boundaries of the FEMA 1% floodplain or a calculated 1% floodplain, whichever is smaller. The FEMA 1% floodplain was mapped within the eastern portion of the subject property (**Figure 6)**. The developer and the engineer are aware of the floodplain and the requirement for a buffer.

6.0 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci consulting** personnel on April 20, 2023. Eight features (manmade features in bedrock and other non-karst features) were noted on the subject property. Comprehensive descriptions and recommendations for each feature can be found in **Attachment B**. Based on assessment of each feature, it was determined that there are zero sensitive karst features on the subject property, the remaining three naturally occurring features were determined to be non-sensitive. Five features were man-made features in bedrock.

7.0 REFERENCES

Collins, E.W., 1997. *Geologic Map of the Georgetown SE Quadrangle, Texas.* Bureau of Economic Geology. Austin, Texas.

(SCS) Soil Conservation Survey. 1983. Soil Survey of Williamson County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.

(TCEQ) Texas Commission on Environmental Quality. 2004. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. April 24, 2023. Austin, Texas.

(TCEQ) Texas Commission on Environmental Quality. 2005. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. April 24, 2023 Austin, Texas.

(TWDB) Texas Water Development Board. 2023. Water Data Interactive Groundwater Data Viewer. Accessed on April 24, 2023. Available at: http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer

(USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2023. WebSoilSurvey.com. Soil Survey Area: Williamson County, Texas. Date accessed: April 24, 2023.

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ATTACHMENT A

Site Maps

P:\Project Folders\22-18-029 Raheel Puri 49.31 acres\GIS\maps\GA Figures\Task 5\Figure 1_Site Location.mxd

This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

300 150 0 300 Feet

1:3,600 1 inch = 300 feet

Survey Area

aci consulting austin • denver

11.44-acre Berry Creek Crossing Tract **aci Project No.: 22-18-029**

Figure 1: Site Location Map **May 2023**

11.44-acre Berry Creek Crossing Tract

aci Project No.: 22-18-029

Figure 2: Soils

May 2023

11.44-acre Berry Creek Crossing Tract | **aci Project No.: 22-18-029**

Figure 3: Site Geology | **May 2023**

11.44-acre Berry Creek Crossing Tract **aci Project No.: 22-18-029**

Figure 4: Regional Trend **May 2023**

P:\Project Folders\22-18-029 Rajeev Puri 49.31 acres\GIS\maps\GA Figures\Task 5\Figure 5_flood.mxd

This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

300 150 0 300 Feet

1:3,600 1 inch = 300 feet

Survey Area

aci consulting austin • denver

11.44-acre Berry Creek Crossing Tract **aci Project No.: 22-18-029**

Figure 5: FEMA Flood Hazard Zones **May 2023**

ATTACHMENT B

Geologic Table
Geologic and Manmade Feature Map (Figure 6)
Feature Descriptions and Recommendations

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Berry Creek Crossing

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
F-01	30.686997	-97.655649	O	5	Qu	1.5	1.5	1	-	-	-	-	O	7	13	X	-	X	-	Hillside
F-02	30.686374	-97.655561	O	5	Qu	2	2	1	-	-	-	-	O	8	14	X	-	X	-	Hillside
F-03	30.686693	-97.655258	O	5	Qu	1	1	1	-	-	-	-	O	9	15	X	-	X	-	Hillside
MB-01	30.687202	-97.656351	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside
MB-02	30.687149	-97.656222	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside
MB-03	30.68686	-97.656285	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside
MB-04	30.687075	-97.655944	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside
MB-05	30.686416	-97.656332	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside
MB-06	30.686659	-97.656375	MB	30	Qu	?	?	?	-	-	-	-	?	10	40	-	X	X	-	Hillside

* DATUM: NAD 1983 State Plane 4203

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date 5/5/2023

Sheet __1___ of __1____

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

P:\Project Folders\22-18-029 Rojeco Port 49.31 acres\GIS mxmds\GeoA Figures\Trish 5\1 Figure 6 GeologicMap.mxd

Kgt

Qal

Qu

MB01

MB02

MB04

F01

MB03

F03

MB06

MB05

F02

Berry Creek

Hydrography

NHD-Flowlines

Geology

Qal

Qu

Kgt

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

100 50 0 100

Feet

1:1,200 1 inch = 100 Feet

Survey Area

Features

Mandmade Feature In Bedrock

Non Sensitive

STATE OF TEXAS
MARK T. ADAMS
GEOLOGY
No. 1835
LICENSED
PROFESSIONAL GEOSCIENTIST

5/5/2023

aci consulting
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11.44-acre Berry Creek Crossing Tract
Figure 6: Geologic and Manmade Feature Map

aci Project No.: 22-18-029
May 2018

F-01

GPS: 30.686997, -97.655649

This feature is an 'other natural bedrock feature', likely an animal burrow, with an apparent diameter of 1.5 feet extending 1 foot below the surface with a lateral development of 1.5 feet. The feature is located in the Quaternary Undivided Alluvium and is positioned in a floodplain. Infill material is loose soil and organic material such as sticks and leaf litter. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has no evidence of karst involvement, and that the probability of rapid infiltration is low (7 points). This feature is non-sensitive.

Recommendation: There are no protective setbacks recommended for this feature.

Photo of F-01

F-02

GPS: 30.686374, -97.655561

This feature is an 'other natural bedrock feature', likely an animal burrow, with an apparent diameter of 2 feet extending 1 foot below the surface with a lateral development of 3 feet. The feature is located in the Quaternary Undivided Alluvium and is positioned in a hillside. Infill material is loose soil and organic material such as sticks and leaf litter. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has no evidence of karst involvement, and that the probability of rapid infiltration is low (8 points). This feature is non-sensitive.

Recommendation: There are no protective setbacks recommended for this feature.

Photo of F-02

F-03

GPS: 30.686693, -97.655258

This feature is an 'other natural bedrock feature', likely an animal burrow, with an apparent diameter of 3 feet, extending 1 foot below the surface with 2 feet of lateral development. The feature is located in the Quaternary Undivided Alluvium and is positioned in a hillside. Infill material is loose soil and organic material such as sticks and leaf litter. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has no evidence of karst involvement, and that the probability of rapid infiltration is low (9 points). This feature is non-sensitive.

Recommendation: There are no protective setbacks recommended for this feature.

Photo of F-03

MB-01

GPS: 30.687202, -97.656351

This feature is a manmade feature in bedrock (water, electric, and gas utilities) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-01

MB-02

GPS: 30.687149, -97.656222

This feature is a manmade feature in bedrock (a parking lot with several storm drains) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-02

MB-03

GPS: 30.68686, -97.656285

This feature is a manmade feature in bedrock (a water meter) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-03

MB-04

GPS: 30.687075, -97.655944

This feature is a manmade feature in bedrock (a valve box) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-04

MB-05

GPS: 30.686416, -97.656332

This feature is a manmade feature in bedrock (underground telecommunications cable) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-05

MB-06
GPS: 30.686659, -97.656375
This feature is a manmade feature in bedrock (water utilities) with unknown dimensions. The feature is located in the Quaternary Undivided Alluvium and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points in order to bring to the attention of the engineer.

Recommendation: No setbacks are required for this feature. However, this feature should be brought to the attention of the engineer.

Photo of MB-06

ATTACHMENT C

Historic Aerial Photographs

Prepared for:

ACI CONSULTING
1001 Mopac Circle
Austin, TX 78746

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Historical Aerial Photographs

Bishop Tract

Williamson County, TX

PO #: 22-18-029

ES-128472

Friday, July 6, 2018

Date: 2016
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2012
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2008
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2004
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1995
Source: USGS

0 250 500 1,000 Feet

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1988
Source: TXDOT

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1981
Source: USGS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1974
Source: USGS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1964
Source: ASCS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1954
Source: AMS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1941
Source: ASCS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

AERIAL SOURCE DEFINITIONS

Acronym	Agency
AerialOK	Aerial Oklahoma
AMS	Army Mapping Service
ASCS	Agricultural Stabilization & Conservation Service
EDAC	Earth Data Analysis Center
Fairchild	Fairchild Aerial Surveys
LDOT	Louisiana Department of Transportation
TXDOT	Texas Department of Transportation
USNavy	United States Navy
USAF	United States Air Force
USCOE	United States Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WALLACE	Wallace-Zingery Aerial Surveys
WSDOT	Washington State Department of Transportation

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aci consulting
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GEOLOGIC ASSESSMENT
FOR THE
BERRY CREEK CROSSING TRACT

Williamson County, Texas

August, 2021
Revised July, 2022

Prepared for:
IH35 SH130, LP
6002 Camp Bullis Road,
San Antonio, Texas 78257

Prepared by:
aci Group, LLC
1001 Mopac Circle
Austin, Texas 78746
TBPG Firm License No. 50260

aci project #: 22-18-029

DISCLAIMER: *This Geologic Assessment is prepared solely for the benefit of the above referenced party and for use by the TCEQ in conjunction with the attached application. Use by any other party and for any other purpose is strictly prohibited. Modification and reuse of all or any portion of this Geologic Assessment is prohibited. All copyrights reserved to aci consulting.*

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Geologist: Mark T. Adams Telephone: (512) 347-9000

Date: 8/20/2021 Fax: (512) 306-0974

Representing: aci Group LLC TBPG License No. 50260 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Berry Creek Crossing

Project Information

1. Date(s) Geologic Assessment was performed: June 28, 2018
2. Type of Project:
   - ☒ WPAP
   - ☒ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
See Attachment F		

** Soil Group Definitions (Abbreviated)*

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

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

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

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

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

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

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

   Applicant's Site Plan Scale: 1" = 100'
   Site Geologic Map Scale: 1" = 100'
   Site Soils Map Scale (if more than 1 soil type): 1" = 400'

9. Method of collecting positional data:

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

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

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

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

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

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

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

    ☒ There are 1 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☒ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

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August 20, 2021 Revised July 2022

Geologic Assessment for the Berry Creek Crossing Tract located in Williamson County, Texas

1.0 INTRODUCTION

The purpose of this assessment is to identify karst or non-karst features and their recharge potential. This report complies with the requirements of Title 30, Texas Administrative Code (TAC) Chapter 213 relating to the protection of the Edwards aquifer recharge zone.

The Berry Creek Crossing Tract, hereafter referred to as the subject area or site, is located northeast of the intersection of Interstate Highway 35 and Texas 130 Toll, in the City of Georgetown, Williamson County, Texas (**Attachment D, Figure 1**).

2.0 PROJECT INFORMATION

Pedestrian investigations of the subject area were performed on Thursday, June 28, 2018, by Mark Adams, P.G., Luke Rome, G.I.T. and Eric Brown with **aci consulting**.

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP) and/or Sewage Collection System (SCS). The proposed site use is for high-density, mixed-use development. The scope of the report consists of a site reconnaissance, field survey, and review of existing data and reports. Features identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards aquifer recharge zone features. The ranking of the features will determine their viability as "sensitive" features.

According to the Edwards aquifer zone maps, the entire subject area is within the northern segment of the Edwards aquifer recharge zone (TCEQ 2005).

3.0 INVESTIGATION METHODS

The following investigation methods and activities were used to develop this report:

- Review of existing files and literature to determine the regional geology and any known caves associated with the project area;
- Review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the project area, if available;
- Site reconnaissance by a registered professional geologist to identify and examine caves, recharge features, and other significant geological structures;
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone; and
- Review of historic aerial photographs to determine if there are any structural features present, and to determine any past disturbances on the subject property.

4.0 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci consulting** personnel on June 28, 2018, previous and subsequent field work. There were no sensitive karst features identified on the subject property. There were several man-made features in bedrock, including water well, a wastewater lift station, and underground utilities associated with recreational vehicle connections. These man-made features were marked as sensitive to bring them to the attention of the engineer; however, they will not require protective buffers.

Note: Information provided by the engineer identified several other MB features, and the report is updated to reflect these additions.

5.0 RECOMMENDATIONS

No recommendations are made for this site because there are no sensitive karst features identified on site.

6.0 REFERENCES

Collins, E.W., 1997. *Geologic Map of the Georgetown SE Quadrangle, Texas.* Bureau of Economic Geology. Austin, Texas.

(SCS) Soil Conservation Survey. 1983. Soil Survey of Williamson County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.

(TCEQ) Texas Commission on Environmental Quality. 2004. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. October 1, 2004. Austin, Texas.

(TCEQ) Texas Commission on Environmental Quality. 2005. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. September 1, 2005. Austin, Texas.

(USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2018. WebSoilSurvey.com. Soil Survey Area: Williamson County, Texas. Date accessed: July 3, 2018.

GEOLOGIC ASSESSMENT TABLE — PROJECT NAME: Berry Creek Crossing

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
BT-01	30.68442	-97.65143	MB	30	Qu	-	-	-	-	-	-	-	-	30	60		X	X		Hillside
BT-02	30.68482	-97.653396	MB	30	Qu	-	-	-	-	-	-	-	-	30	60		X	X		Hillside
BT-03	30.68556	-97.652335	MB	30	Qu	3	3	-	-	-	-	-	-	30	60		X	X		Hillside
BT-04	30.68487	-97.65509	MB	30	Qu	-	-	-	-	-	-	-	-	30	60		X	X		Hillside
BT-05	30.68588	-97.65527	MB	30	Qu	-	-	-	-	-	-	-	-	30	60		X	X		Hillside

* DATUM: NAD 1983

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

STATE OF TEXAS — MARK T. ADAMS — GEOLOGY — No. 1835 — LICENSED — PROFESSIONAL GEOSCIENTIST

Date: 8/20/2021 Updated: 7/27/2022

Sheet ___1___ of ___1___

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

ATTACHMENT B
Stratigraphic Column

The 46.9-acre Berry Creek Crossing Tract, Williamson County

Formation	Members	Mapped Thickness
Quaternary Alluvium (Qal)	Quaternary Alluvium	0-10 feet (on site)
Quaternary Terrace Deposits (Qt)	N/A	Not within subject area
Quaternary Undivided Alluvium (Qu)	N/A	0-50 feet (on site)
Georgetown Formation (Kgt)	Georgetown Limestone	Not within subject area

ATTACHMENT C
Site Geology

Karstic Characteristics

In limestone terrains, karst is expressed by erratically developed cavernous porosity and the manifestations of sinkholes, voids, and erratic surface drainage. Karst landscapes are typical of the Edwards Limestone, occurring across a vast region of Central Texas, west of the Balcones Escarpment, and these processes are critical to understanding the Edwards aquifer within its various segments. The features produced by karst processes (voids, holes, and solution layers) eventually provide conduits for surface water runoff and "point recharge" for the Edwards aquifer. The identification and protection of these features in established recharge areas is critical to maintaining groundwater quality and species habitat. The TCEQ require protective strategies within these areas to maintain quantity and quality of recharge prior to, during, and upon completion of construction activities.

Based on the site assessment, the subject area is located in the Quaternary Undivided Alluvium (Qu) and the Quaternary Alluvium (Qal) deposits (**Attachment D, Figure 3**). The stratigraphy, and structure of the site geology are discussed below.

Stratigraphy (Collins 1997)

Quaternary Alluvium Deposits (Qal): Gravel, sand, silt and clay along streams and rivers; inundated regularly. Gravel is mostly limestone and chert. Along minor drainages, includes undivided low terrace deposits. Includes some local bedrock outcrops that are undivided.

Quaternary Terrace deposits (Qt): Gravel, sand, silt, and clay along streams and rivers. Mostly above flood level along entrenched streams and rivers. Larger deposits along San Gabriel River, Berry Creek, and Brushy Creek are as thick as 36 feet and locally may be thicker. Deposits of adjacent terraces at different elevations are mapped separately.

Quaternary Undivided Alluvium (Qu): Sand, silt, clay, and some gravel. Includes terrace alluvium, local drainageway alluvium, and slope-wash alluvium.

Georgetown Formation (Kgt): Limestone and marl. Nodular, very fossilferous; diagnostic marine megafossils include *Waconell wacoensis (*formerly *Kingena wacoensis)* and *Gryphaea washitaensis*. Rare small vugs. Uppermost Edwards aquifer strata. Thickness increases northward from ~65 feet to 110 feet.

Structure

Locally, the dominant structural trend of the area is 15°, as evidenced by the mapped fault patterns (**Attachment D, Figure 2**). Thus, all features that have a trend ranging from 0° to 30° are considered on trend and were awarded the additional 10 points in the Geologic Assessment Table.

The subject area is underlain by Quaternary Undivided Alluvium (Qu) and Quaternary Alluvium (Qal) deposits (Collins 1997). The geologic strata associated within the entire mapped site include the Georgetown Formation (Kgt) underlying (in successive order) the Quaternary Undivided, Terrace, and Alluvial deposits. These quaternary deposits include the Recent Channel Deposit, Colorado Lower Terrace, and Colorado High Terrace members.

Aerial photographs were reviewed for the site and it was determined that agricultural practices to terrace the land were used after the first aerial dated in 1941 and before the second aerial in 1954 (**Attachment E**). More grading occurred on the land along with the development of a utility site, as shown in the 1988 aerial. The construction of TX-130 was first evident in the 2004 aerial along with the development of multiple recreational vehicle utility sites to the east of TX-130 within the present subject area.

Three types of manmade features in bedrock were identified during site investigations and are detailed below, and shown on **Figure 3** in **Attachment D**. This includes a wastewater lift station, one water well with an associated pump house, and six lines of RV utility connections.

Soils discussed on the Geologic Assessment Form are delineated in **Attachment F.**

BT-01

GPS: N. 30.684421 W. -97.65143

This feature is a man-made feature in bedrock (a well and pump house) with an unknown length, width and depth. The feature is located in the Undivided Alluvium formation and is positioned on a hillside. The feature has no natural trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, this feature was assigned 30 points for relative infiltration rate to bring it to the attention of the project engineer.

Recommendation: This feature needs to be brought to the attention of the engineer.

Photo of BT-01

Photo of BT-01

BT-02

GPS: N. 30.684818 W. -97.653396

This feature is a Man-made feature in bedrock (Recreational Vehicle Electric/water/septic connections and septic fields) with an unknown length, width, and depth. The feature consists of eight different plots of utility connections within the western and central portion of the 46.9-acre tract. *Two septic fields were reported by the engineer, Diego Rojas*, located northeast and southwest of these utility connections.* The feature is located in the Undivided Alluvium formation and is positioned on a hillside. The feature has no natural trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, this feature was assigned 30 points for relative infiltration rate to bring it to the attention of the project engineer.

Recommendation: This feature should be brought to the attention of the engineer.

Photo of BT-02

**Diego Rojas, PE, CFM.*
Project Manager – Land Development
HR Green, Inc.

Photo of BT-02

BT-03

GPS: N. 30.685561 W. -97.652335

This feature is a Man-made feature in bedrock with an approximate length and width of three feet. *This feature was identified as a wastewater lift station and additional photos were provided by the engineer*. The feature is located in the Undivided Alluvium formation and is positioned on a hillside. Infill material is unknown. The feature has no natural trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, this feature was assigned 30 points for relative infiltration rate to keep it consistent with other man-made features in bedrock.

Recommendation: There are no setbacks recommended for this feature.

Photo of BT-03

Additional photo of BT-03

Additional photo of BT-03

BT-04

GPS: N. 30.68487 W. -97.65509

This feature is a man-made feature in bedrock (a wastewater grinder lift station) with an unknown length, width and depth. The feature is located in the Undivided Alluvium formation and is positioned on a hillside. The feature has no natural trend, and a drainage area of less than 1.6 acres. The location and photos for this feature were provided by the engineer, Diego Rojas. In using Figure 1 in Instructions to Geologists, this feature was assigned 30 points for relative infiltration rate to keep it consistent with other man-made features in bedrock.

***Recommendation**: There are no setbacks recommended for this feature.*

Photo of BT-04

Photo of BT-04

BT-05

GPS: N. 30.68588 W. -97.65527

This feature is a man-made feature in bedrock (a wastewater grinder lift station) with an unknown length, width and depth. The feature is located in the Undivided Alluvium formation and is positioned on a hillside. The feature has no natural trend, and a drainage area of less than 1.6 acres. The location and photos for this feature were provided by the engineer, Diego Rojas. In using Figure 1 in Instructions to Geologists, this feature was assigned 30 points for relative infiltration rate to keep it consistent with other man-made features in bedrock.

***Recommendation**: There are no setbacks recommended for this feature.*

Photos of BT-05

ATTACHMENT D
Site Maps

Berry Creek Crossing **aci Project No.: 22-18-029**

Figure 1: Site Location Map **August 2021**

Berry Creek Crossing **aci Project No.: 22-18-029**

Figure 2: Regional Trend **August 2021**

Berry Creek Crossing
Figure 3: Site Geology and Features

aci Project No.: 22-18-029
August 2021; Updated July 2022

Berry Creek Crossing **aci Project No.: 22-18-029**

Figure 4: Site Soils Map **August 2021**

ATTACHMENT E
Historical Aerial Photographs

Prepared for:

ACI CONSULTING
1001 Mopac Circle
Austin, TX 78746

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Historical Aerial Photographs

Bishop Tract

Williamson County, TX

PO #: 22-18-029

ES-128472

Friday, July 6, 2018

Date: 2016
Source: USDA

0 250 500 1,000 Feet

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Date: 2012
Source: USDA

0 250 500 1,000 Feet

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Date: 2008
Source: USDA

0 250 500 1,000 Feet

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Date: 2004
Source: USDA

0 250 500 1,000 Feet

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Date: 1995
Source: USGS

0 250 500 1,000 Feet

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Date: 1988
Source: TXDOT

0 250 500 1,000 Feet

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Date: 1981
Source: USGS

0 250 500 1,000 Feet

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Date: 1974
Source: USGS

0 250 500 1,000 Feet

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Date: 1964
Source: ASCS

0 250 500 1,000 Feet

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Date: 1954
Source: AMS

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
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Date: 1941
Source: ASCS

0 250 500 1,000 Feet

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AERIAL SOURCE DEFINITIONS

Acronym	Agency
AerialOK	Aerial Oklahoma
AMS	Army Mapping Service
ASCS	Agricultural Stabilization & Conservation Service
EDAC	Earth Data Analysis Center
Fairchild	Fairchild Aerial Surveys
LDOT	Louisiana Department of Transportation
TXDOT	Texas Department of Transportation
USNavy	United States Navy
USAF	United States Air Force
USCOE	United States Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WALLACE	Wallace-Zingery Aerial Surveys
WSDOT	Washington State Department of Transportation

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ATTACHMENT F
Soils Table

Soil Name	Group	Thickness (feet)
Altoga silty clay loam, 3 to 5 percent slopes, eroded (AgC2)	B	>6.66
Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes (BkG)	D	1.66
Eckrant cobbly clay, 1 to 8 percent slopes (EaD)	D	1.66
Krum silty clay, 0 to 1 percent slopes (KsA)	C	>6.66
Krum silty clay, 1 to 3 percent slopes (KsB)	C	>6.66
Oakalla silty clay loam, 0 to 2 percent slopes, frequently flooded (Of)	B	>6.66

Organized Sewage Collection System Application

Texas Commission on Environmental Quality

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

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

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

Regulated Entity Name: Berry Creek Crossing Shared Improvements

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

Customer Information

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

   Contact Person: Rajeev Puri
   Entity: IH35 SH130, LP
   Mailing Address: 6002 Camp Bullis Road
   City, State: San Antonio, TX Zip: 78257
   Telephone: 210-863-0717 Fax: _____
   Email Address: rpuri@athenadomain.com
   The appropriate regional office must be informed of any changes in this information within 30 days of the change.

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

   Contact Person: Christine Campbell, P.E.
   Texas Licensed Professional Engineer's Number: 142536
   Entity: HR Green Development TX, LLC
   Mailing Address: 5508 Highway 290 West, #150
   City, State:Austin, TX Zip: 78735
   Telephone:512-872-6696 Fax:_____
   Email Address:christine.campbell@hrgreen.com

Project Information

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

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

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

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

   Total gallons/day: 0

6. Existing and anticipated infiltration/inflow is 5,340 (per City of Georgetown I&I calculations of 1,000 gallons/day/acre gallons/day. This will be addressed by: Using standard manholes and included in/out calculations for pipe design and flow determination.

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

   ☐ The WPAP application for this development was approved by letter dated _____. A copy of the approval letter is attached.
   ☒ The WPAP application for this development was submitted to the TCEQ on 09/09/2025, but has not been approved.
   ☐ A WPAP application is required for an associated project, but it has not been submitted.
   ☐ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

Pipe Diameter(Inches)	*Linear Feet (1)*	*Pipe Material (2)*	*Specifications (3)*
8"	1737	PVC SDR 26	ASTM D3034
6"	40	PVC SDR 26	ASTM D2241
6"	57	PVC SDR 26	ASTM D3034

Total Linear Feet: 1,834

(1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.
(2) Pipe Material - If PVC, state SDR value.

(3) Specifications - ASTM / ANSI / AWWA specification and class numbers should be included.

9. The sewage collection system will convey the wastewater to the Pecan Branch WWTP (name) Treatment Plant. The treatment facility is:

☒ Existing
☐ Proposed

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

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

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

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

Alignment

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

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

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

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

Manholes and Cleanouts

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

Table 2 - Manholes and Cleanouts

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
A1	28 Of 52	1+35.75	MH
A2	28 Of 52	4+90.20	MH
A3	28 Of 52	5+22.59	MH
A4	28 Of 52	7+19.27	MH
A5	27 Of 52	8+11.85	MH
A6	27 Of 52	10+65.75	MH

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
A7	27 Of 52	11+62.67	MH
A8	27 Of 52	13+62.30	MH
A9	27 Of 52	14+37.56	MH
XX3	27 Of 52	1+49.45	CO

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

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

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

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

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

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 40'.

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

20. Lateral stub-outs:

☒ The location of all lateral stub-outs are shown and labeled.

☐ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

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

22. 100-year floodplain:

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

Table 3 - 100-Year Floodplain

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

23. 5-year floodplain:

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

Table 4 - 5-Year Floodplain

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

24. ☒ Legal boundaries of the site are shown.

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

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

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

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

Table 5 - Water Line Crossings

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*
WWL C	1+38.29	Crossing	-	7.24'
WWL A	14+67.32	Crossing	-	6.12'
			-	
			-	
			-	
			-	
			-	

27. Vented Manholes:

☒ **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.
☐ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.
☐ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.
☐ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

Line	*Manhole*	*Station*	*Sheet*

Line	*Manhole*	*Station*	*Sheet*

28. Drop manholes:

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

Table 7 - Drop Manholes

Line	*Manhole*	*Station*	*Sheet*

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

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

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

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

31. Minimum flow velocity (From Appendix A)

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

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

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

Table 8 - Flows Greater Than 10 Feet per Second

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

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

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

Administrative Information

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

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

Table 9 - Standard Details

Standard Details	*Shown on Sheet*
Lateral stub-out marking **[Required]**	33 of 52
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	32 of 52
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	33 of 52
Typical trench cross-sections **[Required]**	32&33 of 52
Bolted manholes **[Required]**	32 of 52
Sewer Service lateral standard details **[Required]**	32 of 52
Clean-out at end of line **[Required, if used]**	32 of 52
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	N/A of 52
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	33 of 52
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	33 of 52

Standard Details	*Shown on Sheet*
Drop manholes **[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]**	32 of 52

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

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

    ☒ Survey staking was completed on this date: August 27, 2025

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

39. ☒ Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Organized Sewage Collection System Application** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Print Name of Licensed Professional Engineer: Christine Campbell, P.E.

Date: 09/09/2025

Place engineer's seal here:

Signature of Licensed Professional Engineer:

Christine Campbell

Appendix A-Flow Velocity Table

Flow Velocity (Flowing Full) All gravity sewer lines on the Edwards Aquifer Recharge Zone shall be designed and constructed with hydraulic slopes sufficient to give a velocity when flowing full of not less than 2.0 feet per second, and not greater than 10 feet per second. The grades shown in the following table are based on Manning's formula and an n factor of 0.013 and shall be the minimum and maximum acceptable slopes unless provisions are made otherwise.

Table 10 - Slope Velocity

Pipe Diameter(Inches)	*% Slope required for minimum flow velocity of 2.0 fps*	*% Slope which produces flow velocity of 10.0 fps*
6	0.50	12.35
8	0.33	8.40
10	0.25	6.23
12	0.20	4.88
15	0.15	3.62
18	0.11	2.83
21	0.09	2.30
24	0.08	1.93
27	0.06	1.65
30	0.055	1.43
33	0.05	1.26
36	0.045	1.12
39	0.04	1.01
>39	*	*

**For lines larger than 39 inches in diameter, the slope may be determined by Manning's formula (as shown below) to maintain a minimum velocity greater than 2.0 feet per second when flowing full and a maximum velocity less than 10 feet per second when flowing full.*

$$v = \frac{1.49}{n} \times R_h^{0.67} \times \sqrt{S}$$

Figure 1 - Manning's Formula

Where:

v = velocity (ft/sec)
n = Manning's roughness coefficient (0.013)
Rh = hydraulic radius (ft)
S = slope (ft/ft)

Attachment A - Engineering Design Report
Organized Sewage Collection System

Berry Creek Crossing
Shared Improvements

CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

September 9th, 2025

HR Green Project No: 2502787

Prepared For:
IH35 SH130, LP
6002 Camp Bullis Road
San Antonio, Texas 78626

Prepared By:
HR Green Development TX, LLC
5508 Highway 290 West, Suite 150
Austin, Texas 78735
TBPE Firm No. F-16384

09/09/2025

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INTRODUCTION

The SCS and WPAP accompanying this submittal will serve the Berry Creek Crossing Shared Improvements development.

Berry Creek Crossing is a Planned Unit Development [PUD] (No. 2021-52) located in Williamson County, Texas, within the City of Georgetown. The Berry Creek Crossing Shared Improvements project site encompasses 5.34-acres (limits of construction) within the Edwards Aquifer recharge zone and is located on the northeast corner of N IH 35 & SH 130.

The proposed site's SCS system will be composed of a total of 1,834 LF of wastewater line. There is 1,737 LF of 8-inch (8") 115 psi (ASTM D3034) gravity wastewater pipe, 40 LF of 6-inch (6") pressure rated (ASTM D2241) wastewater pipe, and 57 LF of 6-inch (6") gravity wastewater pipe. The proposed improvements will tie into the 8" wastewater lines (permitted in 2022-74-SDP, TCEQ EAPP ID No. 11003306) to the lift station (permitted in 2022-20-CON, TCEQ EAPP ID No. 11003132). This lift station ultimately flows to the Pecan Branch WWTP for treatment. The Pecan Branch Wastewater Treatment Plant has the capacity to adequately treat the proposed peak flow.

WASTEWATER COLLECTION SYSTEM DESIGN

The wastewater collection system was designed based on a wastewater flow rate of 250 gallons per day per LUE per City of Georgetown's Criteria Manual. Based on the flow rate and slopes of the system, 8-inch gravity sewer pipe was selected for the collection system.

The SCS and waterline system will maintain 9 feet of separation as required. Although, the SCS and waterline system has two (2) water crossings within 9 feet of separation due to design constraints at the intersections.

Line	Station or Closest Point	Crossing or Parallel	Horizontal Separation Distance	Vertical Separation Distance
WWL A	14+67.32	Crossing	-	6.12'
WWL C	1+38.29	Crossing	-	7.24'

When wastewater lines are within 9 feet of a water line, the wastewater pipe will be 20 LF of pressure rated pipe (ASTM D2241) embedded in cement stabilized sand centered on the pipe's utility crossing. For further detail, refer to the Construction Plans.

The gravity sewage collection system (all PVC SDR-26) in Berry Creek Crossing Shared Improvements will remain within the TCEQ minimums for pipe slopes: 0.33 – 8.40% for 8-inch pipe. The proposed slopes on the site range from 0.50% – 8.40% for 8-inch pipe. According to Manning's equation for an 8" pipe with a manning's coefficient of 0.013 at a 0.50% slope, the velocity at full flow is 2.44 feet per second. The velocity of an 8" pipe at a slope of 8.40% is 10.00 feet per second. All gravity sewage pipe in this project will be greater than 2.0 feet per second and less than 10 feet per second when flowing full.

The gravity sewage collection system six-inch (6") PVC SDR-26 pipe will remain within the TCEQ minimum 0.50% and maximum of 12.35%.

PROPOSED TYPE OF PIPE

6" SDR-26 PROPERTIES

Pipe Compliance:	ASTM D-3034
Joint Compliance:	ASTM D-3212
Minimum Tensile Strength (psi):	7,000
Minimum Modulus of Elasticity (psi):	400,000
Average Inner Diameter (inch):	5.793
Average Outer Diameter (inch):	6.275
Wall Thickness (inch):	0.241
Approximate Trenching Width (feet):	5.583
Minimum Pipe Depth (Cover) used (feet):	10.05'
Maximum Pipe Depth (Cover) used (feet):	14.78'

8" SDR-26 PROPERTIES

Pipe Compliance:	ASTM D-3034
Joint Compliance:	ASTM D-3212
Minimum Tensile Strength (psi):	7,000
Minimum Modulus of Elasticity (psi):	400,000
Average Inner Diameter (inch):	7.754
Average Outer Diameter (inch):	8.400
Wall Thickness (inch):	0.323
Approximate Trenching Width (feet):	5.583
Minimum Pipe Depth (Cover) used (feet):	6.81'
Maximum Pipe Depth (Cover) used (feet):	15.74'

STRUCTURAL CALCULATIONS

Since the deepest wastewater pipe is less than 17 feet below ground, structural calculations have not been prepared for this SCS application.

Should you have any questions regarding this submittal, please email me at christine.campbell@hrgreen.com or call at 512-872-6696.

Sincerely,

Christine Campbell, P.E.
HR Green Development TX, LLC
TBPE FIRM #16384

TABLE 2 – MANHOLES AND CLEANOUTS (CONTINUED)

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
E1	28 OF 52	4+38.54	MH
E2	28 OF 52	5+42.58	MH

*continued from table on scs application

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: Christine Campbell, P.E.

Date: 09/09/2025

Signature of Customer/Agent:

Regulated Entity Name: Berry Creek Crossing Shared Improvements

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: Berry Creek

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.

ATTACHMENT A – SPILL RESPONSE ACTIONS

The objective of this section is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or water courses. Measures include 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 practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well-ventilated, and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the Owner and to the appropriate State or local government agency, regardless of the size.
- The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.
- The site superintendent responsible for the day-to-day site operations will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area and in the office trailer onsite.
- Any reportable quantity hydrocarbon or hazardous material spill should be reported to the TCEQ at the following 24-hour toll free number 1-800-832-8224.

For a spill of Reportable Quantity:

- Initial notification. Upon the determination that a reportable discharge or spill has occurred, the responsible person shall notify the National Response Center at (800) 424-8802 as soon as possible but not later than 24 hours after the discovery of the spill or discharge.
- Method of notification. The person responsible shall notify the agency in any reasonable manner, including by telephone, in person, or by any other method approved by the agency. In all cases, the initial notification shall provide, to the extent known, the information listed in subsection (d) of Title 30, Part I, Chapter 327, Rule §327.3. Notice provided under this section satisfies the federal requirement to notify the State Emergency Response Commission in the State of Texas.
- Notification of local government authorities. If the discharge or spill creates an imminent health threat, the person responsible shall immediately notify and cooperate with local emergency authorities. The party responsible will cooperate with the local emergency authority in providing support to implement appropriate notification and response actions. The local emergency authority, as necessary, will implement its emergency management plan, which may include notifying and evacuating affected persons. In the absence of a local emergency authority, the person responsible shall take reasonable measures to notify potentially affected people of the imminent health threat.
- As soon as possible, but no later than two (2) weeks after discovery of the spill or discharge, the Contractor shall reasonably attempt to notify the Owner (if identifiable) or Occupant of the property upon which the discharge or spill occurred as well as the occupants of any property that the Contractor believes is adversely affected.

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

Vehicle and Equipment Maintenance:

- If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.
- Regularly inspect onsite vehicles and equipment for leaks and repair immediately.
- 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.
- Always use secondary containment, such as drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
  - Place drip pans or absorbent materials under paving equipment when not in use.
  - Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
  - Promptly transfer used fluids to the proper waste or recycling drums. Do not leave full drip pans or other containers lying around.
  - Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over the 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.
  - Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all of 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.

ATTACHMENT B – POTENTIAL SOURCES OF CONTAMINATION

Once grading activities begin, erosion of bare soil during rainfall events is the most common source of contamination. Silt fences will be installed at the beginning of the grading operation to minimize the potential for transport of the soil offsite.

Asphalt products will be used on this project. After placement of asphalt, emulsion, or coatings, the applicant will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt curing time, the applicant should maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur.

During construction activities, potential sources of contamination would include petroleum products leaking from construction equipment. The contractor will be advised to keep the equipment in working order and report any spills per the spill response plan.

Other potential sources of contamination include hydraulic fluid and diesel fuel from mechanical equipment and vehicles, as well as paints and chemicals used on site. Any spills shall be handled according to the Spill Response Actions in Attachment A.

ATTACHMENT C – SEQUENCE OF MAJOR ACTIVITIES

The first activity of construction will be to install erosion control measures, consisting of silt fences, tree protection, storm drains, inlet protection, rock berms, and stabilized construction entrances. Temporary erosion control measures will remain in place throughout the duration of construction and will be required to be maintained by the contractor to ensure proper functionality, especially after storm events. All disturbed areas to remain pervious will be vegetated using the procedures detailed in the construction plans and all temporary erosion control measures will be removed upon revegetation. Construction activities associated with this application are expected to disturb approximately 5.34 acres of the site.

Major Construction Activities and Sequencing:

The major construction activities for this project will include and be sequenced as follows:

1. Established Best Management Practices shall consist of the following: silt fencing, rock berms, temporary spoils areas, concrete truck washout pits, and temporary construction entrances (Estimated area to be disturbed = 0.88 Acres). These items are to remain and be maintained throughout all construction activities.

2. Initial site mass grading operation including right-of-way and first grading. (Estimated area to be disturbed = 1.10 Acres)
3. Installation of utilities including storm, water, and wastewater (Estimated area to be disturbed = 0.46 Acres)
4. Construction of street/driveway pavement including backfill behind curbs (estimated area to be disturbed = 1.12 Acres)
5. Total Construction (estimated area to be disturbed = 5.34 Acres)
6. Final soil stabilization for the site and removal of temporary BMPs once the soil has been stabilized.

The contractor is responsible for implementing and maintaining the storm water pollution prevention plan which includes maintaining all the necessary erosion controls throughout construction.

ATTACHMENT D – TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

As shown on the Construction Erosion Control Plans, temporary BMP practices and measures will include installing silt fences, inlet protection, rock berms, stabilized construction entrances, a concrete truck washout, and a temporary spoils area prior to beginning grading operations on the site. Temporary measures are intended to provide a method of slowing the upgradient flow, onsite flow or runoff from the construction site in order to allow sediment and suspended solids to settle out of the water. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features. As a temporary BMP, silt fences will be installed to reduce pollutants. BMP measures utilized in this plan are intended to allow storm water to continue downstream after passing through for treatment.

Site Preparation:
The methodology for pollution prevention of all on-site stormwater will include a) the erection of silt fences along the downgradient boundary of the construction activities, b) installation of inlet protection at all inlets, c) installation of stabilized construction entrances to reduce the dispersion of sediment from the site, and d) installation of a construction staging area.

Construction:
All installed erosion control measures will be inspected, and if necessary, repaired before any additional construction begins, as well as periodically throughout the construction process. The contractor will be responsible for all maintenance of erosion control measures, as well as the installation of all remaining on-site control measures, including the concrete truck washout, as necessary.

ATTACHMENT E – REQUEST TO TEMPORARILY SEAL A FEATURE

There are no sensitive features on-site within Berry Creek Crossing Shared Improvements as shown in the geologic assessment and construction plans. There will be no sealing of sensitive features on the site.

ATTACHMENT F – STRUCTURAL PRACTICES

The site flows and the upgradient run off will encounter batch detention ponds.

ATTACHMENT G – DRAINAGE AREA MAPS

Refer to the construction plans attached.

ATTACHMENT H – TEMPORARY SEDIMENT POND(S) PLANS AND CALCULATIONS

The batch detention ponds will act as temporary and permanent sedimentation ponds. The existing batch detention pond (BDP-01) provides 177,195 CF of water quality volume. The existing batch detention pond (BDP-02) provides 72,050 CF of water quality volume.

The calculated temporary sedimentation pond volume required for BDP-01 is calculated below.
Calculation: Required Volume = (Rainfall Depth*Runoff Coefficient*Drainage Area*120%)
= 2.20 in. * 0.26 * 33.62 acres * 120%
= 83,769 CF

The calculated temporary sedimentation pond volume required for BDP-02 is calculated below.
Calculation: Required Volume = (Rainfall Depth*Runoff Coefficient*Drainage Area*120%)
= 1.60 in. * 0.13 * 12.87 acres * 120%
= 11,661 CF

ATTACHMENT I – INSPECTION AND MAINTENANCE FOR BMPS

See construction plans included with this application submittal.

Temporary Best Management Practices (BMPs) and measures will be used during construction to prevent pollution of groundwater, surface water and naturally occurring environmental features. Silt fences, inlet protection, rock berms, stabilized construction entrances, tree protection, concrete washout area, and a temporary spoils area will be installed prior to beginning construction and prior to commencement of any of the activities defined in the sequence of construction as Attachment C. Inspection and maintenance of the on-site controls shall be performed during the site clearing and rough grading process. Weekly inspections will be documented in an inspection report. The inspection reports will document maintenance activities, sediment removal, and any modifications to the erosion and sedimentation controls. The perimeter fence shall be regularly monitored to ensure that the buffers remain no-construction zones until the site work has been completed and authorization has been granted by the engineer. Refer to the construction plans attached for specific controls and details.

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 run-off from the site, and through the use of silt fences placed immediately downstream of disturbed areas and inlet protection at all inlets. To minimize destruction to any portion of the Recharge Zone, on-site perimeter silt fences will also be implemented for pertinent areas throughout the entirety of construction. The Contractor is expected to inspect the controls weekly and after significant rainfalls to ensure proper function. When silt accumulates six (6) inches in depth the Contractor shall promptly remove the silt from the controls.

BMPs and measures will prevent pollutants from entering surface streams or the aquifer by intercepting stormwater potentially carrying sediment and other pollutants. BMPs and measures will implement stabilized construction entrances, a construction stockpiling/staging area, and a concrete washout area to help minimize pollutant run-off and erosion generated during construction. Paved streets and driveways adjacent to these sites will be cleaned regularly to remove excess mud, dirt or rock tracked from the site. Sedimentation will be concentrated only in these areas for efficient maintenance. Water trucks will be on-site as necessary to aid be cleaned regularly to remove excess mud, dirt or rock tracked from the site. Sedimentation will be concentrated only in these areas for efficient maintenance. Water trucks will be on-site as necessary to aid in controlling dust. BMPs will be implemented to limit/prevent contaminated inflow from entering surface streams or the aquifer. These practices are to include the following measures: the use of silt fence and inlet protection. The fabricated silt fence barricade will provide help to reduce the likelihood of contaminated runoff from entering the aquifer. If any sensitive features are identified by TCEQ inspections, or during excavation or construction, measures appropriate to the sensitivity of the discovered feature will be enacted. No blasting is proposed.

<u>Temporary Erosion and Sedimentation Notes:</u>

1. The Contractor shall maintain, install erosion/sedimentation controls and tree/natural protective fencing prior to any site preparation work (clearing, grubbing or excavation).

2. The placement of erosion/sedimentation controls and tree/natural area protective fencing shall be in accordance with the TCEQ Technical Guidance Manual and the approved Erosion and Sedimentation Control Plan. No erosion controls shall be placed beyond the property lines of the site unless written permission has been obtained from adjacent property owners.
3. A pre-construction conference shall be held on-site with the Contractor, design engineer/permit applicant and Environmental Inspector after installation of the erosion/sedimentation and tree/natural area protection measures and prior to beginning any site preparation work. The Contractor shall notify the Environmental Inspector at least three (3) days prior to the meeting date.
4. Any major variation in materials or locations of controls or fences from those shown on the approved plans will require a revision and must be approved by the reviewing engineer, environmental specialist or city arborist as appropriate. Minor changes to be made as field revisions to the Erosion and Sedimentation Control Plan may be required by the Environmental Inspector during the course of construction to correct control inadequacies.
5. The Contractor is required to inspect the controls at weekly intervals and after significant rainfall events to ensure that they are functioning properly. The person(s) responsible for maintenance of controls shall immediately make any necessary repairs to damaged areas. Silt accumulation at controls must be removed when the depth reaches six (6) inches.
6. Prior to final acceptance by the City, haul roads and waterway crossing constructed for temporary Contractor access must be removed, accumulated sediment removed from the waterway and the area restored to the original grade and revegetated. All land clearing debris shall be disposed of in approved soil disposal sites.
7. All work must stop if a void in the rock substrate is discovered, which is one (1) square foot in total area, blows air from within the substrate, and/or consistently received water during any rain event. At this time it is the responsibility of the project manager to immediately contact an Environmental Inspector for further investigation.
8. 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.
9. 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 for effectiveness. Additional measures may be required if, in the opinion of the City Engineer, they are warranted.
10. 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.
11. Any dirt, mud, rocks, debris, etc., that is spilled, tracked, or otherwise deposited on any existing paved street shall be cleaned up immediately.

<u>Dewatering Operations</u>

1. Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP area under way, inspect weekly to verify continued BMP implementation.
2. Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
3. Unit-specific maintenance requirements are included with the description of each technology.
4. Sediment removed during the maintenance of a dewatering device may be either spread onsite and stabilized, or disposed of at a disposal site.
5. Sediment that is commingled with other pollutants must be disposed of in accordance with all applicable laws and regulations.

ATTACHMENT J – SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Contractors will ensure that existing vegetation is preserved where attainable and that disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to temporary seeding, permanent seeding, mulching, geotextiles, sodding, tree protection, preservation of natural vegetation and other appropriate measures. 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. Except as noted below, stabilization shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the activity has temporarily or permanently ceased. Refer to the construction plans attached for the TCEQ Notes, the Existing Conditions & Tree Survey, and the Erosion & Sedimentation Control Plan.

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

I Rajeev Puri,
Print Name

Manager,
Title - Owner/President/Other

of IH35 SH130, LP,
Corporation/Partnership/Entity Name

have authorized Christine Campbell, P.E.
Print Name of Agent/Engineer

of HR Green Development TX, LLC
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

08/29/2025
Date

THE STATE OF TEXAS §

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared RAJEEV PURI 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 29th day of AUGUST, 2025.

Joni R. Warren
NOTARY PUBLIC

JONI L. WARREN
Notary Public, State of Texas
Comm. Expires 02-24-2029
Notary ID 126815981

Joni L. Warren
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 2/24/2029

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Berry Creek Crossing Shared Improvements
Regulated Entity Location: Located on the northeast corner of SH 130 & N IH 35
Name of Customer: IH35 SH130, LP
Contact Person: Rajeev Puri Phone: 210-863-0717
Customer Reference Number (if issued):CN 605683812
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment**. This payment is being submitted to:

☐ Austin Regional Office
☒ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	1,834 L.F.	$ 917
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: Christa Caldwell Date: 09/09/2025

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Core Data Form

TCEQ Use Only

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided.)*

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 605683812		RN

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* *If new Customer, enter previous Customer below:*

IH35 SH130, 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)*
0803048814	32067566599		

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☒ Limited

Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☒ Yes ☐ No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following:*

☒ Owner ☐ Operator ☐ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

6002 Camp Bullis Road

City	State	ZIP	ZIP + 4
San Antonio	TX	78257	

16. Country Mailing Information *(if outside USA)*

17. E-Mail Address *(if applicable)*

rpuri@athernadomain.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(210) 863-0717		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC.)

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Berry Creek Crossing Shared Improvements

23. Street Address of the Regulated Entity: *(No PO Boxes)*	2800 N IH35							
	City	Georgetown	**State**	TX	**ZIP**	78626	**ZIP + 4**	
24. County	Williamson County							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	Located on the northeast corner of the intersection of N IH 35 & SH 130.

26. Nearest City	**State**	**Nearest ZIP Code**
Georgetown	TX	78626

27. Latitude (N) In Decimal:	30.687024		**28. Longitude (W) In Decimal:**	-97.655455	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	41	13N	97	39	20W

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)
1611		237310	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Right of Way Improvements

34. Mailing Address:	**6002 Camp Bullis Road**							
	City	**San Antonio**	**State**	**TX**	**ZIP**	**78257**	**ZIP + 4**	

35. E-Mail Address:	**rpuri@athenadomain.com**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(210) 863-717		**( ) -**

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☒ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Christine Campbell	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 872-6696		( ) -	christine.campbell@hrgreen.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:	HR Green Development TX, LLC	**Job Title:**	Project Manager
Name*(In Print)* **:**	Christine Campbell	**Phone:**	(512) 872-6696
Signature:		**Date:**	9/9/2025

1800734201N

Georgetown Title Company, Inc.

2018066618 DEED Total Pages: 8

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

SPECIAL WARRANTY DEED
(Williamson County, Texas)

Date: EFFECTIVE JULY 26, 2018

Grantor: MARY ANN JOSEPH AND DAN JOSEPH, SPOUSE; and VIRGINIA BISHOP, TRUSTEE OF THE VIRGINIA BISHOP DESCENDANT'S TRUST CREATED UNDER ARTICLE VI OF THE GLEN WILLBERN BISHOP AND ARLENE LELIA BISHOP LIVING TRUST UNDER AN INSTRUMENT DATED MAY 27, 2010

Grantee: IH35 SH130, LP
Address: Attn: Rajeev Puri
6002 Camp Bullis Rd
San Antonio, Texas 78257

Consideration: TEN AND 00/100 DOLLARS ($10.00) and other valuable consideration to the undersigned paid by the Grantee herein named, the receipt of which is hereby acknowledged, and the further consideration of a note of even date executed by Grantee and payable to the order of AD Acquisitions, LLC, a Texas limited liability company ("Lender"), in the principal amount of One Million Nine Hundred Thousand and No/100 ($1,900,000.00) (the "Note"). The Note is secured by a first and superior vendor's lien and superior title retained in this deed in favor of Lender and by a Deed of Trust of even date from Grantee to Marlise Kercheville, trustee.

Property (including any improvements):

49.31 acres of land, more or less, out of the JOHN BERRY SURVEY, Abstract No. 51 in Williamson County, Texas, the "Land", being more fully described by metes and bounds in **Exhibit "A"** attached hereto and made a part hereof, together with any and all improvements situated on the Land; and the right, title and interest of Grantor, if any, in and to any and all appurtenances, strips or gores, and easements, bounding the Land to the extent related to the Land; all utility capacity, water rights, mineral rights, licenses, permits, entitlements, and bonds, if any, to the extent they relate to the Land, to be used in conjunction with Grantor's adjacent property, and all other rights and benefits to the extent attributable to the Land, including rights to all personal property left on the land at closing; and the non-exclusive right to all points of ingress and egress appurtenant thereto.

Reservations from and Exceptions to Conveyance and Warranty:

This conveyance is made, delivered and accepted subject to the payment of ad valorem taxes assessed against the property conveyed for the current year, and those matters set forth in **Exhibit "B"** attached hereto and made a part hereof.

Grantor, for the consideration and subject to the reservations from and exceptions to conveyance and warranty, grants, sells, and conveys to Grantee the property, together with all and singular the rights and appurtenances thereto in anywise belonging, to have and hold it to Grantee, Grantee's heirs,

Unofficial Document

executors, administrators, successors, or assigns forever. Grantor binds Grantor and Grantor's heirs, executors, administrators, successors, and assigns to WARRANT AND FOREVER DEFEND all and singular the said premises unto the said Grantee, Grantee's heirs, administrators, successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the reservations from and exceptions to conveyance and warranty, when the claim is by, through, or under Grantor but not otherwise.

GRANTEE ACKNOWLEDGES AND AGREES THAT, OTHER THAN AS MAY BE SPECIFICALLY SET FORTH IN THE CONTRACT BETWEEN GRANTOR AND GRANTEE HAVING AN EFFECTIVE DATE OF JANUARY 17, 2018, GRANTOR HAS NOT MADE, DOES NOT MAKE AND SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS, WARRANTIES, PROMISES, COVENANTS, AGREEMENTS OR GUARANTIES OF ANY KIND OR CHARACTER WHATSOEVER, WHETHER EXPRESS OR IMPLIED, ORAL OR WRITTEN, PAST, PRESENT OR FUTURE, OF, AS TO, CONCERNING OR WITH RESPECT TO (A) THE NATURE, QUALITY OR CONDITION OF THE PROPERTY, INCLUDING, WITHOUT LIMITATION, THE WATER, SOIL AND GEOLOGY, (B) THE INCOME TO BE DERIVED FROM THE PROPERTY, (C) THE SUITABILITY OF THE PROPERTY FOR ANY AND ALL ACTIVITIES AND USES WHICH GRANTEE MAY CONDUCT THEREON, (C) THE COMPLIANCE OF OR BY THE PROPERTY OR ITS OPERATION WITH ANY LAWS, RULES, ORDINANCES OR REGULATIONS OF ANY APPLICABLE GOVERNMENTAL AUTHORITY OR BODY, INCLUDING, WITHOUT LIMITATION, THE AMERICANS WITH DISABILITIES ACT AND ANY RULES AND REGULATIONS PROMULGATED THEREUNDER OR IN CONNECTION THEREWITH, AND THE TEXAS ARCHITECTURAL BARRIERS ACT AND ANY RULES AND REGULATIONS PROMULGATED THEREUNDER OR IN CONNECTION THEREWITH, (E) THE HABITABILITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PROPERTY, OR (F) ANY OTHER MATTER WITH RESPECT TO THE PROPERTY, AND SPECIFICALLY THAT GRANTOR HAS NOT MADE, DOES NOT MAKE AND SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS REGARDING SOLID WASTE, AS DEFINED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY REGULATIONS AT 40 C.F.R., PART 261, OR THE DISPOSAL OR EXISTENCE, IN OR ON THE PROPERTY, OF ANY HAZARDOUS SUBSTANCE, AS DEFINED BY THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT OF 1980, AS AMENDED, AND APPLICABLE STATE LAWS, AND REGULATIONS PROMULGATED THEREUNDER. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT HAVING BEEN GIVEN THE OPPORTUNITY TO INSPECT THE PROPERTY, GRANTEE IS RELYING SOLELY ON ITS OWN INVESTIGATION OF THE PROPERTY AND NOT ON ANY INFORMATION PROVIDED OR TO BE PROVIDED BY GRANTOR. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT ANY INFORMATION PROVIDED OR TO BE PROVIDED WITH RESPECT TO THE PROPERTY THAT WAS OBTAINED FROM THIRD PARTIES WAS OBTAINED FROM A VARIETY OF SOURCES AND THAT GRANTOR HAS NOT MADE ANY INDEPENDENT INVESTIGATION OR VERIFICATION OF SUCH INFORMATION OBTAINED FROM ANY THIRD PARTY. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT THE SALE OF THE PROPERTY AS PROVIDED FOR HEREIN IS MADE ON AN "AS IS, WHERE IS" CONDITION AND BASIS "WITH ALL FAULTS." GRANTEE ACKNOWLEDGES AND AGREES THAT THE PROVISIONS OF THIS PARAGRAPH WERE A MATERIAL FACTOR IN THE DETERMINATION OF THE PURCHASE PRICE OF THE PROPERTY.

Lender, at Grantee's request, has paid in cash to Grantor that portion of the purchase price of the Property that is evidenced by the Note. The first and superior vendor's lien against the superior title to the Property are retained for the benefit of Lender and are transferred to Lender without recourse to Grantor.

When the context requires, singular nouns and pronouns include the plural.

Mary Ann Joseph
MARY ANN JOSEPH

Dan Joseph
DAN JOSEPH

STATE OF TEXAS *

COUNTY OF Williamson *

This instrument was acknowledged before me on JULY 26 2018 by MARY ANN JOSEPH.

LINDA GUTHRIE
Notary Public, State of Texas
Expires MARCH 07, 2022
I.D.# 617136-8

Linda Guthrie
Notary Public, State of Texas

STATE OF TEXAS *

COUNTY OF Williamson *

This instrument was acknowledged before me on JULY 26 2018 by DAN JOSEPH.

Linda Guthrie
Notary Public, State of Texas

LINDA GUTHRIE
Notary Public, State of Texas
Expires MARCH 07, 2022
I.D.# 617136-8

Unofficial Document

Virginia Bishop

VIRGINIA BISHOP, TRUSTEE OF THE VIRGINIA BISHOP DESCENDANT'S TRUST CREATED UNDER ARTICLE VI OF THE GLEN WILLBERN BISHOP AND ARLENE LELIA BISHOP LIVING TRUST UNDER AN INSTRUMENT DATED MAY 27, 2010

STATE OF TEXAS *

COUNTY OF Williamson *

This instrument was acknowledged before me on JULY 21, 2018 by VIRGINIA BISHOP, TRUSTEE OF THE VIRGINIA BISHOP DESCENDANT'S TRUST CREATED UNDER ARTICLE VI OF THE GLEN WILLBERN BISHOP AND ARLENE LELIA BISHOP LIVING TRUST UNDER AN INSTRUMENT DATED MAY 27, 2010.

Notary Public, State of Texas

LINDA GUTHRIE
Notary Public, State of Texas
Expires MARCH 07, 2022
I.D.# 617136-6

Unofficial Document

GRANTEE'S ACCEPTANCE:

IH35 SH130, LP.,
a Texas limited liability company

By: IH35 SH130 GP, LLC,
a Texas limited liability company,
its general partner

By: _____
Name: Rajeev Puri
Title: Manager

STATE OF TEXAS *

COUNTY OF BEXAR *

This instrument was acknowledged before me on JULY 25, 2018 by Rajeev Puri, Manager of IH35 SH130 GP, LLC, a Texas limited liability company acting as general partner of IH35 SH130, LP., a Texas limited partnership, on behalf of said partnership.

MARIA S. ANZALDUA
Notary Public, State of Texas
Comm. Expires 11-08-2021
Notary ID 6884464

_____
Notary Public, State of Texas

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FOREST SURVEYING AND MAPPING CO.
T.B.P.L.S Firm # 10002000
1002 Ash St.
Georgetown, Tx. 78626

EXHIBIT "A"

DESCRIPTION FOR MARY ANN JOSEPH & VIRGINIA BISHOP, TRUSTEES - AD ACQUISITIONS, LLC

BEING 49.31 ac. of the John Berry Survey, Abstract No. 51, in Williamson County, Texas; part of a tract that was described in a deed to the Glen Willbern Bishop and Arlene Lelia Bishop Living Trust (77.059 ac. less exceptions) of record in Doc. 2003097140, of the Official Public Records of Williamson County, Texas (OPRWCT). For various interests in this property see deed to Mary Ann Joseph and Virginia Bishop, Co-Trustees, as set out in Doc. 2016053295. This tract was surveyed on the ground in May of 2018 under the direction of William F. Forest, Jr., Registered Professional Land Surveyor No. 1847. Survey note: The bearing basis for this survey is the State Plane Coordinate System, Texas Central Zone Western Data VRS Network.

COMMENCING FOR REFERENCE at the Southeast corner of the said 77.059 acre tract at the approximate center of the channel of Berry Creek. This corner exists at the Northeast corner of the property of Linda Vise, Larry Wittera and Ruth Ann Sudduth, the heirs of Amelia Wittera, et. vir, the same property that was conveyed to Amelia Wittera, et. vir, as described in Vol. 472, Pg. 133 (remainder parcel, formerly 102.5 acres). This corner also exists in the West boundary of the property that is described in a deed to Williamson County (Tract II Doc. 2011066293, 210.514 ac. to centerline of creek).

THENCE with the South line of a 30 foot wide utility easement of 0.66 acres (City of Georgetown sewer easement agreement Doc. 2017009836), (L10) S 68°48'43" W 94.21 feet to an iron pin which was found on the High West bank of the creek (edge of a cliff); and S 68° 42'25" W 867.02 feet to the TRUE POINT OF BEGINNING. This corner is an iron pin which was found in the most Southerly South boundary of the said 77.059 acres, at the Southeast corner of the 4.13 acre property that was described in a Deed to Zymac Group Ltd., as filed in Doc. 2017009838.

THENCE with the boundary of the property conveyed to Zymac Group Ltd., N 21°22'49" W 285.01 feet to an iron pin which was found; and S 68°47'17" W 673.63 feet to an iron pin which was found in the East boundary of State Highway 130 (lower Northeast corner of the property conveyed to the Texas Transportation Commission, Part 2 called 2.449 ac. as described in Doc. 2004037653). It is noted that at this location access is permitted to the service road of State Highway 130. This corner exists at the Southwest corner of a utility easement granted to the public (30 feet wide, 0.937 acres), as described in Doc. 2017009837.

THENCE with West line of the said easement and the East line of State Highway 130 (Condemnation Judgement, Part 1 called 11.07 ac. as described in Doc. 2005015488); N 37°47'45" W 492.12 feet to an iron pin which was found at the beginning of a curve (C19) to the left having a radius of 1268.17 feet and a central angle of 17°44'17", 392.61 feet with the arc of the curve, the chord bears N 46°09'40" W 391.04 feet to an iron pin which was found at the beginning of a curve to the right (C18) having a radius of 200 feet and a central angle of 22° 00'13", 76.81 feet with the arc of the curve, the chord bears N 43°42'41" W 76.34 feet to an iron pin which was found at the beginning of a curve(C22).

THENCE continuing with the West line of the said utility easement and with the curved East line of State Highway 130, with a curve to the right (C16) having a radius of 1307.00 feet and a central angle of 17°40'01", 403.01 feet with the arc of the curve, the chord bears N 24°12'03" W 401.42 feet to a ½ inch capped iron pin which was found at the Northwest corner of this property, in the South boundary of the property of Larry D. Kokel and Dale Illig (73.153 ac. Doc. 9663744).

THENCE with the North boundary of the 77.059 acres and the South boundary of the 73.153 acres, as follows; S 85°29'11" E 250.15 feet to a nail found in the in south base of 44" triple oak; finding ½ inch capped iron pins at bends in the fence as follows; N 87°33'22" E 206.83 feet; and N 89°15'52" E 98.50 feet.

1 of 2

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DESCRIPTION FOR MARY ANN JOSEPH & VIRGINIA BISHOP, TRUSTEES-AD ACQUISITIONS, LLC
49.31 AC. PAGE 2

THENCE continuing with the common boundary between the 77. 059 acres and the 73.153 acres, as follows; N 74°53'10" E 353.06 feet to an iron pin which was found; and N 75°32'54" E 487.05 feet to an iron pin that was found at a corner in the South boundary of the property that is described in a deed to Larry D. Kokel and Dale Illig (73.153 ac. Doc. 9663744).

THENCE with the common boundary between the said 77.059 acres and the said 73.153 acres, generally along or near an existing fence, (L6) S 37°19'28" E 55.0 feet to an iron pin which was found at another offset corner that exists in the North line of the 77.059 ac. and the South line of the 73.153 acres.

THENCE with the common boundary between the property of Kokel and Illig and the said Bishop 77.059 acres, finding iron pins as follows; N 68°37'26" E 240.61 feet; N 68°59'47" E 380.33 feet; N 69°31' 41" E 153.31 feet to an iron pin which was found on the West bank of Berry Creek; and (L7) N 69°31'41" E 30.00 feet to a submerged point in the approximate center of the channel of Berry Creek.

THENCE downstream with the approximate center of the channel of Berry Creek following the common boundary between the said 77.059 acres and the said 210.514 acres that is described in a deed to Williamson County (Doc. 2011066293), as follows; S 05° 53'10" W 304.87 feet {this submerged point stands (L9) S 65°32'17" E 34.83 feet from an iron pin which was found at north base of 36" cotton wood tree on the bank of the creek}; continuing with the centerline of the waterway, S 04°31'49" E 427.11 feet {this submerged point stands (L8) N 20°04'19" E 32.54 feet from an iron pin which was found on the low West bank of the creek}; continuing with the approximate centerline of the waterway to submerged points as follows: S 14°39'34" E 117.74 feet; S 15°31'17" E 127.66 feet; and S 41°45'09" E 316.70 feet to the Southeast corner of the said 77.059 acres. This corner exists at the Southeast corner of an easement for utilities containing 0.66 acres (Commencing Point).

THENCE with the South line of the 77.059 acres and the North boundary of the property of Linda Vise, Larry Wittera and Ruth Ann Sudduth, and with the South line of a 30 foot wide utility easement as follows; (L10) S 68°48'43" W 94.21 feet to an iron pin which was found on the High West bank of the creek (edge of a cliff); and S 68°42'25" W 867.02 feet to the TRUE POINT OF BEGINNING.

I, WM. F. FOREST, JR., do hereby certify that this survey was made on the ground of the property legally described hereon, under my supervision in May of 2018. This description is true and correct to the best of my knowledge and belief. The attached plat identifies any significant boundary line conflicts, shortages in area, apparent protrusions, intrusions or overlapping of improvements. This property abuts a public roadway, except as shown. Ownership and easement information for this tract has not been researched except as shown on the attached plat.

TO CERTIFY WHICH, WITNESS my hand and seal at Georgetown, Texas, this the 4th day of May of 2018, A.D. File: bishop 49.31 ac.doc

WM.F. FOREST JR.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 1847

EXHIBIT "A"

2 of 2

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EXHIBIT "B"
(Permitted Encumbrances)

1. Restrictive covenants recorded in Volume 1435, Page 46 and Document No. 9844745, Official Records, Williamson County, Texas.

2. Water Pollution Abatement Plan recorded in Volume 1428, Page 902, Volume 1887, Page 211, Official Records and Document No. 2000017893, Official Public Records, Williamson County, Texas.

3. Easement as set out in instrument dated October 14, 1986, by Glen W. Bishop and recorded in Volume 1435, Page 46, Official Records, Williamson County, Texas.

4. Easement dated February 11, 1991, by Glen W. Bishop, et al to GTE Southwest Incorporated recorded in Volume 1987, Page 87, Official Records, Williamson County, Texas.

5. Affidavit to the Public regarding the operation of a secondary treatment system recorded under Document No. 2000030231, Official Public Records, Williamson County, Texas.

6. Easement dated June 15, 2004, by Glen Willbern Bishop and Arlene Lelia Bishop Living Trust to Pedernales Electric Cooperative, Inc., recorded under Document No. 2006010421, Official Public Records, Williamson County, Texas.

7. Easement dated April 7, 2010, by Glen Willbern Bishop and Arlene Bishop Living Trust to the City of Georgetown, recorded under Document No. 2010028582, Official Records, Williamson County, Texas.

8. Easement dated January 27, 2017, by Mary Ann Joseph and Virginia Bishop, Trustee to the City of Georgetown, recorded under Document No. 2017009836, Official Public Records, Williamson County, Texas.

9. Easement dated January 27, 2017, by Mary Ann Joseph and Virginia Bishop, Trustee to the City of Georgetown, recorded under Document No. 2017009837, Official Public Records, Williamson County, Texas.

10. Overhead power lines and power poles crossing the land extending onto the property owned by Larry D. Kokel and Dale Illig (Doc 9663644) to the north as shown on survey dated May 4, 2018, by Williams F. Forest, Jr., Registered Professional Land Surveyor No. 1847 of Forest Surveying & Mapping Company.

11. The effect, if any, of restrooms cinder block building and asphalt area lying in utility easement as shown on survey dated May 4, 2018, by William F. Forest, Jr., Registered Professional Surveyor No. 1847 of Forest Surveying & Mapping Company.

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FILED AND RECORDED
OFFICIAL PUBLIC RECORDS 2018066618

DEED Fee: $49.00
07/27/2018 04:07 PM LMUELLER

Nancy E. Rister, County Clerk
Williamson County, Texas

C/H Georgetown Title Company, Inc.

(3)

ELECTRONICALLY RECORDED 2022009903
Williamson County, Texas Total Pages: 8

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

SPECIAL WARRANTY DEED
(Williamson County, Texas)

Date: EFFECTIVE JANUARY 19, 2022

Grantor: KOKEL LEGACY, LLC aka KOKEL LEGACY LLC and DAS UBER MONTNEY, LLC

Grantee: IH35 SH130, LP

Address: Attn: Rajeev Puri
6002 Camp Bullis Rd
San Antonio, Texas 78257

Consideration: TEN AND 00/100 DOLLARS ($10.00) and other valuable consideration to the undersigned paid by the Grantee herein named, the receipt of which is hereby acknowledged.

Property (including any improvements):

11.438 acres of land, more or less, out of the JOHN BERRY SURVEY, Abstract No. 51 in Williamson County, Texas, the "Land", being more fully described by metes and bounds in **Exhibit "A"** attached hereto and made a part hereof, together with any and all improvements situated on the Land; and the right, title and interest of Grantor, if any, in and to any and all appurtenances, strips or gores, and easements, bounding the Land to the extent related to the Land; all utility capacity, water rights, mineral rights, licenses, permits, entitlements, and bonds, if any, to the extent they relate to the Land, to be used in conjunction with Grantor's adjacent property, and all other rights and benefits to the extent attributable to the Land, including rights to all personal property left on the land at closing; and the non-exclusive right to all points of ingress and egress appurtenant thereto.

Reservations from and Exceptions to Conveyance and Warranty:

This conveyance is made, delivered and accepted subject to the payment of ad valorem taxes assessed against the property conveyed for the current year 2022, and those matters set forth in **Exhibit "B"** attached hereto and made a part hereof.

Grantor, for the consideration and subject to the reservations from and exceptions to conveyance and warranty, grants, sells, and conveys to Grantee the property, together with all and singular the rights and appurtenances thereto in anywise belonging, to have and hold it to Grantee, Grantee's heirs, executors, administrators, successors, or assigns forever. Grantor binds Grantor and Grantor's heirs, executors, administrators, successors, and assigns to WARRANT AND FOREVER DEFEND all and singular the said premises unto the said Grantee, Grantee's heirs, administrators, successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the reservations from and exceptions to conveyance and warranty, when the claim is by, through, or under Grantor but not otherwise.

GRANTEE ACKNOWLEDGES AND AGREES THAT, OTHER THAN AS MAY BE

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SPECIFICALLY SET FORTH IN THE CONTRACT BETWEEN GRANTOR AND GRANTEE HAVING AN EFFECTIVE DATE OF JANUARY 17, 2018, GRANTOR HAS NOT MADE, DOES NOT MAKE AND SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS, WARRANTIES, PROMISES, COVENANTS, AGREEMENTS OR GUARANTIES OF ANY KIND OR CHARACTER WHATSOEVER, WHETHER EXPRESS OR IMPLIED, ORAL OR WRITTEN, PAST, PRESENT OR FUTURE, OF, AS TO, CONCERNING OR WITH RESPECT TO (A) THE NATURE, QUALITY OR CONDITION OF THE PROPERTY, INCLUDING, WITHOUT LIMITATION, THE WATER, SOIL AND GEOLOGY, (B) THE INCOME TO BE DERIVED FROM THE PROPERTY, (C) THE SUITABILITY OF THE PROPERTY FOR ANY AND ALL ACTIVITIES AND USES WHICH GRANTEE MAY CONDUCT THEREON, (C) THE COMPLIANCE OF OR BY THE PROPERTY OR ITS OPERATION WITH ANY LAWS, RULES, ORDINANCES OR REGULATIONS OF ANY APPLICABLE GOVERNMENTAL AUTHORITY OR BODY, INCLUDING, WITHOUT LIMITATION, THE AMERICANS WITH DISABILITIES ACT AND ANY RULES AND REGULATIONS PROMULGATED THEREUNDER OR IN CONNECTION THEREWITH, AND THE TEXAS ARCHITECTURAL BARRIERS ACT AND ANY RULES AND REGULATIONS PROMULGATED THEREUNDER OR IN CONNECTION THEREWITH, (E) THE HABITABILITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PROPERTY, OR (F) ANY OTHER MATTER WITH RESPECT TO THE PROPERTY, AND SPECIFICALLY THAT GRANTOR HAS NOT MADE, DOES NOT MAKE AND SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS REGARDING SOLID WASTE, AS DEFINED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY REGULATIONS AT 40 C.F.R., PART 261, OR THE DISPOSAL OR EXISTENCE, IN OR ON THE PROPERTY, OF ANY HAZARDOUS SUBSTANCE, AS DEFINED BY THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT OF 1980, AS AMENDED, AND APPLICABLE STATE LAWS, AND REGULATIONS PROMULGATED THEREUNDER. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT HAVING BEEN GIVEN THE OPPORTUNITY TO INSPECT THE PROPERTY, GRANTEE IS RELYING SOLELY ON ITS OWN INVESTIGATION OF THE PROPERTY AND NOT ON ANY INFORMATION PROVIDED OR TO BE PROVIDED BY GRANTOR. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT ANY INFORMATION PROVIDED OR TO BE PROVIDED WITH RESPECT TO THE PROPERTY THAT WAS OBTAINED FROM THIRD PARTIES WAS OBTAINED FROM A VARIETY OF SOURCES AND THAT GRANTOR HAS NOT MADE ANY INDEPENDENT INVESTIGATION OR VERIFICATION OF SUCH INFORMATION OBTAINED FROM ANY THIRD PARTY. GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT THE SALE OF THE PROPERTY AS PROVIDED FOR HEREIN IS MADE ON AN "AS IS, WHERE IS" CONDITION AND BASIS "WITH ALL FAULTS." GRANTEE ACKNOWLEDGES AND AGREES THAT THE PROVISIONS OF THIS PARAGRAPH WERE A MATERIAL FACTOR IN THE DETERMINATION OF THE PURCHASE PRICE OF THE PROPERTY.

When the context requires, singular nouns and pronouns include the plural.

KOKEL LEGACY, LLC,
a Texas limited liability company

By: _____
Larry Kokel, Manager

By: _____
Dorothy Kokel, Manager

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STATE OF TEXAS §
§
COUNTY OF Williamson §

This instrument was acknowledged before me on January 19, 2022 by Larry Kokel and Dorothy Kokel, Managers of Kokel Legacy, LLC, a Texas limited liability company, on behalf of said company.

MERLIN LESTER
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 11/10/25
NOTARY ID 727648-6

Notary Public, State of Texas

DAS UBER MONTNEY, LLC,
a Texas limited liability company

By: _____

Name: Dale Illig, President

STATE OF TEXAS §
§
COUNTY OF Williamson §

This instrument was acknowledged before me on January 19, 2022 by Dale Illig, President of Das Uber Montney, LLC, a Texas limited liability company, on behalf of said company.

MERLIN LESTER
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 11/10/25
NOTARY ID 727648-6

Notary Public, State of Texas

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GRANTEE'S ACCEPTANCE:

IH35 SH130, LP.,
a Texas limited liability company

By: **IH35 SH130 GP, LLC,**
a Texas limited liability company,
its general partner

By: _____
Name: Rajeev Puri
Title: Manager

STATE OF TEXAS §
§
COUNTY OF BEXAR §

This instrument was acknowledged before me on January 19, 2022 by Rajeev Puri, Manager of IH35 SH130 GP, LLC, a Texas limited liability company acting as general partner of IH35 SH130, LP., a Texas limited partnership, on behalf of said partnership.

JONI L. WARREN
Notary Public, State of Texas
Comm. Expires 02-24-2025
Notary ID 126815981

_____
Notary Public, State of Texas

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FOREST SURVEYING AND MAPPING CO.
T.B.P.L.S Firm # 10002000
1002 Ash St.
Georgetown, TX, 78626

DESCRIPTION FOR: IH35 SH 135, LP 11.438 Acres

BEING 11.438 acres of land, situated in the John Berry Survey, Abstract No. 51, in Williamson County, Texas, said 11.438 acres being a portion out of a 73.153 acre tract, of record to Larry D. Kokel and Dale Illig, Document No. 9663744, Official Public Records Williamson County, Texas (OPRWCT). This tract was surveyed on the ground in August of 2021 under the direction of William F. Forest, Jr., Registered Professional Land Surveyor No. 1847. Survey note: The bearing basis for this survey is the State Plane Coordinate System, Texas Central Zone (4203), and being more particularly described by metes and bounds as follows:

BEGINNING, at a ½" capped iron pin found (steel pin), marked "FOREST RPLS 1847", at the Southwest corner of said 73.153 acre tract, for the Southwest corner hereof, said point being a point in the East Right-of-Way line of State Highway 130, said point being the Northwest corner of a 49.31 acre tract, of record to IH 35 South 130, LP, Document No. 2018066618 (OPRWCT), said point being a point on a curve to the right,

THENCE, with the West boundary line of said 73.153 acre tract and the East Right-of-Way line of State Highway 130, in a northerly direction with a non-tangent curve to the right, (C1) with a Radius of 1307.00 feet, having a Chord Bearing of N 08°25'25" W, 315.10 feet, having a Central Angle of 13°50'49" and an Arc Length of 315.87 feet, to an aluminum capped iron pin found, marked "TXDOT ", said point being a point in the East Right-of-Way line of Interstate Highway 35,

THENCE, with the West boundary line of said 73.153 acre tract and the East Right-of-Way line of Interstate Highway 35, N 16°02'46" E, 37.31 feet, to a ½" iron pin found, at the Southwest corner of Lot 1 of The Tilson Subdivision, Cabinet O, Slide 263, Plat Records Williamson County, Texas (PRWCT), for the most westerly Northwest corner hereof, from which a TXDOT Type I concrete marker found, at the Northwest corner of said Lot 1, bears: N 17°34'14" E, 307.95 feet,

THENCE, departing said Right-of-Way line, with the South and East boundary lines of said Lot 1, following two (2) courses and distances:

1. S 72°26'04" E, 335.04 feet, to a ½" iron pin found, at the Southeast corner of said Lot 1, for an ell corner hereof,
2. N 17°31'40" E, 179.97 feet, to a ½" iron pin found, at the Northeast corner of said Lot 1, for the most northerly Northwest corner hereof,

THENCE, over and across said 73.153, the following nine (9) courses and distances:

1. S 76°52'26" E, 682.59 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
2. N 80°36'10" E, 142.55 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
3. N 81°59'37" E, 187.34 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
4. N 66°29'51" E, 265.54 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
5. N 62°53'41" E, 124.46 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
6. N 78°09'45" E, 94.58 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
7. N 86°05'06" E, 145.89 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
8. N 79°49'29" E, 124.49 feet, to a ½" capped iron pin set, marked "FOREST RPLS 1847", for an angle point hereof,
9. S 89°27'24" E, passing at 60.76, a ½" capped iron pin set, marked "FOREST RPLS 1847", in all a total distance of 106.21 feet, to a point submerged under water at the approximate centerline of Berry Creek, for the Northeast corner hereof, said point being a point in the East boundary line of said 73.153 acres, same being a point in the West boundary line of a 210.514 acre tract, of record to Williamson County, Tract II, Document No. 2011066293, for the Northeast corner hereof,

THENCE, with common boundary line of said 73.153 acre tract and said 210.514 acre tract, along or near the approximate center line of Berry Creek, S 01°09'18" E, 76.84 feet, to a point submerged underwater, for the Southeast corner hereof, said point being the Southeast corner of said 73.153 acre tract, same being the Northeast corner of said 49.31 acre tract,

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THENCE, departing said creek, with the common boundary line of said 73.153 acre tract and said 49.31 acre tract, the following nine (9) courses and distances:

1. S 69°31'43" W, passing at 30.00 feet, a ½" iron pin found on the West bank, in all a total of 183.34 feet, to a ½" iron pin found, for an angle point hereof,
2. S 68°59'47" W, 380.38 feet, to a ½" iron pin found, for an angle point hereof,
3. S 68°37'25" W, 240.64 feet, to a ½" capped iron pin found, marked "FOREST RPLS 1847", for an angle point hereof,
4. N 37°19'21" W, 55.01 feet, to a ½" iron pin found, for an angle point hereof,
5. S 75°32'54" W, 487.11 feet, to a ½" iron pin found, for an angle point hereof,
6. S 74°53'10" W, 353.11 feet, to a ½" capped iron pin found, marked "FOREST RPLS 1847", for an angle point hereof,
7. S 89°15'54" W, 98.51 feet, to a ½" capped iron pin found, marked "FOREST RPLS 1847", for an angle point hereof,
8. S 87°33'21" W, 206.86 feet, to nail found in the South base of 44" triple oak, for an angle point hereof,
9. N 85°30'15" W, 250.08 feet, to the POINT OF BEGINNING, and containing 11.438 acres, more or less.

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

I, WM. F. FOREST, JR., do hereby certify that this survey was made on the ground of the property legally described hereon, under my supervision. This description is true and correct to the best of my knowledge and belief. The attached plat identifies any significant boundary line conflicts, shortages in area, apparent protrusions, intrusions or overlapping of improvements. This property abuts a public roadway, except as shown. Ownership and easement information for this tract has not been researched except as shown on the attached plat.

TO CERTIFY WHICH, WITNESS my hand and seal at Georgetown, Texas, this, the 20th day of August 2021, A.D. File: IH35 SH130 11.438 Acres.doc

WM.F. FOREST JR.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 1847

Unofficial Document

EXHIBIT "B"
(Permitted Encumbrances)

1. Easement dated October 1, 1947, by Marvin R. Bishop and Mrs. Loyola Bishop to Brazos River Transmission Electric Cooperative, Inc., recorded in Volume 349, Page 454, Deed Records, Williamson County, Texas.

2. Easement dated March 4, 2010, by Larry D. Kokel and wife, Dorothy A. Kokel and Dale Illig and wife, Sandra Illig to the City of Georgetown, recorded under Document No. 2010020207, Official Public Records, Williamson County, Texas.

3. Easement dated June 17, 1997, by Dale Illig and Larry D. Kokel to Tilson Home Corporation, recorded under Document No. 9726724, Official Records and as amended under Document No. 2004086846, Official Public Records, Williamson County, Texas.

4. Matters as reflected upon survey prepared by William F Forest, Jr, R.P.L.S. #1847, Dated August 20, 2021:
   Encroachment or protrusion of fences along and over the property line(s).
   Concrete drive encroaches across property lines.
   Power poles and overhead utility lines, utilities maintenance equipment as shown.

Unofficial Document

ELECTRONICALLY RECORDED
OFFICIAL PUBLIC RECORDS

2022009903

Pages: 8 Fee: $50.00
01/24/2022 12:02 PM
MBARRICK

Nancy E. Rister, County Clerk
Williamson County,Texas

Unofficial Document

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Kelly Keel, *Interim Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 21, 2023

Mr. Rajeev Puri
IH35 SH130, LP
6002 Camp Bullis Rd.
San Antonio, TX, 78257

Re: Approval of a Water Pollution Abatement Plan (WPAP)
Berry Creek Crossing Phase 1; Located East of the IH 35 and SH 130 Intersection;
Georgetown, Williamson County, Texas
Edwards Aquifer Protection Program ID: 11003583, Regulated Entity No. RN111517496

Dear Mr. Puri

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by HR Green Development TX, LLC on behalf of the applicant, IH35 SH130, LP on May 5, 2023. Final review of the application was completed after additional material was received on June 27, 2023, July 12, 2023, and July 19, 2023.

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

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

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

PROJECT DESCRIPTION

The proposed multifamily project will have an area of approximately 60.74 acres. The project will include a multifamily development with 308 units distributed among 15 buildings, associated parking and drives, two dog parks, a turn lane, an amenity center, and associated appurtenances. The impervious cover will be 11.33 acres (18.65 percent). Project wastewater will be disposed of by conveyance to the existing Pecan Branch 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, two batch detention basins (Pond A and Pond B) and two engineered vegetated filter strips (VFS 1 and VFS 2), designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 9,865 pounds of TSS generated from the 11.33 acres of impervious cover. The approved permanent BMPs and measures meet the required 80 percent removal of the increased load in TSS caused by the project.

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

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the surficial units of the site are the Quaternary Undivided Alluvium (Qu) and Quaternary Alluvium (Qal) deposits. No sensitive geologic features were identified in the GA. The site assessment conducted on June 6, 2023 by TCEQ staff determined the site to be generally as described by the GA.

STANDARD CONDITIONS

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

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

Prior to Commencement of Construction:

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

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

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

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

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

<u>During Construction:</u>

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

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

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

11. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

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

13. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

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

After Completion of Construction:

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

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

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

This action is taken as delegated by the executive director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Colin Gearing of the Edwards Aquifer Protection Program at 512-239-7015 or the regional office at 512-339-2929.

Sincerely,

Lillian Butler

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

LIB/cmg

cc: Mr. Diego Rojas, P.E., HR Green Development TX, LLC

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Erin E. Chancellor, *Interim Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 17, 2023

Mr. Rajeev Puri
IH35 SH130, LP
6002 Camp Bullis Rd.
San Antonio, TX 78257

Re: Edwards Aquifer, Williamson County
NAME OF PROJECT: Berry Creek Apartments; Located East of IH 35 and SH 130, Georgetown, Texas
TYPE OF PLAN: Request for Modification of an Approved Organized Sewage Collection System (SCS) Plan; 30 Texas Administrative Code (TAC) Chapter 213 & 217 Edwards Aquifer
Edwards Aquifer Protection Program ID No. 11003306; Regulated Entity No. RN111587440

Dear Mr. Puri:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the organized sewage collection system plans and specifications for the referenced project submitted to the Austin Regional Office on behalf of IH35 SH130, LP by HR Green Development Texas, LLC on October 10, 2022. Final review of the SCS was completed after additional material was received on January 26, 2023 and February 14, 2023. As presented to the TCEQ, the construction documents were selected and were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213 and Chapter 217. Therefore, based on the Texas Licensed Professional Engineer's concurrence of compliance, the planning materials for construction of the proposed sewage collection system 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 (2) two years from the date of this letter unless, prior to the expiration date, more than 10 percent of construction has commenced, or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed SCS will provide disposal service for the Berry Creek Apartment complex. The 4,733 linear feet gravity SCS system will consist of the pipe lengths listed in the table below:

Pipe Diameter (inches)	Linear Feet	Pipe Material	Specification
10	557	PVC SDR-26	ASTM D3034
8	2,687	PVC SDR-26	ASTM D3034
8	140	PVC SDR-26	ASTM D2241
6	955	PVC SDR-26	ASTM D3034

6	160	PVC SDR-26	ASTM D2241
4	174	PVC SDR-26	ASTM D3034
4	60	PVC SDR-26	ASTM D2241

The system will be connected to an existing City of Georgetown wastewater line for conveyance to the existing Pecan Branch Wastewater Treatment Plant for treatment and disposal. The project is located within the City of Georgetown and will conform to all applicable codes, ordinances, and requirements of the City of Georgetown.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the site is underlain by Quaternary Undivided Alluvium (Qu) and Quaternary Alluvium (Qal) deposits. No sensitive features were identified on site. The TCEQ site assessment conducted on January 10, 2023 revealed the site to be generally in accordance with the description included in the GA.

SPECIAL CONDITIONS

I. All wastewater conveyance and treatment infrastructure shall be operational prior to any occupancy of the houses and prior to any wastewater flow being introduced into the sewage collection system.

II. It is emphasized that where wastewater lines must bridge faults, caverns, sinkholes, or solution features the lines shall be constructed in a manner that will maintain the structural integrity of the pipe. When such sensitive features area encountered, 30 TAC §213.5(f)(2) requires that all regulated activities near the feature must be immediately suspended and the owner/developer shall immediately notify the Austin Regional Office. Additionally, when such geologic features are encountered which are bridged by construction, the location and extend of those features must be assessed by a geologist and must be reported to the Austin Regional Office in writing within two working days of discovery as required by 30 TAC §213.5(c)(3)(K). Construction may not resume in the area of the feature until the executive director has reviewed and approved the methods proposed to protect the aquifer from any potential adverse impacts. See Standard Condition 9 below.

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 project location shall be provided a copy of this notice of approval. At least one complete copy of the approved SCS plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.

5. Modification to the activities described in the referenced SCS 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. The executive director will use the notification to determine if the approved plan is eligible for an extension.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved application, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

<u>During Construction:</u>

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213 and Chapter 217. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume responsibility for all provisions and conditions of this approval.
9. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
10. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
11. Intentional discharges of sediment laden stormwater during construction are not allowed. If dewatering of excavated areas becomes necessary, the discharge will be filtered through appropriately selected temporary best management practices. These may include vegetative filter strips, sediment traps, rock berms, sit fence rings, etc.
12. The following records shall be maintained by the applicant and made available to the executive director upon request: the dates trenching 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 and completed.
13. 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.
14. No part of the system shall be used as a holding tank for a pump-and-haul operation.

After Completion of Construction:

15. Certification by a Texas Licensed Professional Engineer of the testing of sewage collection systems required by 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office within 30 days of test completion and prior to the new sewage collection system being put into service. The certification should include the project name as it appeared on the approved application, the program ID number, and two copies of a site plan sheet(s) indicating the wastewater lines and manholes that were tested and are being certified as complying with the appropriate regulations. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Should any test result fail to meet passing test criteria and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
16. Every five years after the initial certification, the sewage collection system shall be retested. Any lines that fail the test must be repaired and retested. Certification that the system continues to meet the requirements of 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office. The certification should include the project name as it appeared on the approved application, the program ID number and two copies of a site plan sheet(s) indicating the wastewater lines and manholes that were tested and are being certified as complying with the appropriate regulations. Should any test result fail to meet passing test criteria, and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
17. If ownership of this organized sewage collection system is legally transferred (e.g., developer to city or Municipal Utility District), the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
18. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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 Bob Castro, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at (512) 339-2929.

Sincerely,

Lillian Butler

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

cc: Mr. Diego Rojas, P.E., HR Green Development Texas, LLC

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 12, 2022

Mr. Rajeev Puri
IH35 SH130, LP
6002 Camp Bullis Road
San Antonio, TX 78257

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Berry Creek Crossing Wastewater Improvements; Located east of the IH 35 and SH 130 intersection; Georgetown, Texas

TYPE OF PLAN: Request for Approval of an Organized Sewage Collection System (SCS) Plan; 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Regulated Entity No. RN111517496; Additional ID No. 11003132

Dear Mr. Puri:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the organized sewage collection system plans and specifications for the referenced project submitted to the Austin Regional Office on behalf of IH35 SH130, LP by HR Green Development TX, LLC on June 9, 2022. Final review of the SCS was completed after additional material was received on July 29, 2022, and August 8, 2022. As presented to the TCEQ, the construction documents were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213 and Chapter 217. Therefore, based on the Texas Licensed Professional Engineer's concurrence of compliance, the planning materials for construction of the proposed sewage collection system 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 (2) two years from the date of this letter unless, prior to the expiration date, more than 10 percent of construction has commenced, or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial and multi-family project will have an area of approximately 60.75 acres with no existing impervious cover. The collection system will provide service for development of 700 multi-family units, one convenience store, four restaurants, two office buildings, one retail building and two hotels. Approximately 3.19 acres of soil disturbance is associated to the construction of the collection system.

The proposed sewage collection system will consist of a total of 3,494 linear feet of sewer main consisting of: 54 linear feet of 10-inch diameter PVC SDR 26 gravity sewer main (ASTM D-3034); 1,460 linear feet of 12-inch diameter PVC SDR 26 gravity sewer main (ASTM D-3034); 1,960 feet of 8-inch diameter SDR 26, 160 psi pressure rated main (ASTM D-2241); 20 feet of 12-inch diameter SDR 26, 160 psi pressure rated main (ASTM D-2241); manholes, and appropriate appurtenances for the residential development.

The system will be connected to an existing City of Georgetown wastewater line for conveyance to the Pecan Branch Recycling Center for treatment and disposal. The project is located within the City of Georgetown and will conform to all applicable codes, ordinances, and requirements of the City of Georgetown.

The proposed lift station will consist of a 6-foot diameter wet well with an approximate depth of 26.2 feet, two submersible grinder pumps, and one 150 kW emergency stand-by diesel generator. Each pump will have a pumping capacity of 550 gallons per minute (gpm) at a total dynamic head (TDH) of 71.31 feet. Additional equipment will include a control panel, an audio-visual alarm, auto-dial telemetry, level pump controllers, pump supports and discharge piping with valves, and a security fence with controlled access.

GEOLOGY

According to the geologic assessment included with the application, the site is underlain by the Quaternary Undivided Alluvium and Quaternary Alluvium deposits. Three sensitive man-made features in bedrock were identified by the project geologist within the fifty-foot sewer envelope along the sewer centerline. The site assessment conducted on July 19, 2022, revealed the site was generally as described in the geologic assessment.

Three sensitive man-made features in bedrock will be mitigated during sewer construction.

Feature BT-02 consist of eight RV utility hook-up trenches with the sewer alignment crossing five of the locations. The existing underground utilities will be cut and removed from the force-main trench and a clay envelope installed around the proposed force-main to prevent any leakage from traveling along the RV hook-up trench.

Feature BT-03 is a wastewater lift station that pumped wastewater collected from Feature BT-02 to an on-site septic disposal field and feature BT-04 is a wastewater grinder lift station. Both will be removed during construction and the excavation backfilled.

SPECIAL CONDITIONS

I. The lift station shall be designed and constructed to help ensure that bypassing of any sewage does not occur. All lift stations must be designed to meet the requirements of 30 TAC §217.63.

II. Upon completion of any lift station excavation, a geologist shall certify that the excavation has been inspected for the presence of sensitive features. Certification that the excavation has been inspected must be submitted to the San Antonio Regional Office within 30 days of the inspection.

III. By the responsible engineer's dated signature and seal on the Engineering Design Report attached to the submitted application, all information therein accurately reflects the information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer in accordance with the requirements of 30 TAC 213.5 (c) and Chapter 217.

IV. Construction of impervious cover at the lift station site may not commence until approval of an Edwards Aquifer Water Pollution Abatement Application for this development.

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 project location shall be provided a copy of this notice of approval. At least one complete copy of the approved SCS plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Modification to the activities described in the referenced SCS and lift station applications 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. The executive director will use the notification to determine if the approved plan is eligible for an extension.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved application, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213 and Chapter 217. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume responsibility for all provisions and conditions of this approval.
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 reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
10. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the

executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

11. The following records shall be maintained by the applicant and made available to the executive director upon request: the dates trenching 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 and completed.

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. Intentional discharges of sediment laden stormwater during construction are not allowed. If dewatering of excavated areas becomes necessary, the discharge will be filtered through appropriately selected temporary best management practices. These may include vegetative filter strips, sediment traps, rock berms, silt fence rings, etc.

14. No part of the system shall be used as a holding tank for a pump-and-haul operation.

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

15. Certification by a Texas Licensed Professional Engineer of the testing of sewage collection systems required by 30 TAC Chapter 213 and Chapter 217 shall be submitted to the San Antonio Regional Office within 30 days of test completion and prior to the new sewage collection system being put into service. The certification should include the project name as it appeared on the approved application, the program ID number, and two copies of a site plan sheet(s) indicating the wastewater lines and manholes that were tested and are being certified as complying with the appropriate regulations. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Should any test result fail to meet passing test criteria and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.

16. Every five years after the initial certification, the sewage collection system shall be retested. Any lines that fail the test must be repaired and retested. Certification that the system continues to meet the requirements of 30 TAC Chapter 213 and Chapter 217 shall be submitted to the San Antonio Regional Office. The certification should include the project name as it appeared on the approved application, the program ID number and two copies of a site plan sheet(s) indicating the wastewater lines and manholes that were tested and are being certified as complying with the appropriate regulations. Should any test result fail to meet passing test criteria, and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.

17. If ownership of this organized sewage collection system is legally transferred (e.g., developer to city or Municipal Utility District), the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

18. An Edwards Aquifer protection plan approval or extension will expire, and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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 the Edwards Aquifer Protection Program Austin Regional Office at 512-339-2929.

Sincerely,

Lillian Butler

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

LIB/dv

cc: Mr. Diego Rojas, PE, HR Green Development TX, LLC

APPROVED: 02/14/2024

0 30' 60'

SCALE: 1" = 30'

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- BOUNDARY
- EASEMENT
- 100-YR FEMA FLOODPLAIN
- FUTURE LAYOUT
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- EXISTING GRAVEL ROAD
- TYPE F MORTARED RIPRAP
- ROCK RIPRAP (TYPE PER PLANS)
- EXISTING TREES TO REMAIN
- EXISTING HERITAGE TREES TO REMAIN

OUTFLOW STRUCTURE	
Elevation	Flow
ft	cfs
680.00	0.00
680.30	42.72
680.60	120.84
680.90	221.99
681.20	341.78
681.50	477.65
681.80	627.89
682.10	791.23
682.40	966.70
682.70	1153.50
683.00	1351.00

Batch Detention Pond A - Volume

Elevation	Area		Volume		Cumulative Volume		Comments
	SF	ac	cf	ac*ft	cf	ac*ft	
675		0.000					Water Quality Volume
676	15,930	0.366	7,965	0.183	7,965	0.183	
677	41,475	0.952	28,703	0.659	36,668	0.842	
678	45,580	1.046	43,528	0.999	80,195	1.841	
679	48,484	1.113	47,032	1.080	127,227	2.921	
680	51,451	1.181	49,968	1.147	177,195	4.068	
681	55,579	1.276	53,515	1.229	230,710	5.296	100 yr Routing
682	58,396	1.341	56,988	1.308	287,697	6.605	
683	61,278	1.407	59,837	1.374	347,534	7.978	Freeboard

GENERAL NOTES:

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4. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING.
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9. GRADING WITHIN THE 1/2 CRITICAL ROOT ZONE OF PROTECTED TREES, IDENTIFIED BY A HATCH PATTERN ON THESE PLANS, SHALL BE LIMITED TO LESS THAN 12 INCHES OF DISTURBANCE. NO GRADING ACTIVITY WITH DISTURBANCE OF MORE THAN 6 INCHES IS ALLOWED IN THE 1/4 CRITICAL ROOT ZONE.
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11. ALL RETAINING WALLS GREATER THAN FOUR FEET IN HEIGHT MEASURED FROM THE BOTTOM OF THE FOOTING TO THE TOP OF THE WALL SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.

DEWATERING PLAN NOTES:

1. CONTRACTOR SHALL MAINTAIN THE DEWATERING SYSTEM TO ENSURE PERFORMANCE. IF THE DEWATERING SYSTEM IS NOT PERFORMING, THE CONTRACTOR MUST IMMEDIATELY MAKE THE NECESSARY MODIFICATIONS, FOLLOWING THE ENVIRONMENTAL INSPECTOR'S DIRECTION TO ENSURE ADEQUATE SYSTEM PERFORMANCE. CONTRACTOR SHALL PROVIDE THE DEWATERING PLAN AT THE PRECONSTRUCTION MEETING.
2. THE SKIMMER IS TO BE USED DURING CONSTRUCTION AND SHALL BE REMOVED AFTER COMPLETING CONSTRUCTION OF THE BATCH DETENTION POND.

$$Q = C_w L H^{1.5}$$

Q - *weir flow rate (cfs)*

C_w - *Weir Coefficient* BROAD:2.60

L - *horizontal length of weir crest (ft)* BROAD:100 ft

H - *head above weir crest elevation (ft)*

NO.	REVISION	BY	DATE

Know what's below. Call before you dig.

5508 HIGHWAY 290 W
SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
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DEVELOPMENT TX

STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

WQ POND A

BERRY CREEK CROSSING
DRAINAGE IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 19 OF 45

2023-11-CON

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Drainage Improvements\03_ACAD\Plansets\230248-PONDS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

SECTION A-A

SECTION B-B

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

STM A1

DRAWDOWN CALCUATIONS FOR A ROUND ORIFICE

PROJECT NAME: BERRY CREEK - POND A

Pipe Diameter =	6.00	IN		W.Q.V. =	177,195	CF	
Orifice Diameter =	4.30	IN		WQ Elev =	680.00	MSL	
Outflow Orifice Elev =	672.00	MSL		Pond Bottom Elev =	674.00	MSL	
Draining time	48.00	HR		Initial Head =	8.00	FT	

TIME	HEAD	OUTFLOW	VOL.	dV	Total dV	H	dH	W.E.
HRS	FT	CFS	CF	CF	CF	FT	FT	MSL
0.00	8.00	1.37	177,195	4,944	4,944	0.17	7.83	680.00
1.00	7.83	1.36	172,251	4,892	9,837	0.17	7.67	679.83
2.00	7.67	1.34	167,358	4,840	14,677	0.16	7.50	679.67
3.00	7.50	1.33	162,518	4,788	19,465	0.16	7.34	679.50
4.00	7.34	1.32	157,730	4,736	24,201	0.16	7.18	679.34
5.00	7.18	1.30	152,994	4,684	28,886	0.16	7.02	679.18
6.00	7.02	1.29	148,309	4,632	33,518	0.16	6.87	679.02
7.00	6.87	1.27	143,677	4,580	38,098	0.16	6.71	678.87
8.00	6.71	1.26	139,097	4,528	42,626	0.15	6.56	678.71
9.00	6.56	1.24	134,569	4,476	47,102	0.15	6.41	678.56
10.00	6.41	1.23	130,093	4,424	51,526	0.15	6.26	678.41
11.00	6.26	1.21	125,669	4,372	55,898	0.15	6.11	678.26
12.00	6.11	1.20	121,297	4,320	60,218	0.15	5.96	678.11
13.00	5.96	1.19	116,977	4,268	64,486	0.14	5.82	677.96
14.00	5.82	1.17	112,709	4,216	68,702	0.14	5.67	677.82
15.00	5.67	1.16	108,493	4,164	72,866	0.14	5.53	677.67
16.00	5.53	1.14	104,329	4,112	76,978	0.14	5.39	677.53
17.00	5.39	1.13	100,217	4,060	81,038	0.14	5.26	677.39
18.00	5.26	1.11	96,157	4,008	85,045	0.14	5.12	677.26
19.00	5.12	1.10	92,150	3,956	89,001	0.13	4.99	677.12
20.00	4.99	1.08	88,194	3,903	92,904	0.13	4.85	676.99
21.00	4.85	1.07	84,291	3,851	96,756	0.13	4.72	676.85
22.00	4.72	1.06	80,439	3,799	100,555	0.13	4.60	676.72
23.00	4.60	1.04	76,640	3,747	104,302	0.13	4.47	676.60
24.00	4.47	1.03	72,893	3,695	107,997	0.13	4.34	676.47
25.00	4.34	1.01	69,198	3,643	111,640	0.12	4.22	676.34
26.00	4.22	1.00	65,555	3,591	115,231	0.12	4.10	676.22
27.00	4.10	0.98	61,964	3,539	118,770	0.12	3.98	676.10
28.00	3.98	0.97	58,425	3,487	122,257	0.12	3.86	675.98
29.00	3.86	0.95	54,938	3,435	125,691	0.12	3.74	675.86
30.00	3.74	0.94	51,504	3,382	129,074	0.11	3.63	675.74
31.00	3.63	0.93	48,121	3,330	132,404	0.11	3.52	675.63
32.00	3.52	0.91	44,791	3,278	135,682	0.11	3.41	675.52
33.00	3.41	0.90	41,513	3,226	138,908	0.11	3.30	675.41
34.00	3.30	0.88	38,287	3,174	142,082	0.11	3.19	675.30
35.00	3.19	0.87	35,113	3,122	145,204	0.11	3.08	675.19
36.00	3.08	0.85	31,991	3,069	148,273	0.10	2.98	675.08
37.00	2.98	0.84	28,922	3,017	151,290	0.10	2.88	674.98
38.00	2.88	0.82	25,905	2,965	154,255	0.10	2.78	674.88
39.00	2.78	0.81	22,940	2,913	157,168	0.10	2.68	674.78
40.00	2.68	0.79	20,027	2,861	160,029	0.10	2.58	674.68
41.00	2.58	0.78	17,166	2,809	162,838	0.10	2.49	674.58
42.00	2.49	0.77	14,357	2,756	165,594	0.09	2.39	674.49
43.00	2.39	0.75	11,601	2,704	168,298	0.09	2.30	674.39
44.00	2.30	0.74	8,897	2,652	170,950	0.09	2.21	674.30
45.00	2.21	0.72	6,245	2,600	173,549	0.09	2.12	674.21
46.00	2.12	0.71	3,646	2,547	176,097	0.09	2.04	674.12
47.00	2.04	0.69	1,098	2,495	177,195	0.08	2.00	674.04
48.00	2.00	0.00	0	0	177,195	0.00	2.00	674.00

NO.	REVISION	BY	DATE

Know what's below. Call before you dig.

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SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
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TBPE NO.: 16384
TBPLS NO: 10194101

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DEVELOPMENT TX

STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

POND A SECTIONS

BERRY CREEK CROSSING
DRAINAGE IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 20 OF 45

2023-11-CON

Sheet Location: P:\Where Dorms\Berry Creek Crossing\Drainage Improvements\03_ACAD\Panels\20230464-PONDS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

0 10' 20'
SCALE: 1" = 10'

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- BOUNDARY
- EASEMENT
- 100YR — 100-YR FEMA FLOODPLAIN
- FUTURE LAYOUT
- EXISTING FENCE
- OE — EXISTING OVERHEAD ELECTRIC
- UE — EXISTING UNDERGROUND ELECTRIC
- TL — EXISTING TRANSMISSION LINE
- EXISTING POWER POLE
- EXISTING GUY
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- EX WW — EXISTING WASTEWATER LINE
- PROPOSED WALL
- MAINTENANCE ACCESS DRIVE
- EXISTING GRAVEL ROAD
- TYPE F MORTARED RIPRAP
- ROCK RIPRAP (TYPE PER PLANS)
- EXISTING TREES TO REMAIN
- EXISTING HERITAGE TREES TO REMAIN

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SECTION A-A'

SECTION B-B'

NO.	REVISION	BY	DATE

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

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SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
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TBPE NO.: 16384
TBPLS NO.: 10194101

HRGreen*
DEVELOPMENT TX

STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

POND A OUTFLOW STRUCTURE DETAIL

BERRY CREEK CROSSING DRAINAGE IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 21 OF 45

2023-11-CON

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Drainage Improvements\03_ACAD\Planset\230204-PONDS-WEIRS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRoze

APPROVED: 02/14/2024

BLOCK A
LOT 1
COMMERCIAL
2.13 AC

BLOCK A
LOT 4
COMMERCIAL
4.58 AC

WQ POND B

NOTE:

THE REQUIRED FENCE AROUND THIS POND WILL BE PROPOSED AND BUILT WITH THE CONSTRUCTION PLANS OF BLOCK A, LOTS 1 AND 2

N 17°31'40" E 179.97'

S 76°52'26" E 682.59'

3:1 SIDE SLOPE WITH ROLLMAX SC250 EROSION CONTROL BLANKET OR APPROVED EQUIVALENT

12' WIDE POND MAINTENANCE ACCESS DRIVE (8" MIN. THICK; 4" - 6" STONE)

EXISTING GRAVEL ROAD TO BE USED IN PLACE

PROPOSED TREE WELL

12' WIDE CONCRETE MAINTENANCE ACCESS RAMP 6" - 3600 PSI CONCRETE MAX LONGITUDINAL SLOPE: 4:1

12'X16' MAINTENANCE PAD 6" - 3600 PSI CONC. WITH 6" WWM TO BE BROOM FINISHED AND LEVEL. INCORPORATE CLAY LINER TO EDGE OF PAD TO PREVENT LEAKAGE

RETAINING WALL (REFER TO STRUCTURAL PLANS)

STA. 1+35.00 STM B1
1 - 4' DIA SSMH;
1 - ACTUATOR VALVE W/ MANUAL OVERRIDE
RIM: 710.04
6" PVC FL IN = 701.30 (S)
6" PVC FL OUT = 701.30 (N)

STA. 1+00.00 STM B1
6" PIPE WITH CAP AND 2.73° OPENING
6" SLOPED HEADWALL LOW BANK PER COA DETAIL 508S-16
6" PVC FL IN = 700.60 (S)

INSTALL ±6 SY CLASS I ROCK RIP-RAP PER COA DETAIL 508S-16

SOLAR PANEL

STA. 1+70.00 STM B1
12" PERFORATED PIPE RISER WITH TRASH RACK PER DETAIL
RIM: 708.00
6" PVC FL OUT = 702.00 (N)

CONCRETE FILLED FIXED SEDIMENT DEPTH MARKER

29 SY OF CLASS V ROCK RIP-RAP

63 SY OF TYPE-F MORTARED RIP-RAP

20 SY OF CLASS V ROCK RIP-RAP

73 SY OF CLASS V ROCK RIP-RAP

321 SY OF TYPE-F MORTARED RIP-RAP

3:1 SIDE SLOPE WITH ROLLMAX S150 EROSION CONTROL BLANKET OR APPROVED EQUIVALENT

POND OUTLET STRUCTURE (REFER TO STRUCTURAL PLANS)

32 SY OF CLASS V ROCK RIP-RAP

40 SY OF CLASS V ROCK RIP-RAP

DAYLIGHT FILL TO EXISTING GROUND PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS

DRAINAGE EASEMENT #

TIE-IN TO EXISTING GRAVEL ROAD

ALARM RESPONSE SIGN

1+00

0+75

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

LEGEND

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- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
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- ROCK RIPRAP (TYPE PER PLANS)
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- EXISTING HERITAGE TREES TO REMAIN

GENERAL NOTES:

1. CONTRACTOR TO UTILIZE A TEMPORARY CONSTRUCTION PUMP TO DISCHARGE WATER FROM THE POND AFTER A RAINFALL EVENT, DURING CONSTRUCTION. PUMP IS TO DISCHARGE UPSTREAM OF PROPOSED ROCK BERM LOCATED BEFORE THE CREEK BED. AT NO TIME SHALL THE PUMP BE DISCHARGED DIRECTLY INTO STORM SEWER SYSTEM BEFORE CROSSING A ROCK BERM.
2. 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. CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO ROADS A MINIMUM OF ONCE DAILY.
3. ALL DISTURBED AREAS TO BE REVEGETATED PRIOR TO ACCEPTANCE.
4. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING.
5. THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT INTO PUBLIC ROADWAY.
6. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF GEORGETOWN RULES AND REGULATIONS. HOWEVER, MODIFICATIONS TO THE ENGINEERING DESIGN AND FUNCTIONS OF THE EROSION AND SEDIMENTATION CONTROLS SYSTEMS CONTAINED HERE IN IS STRICTLY FORBIDDEN WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE SIGNING PROJECT PROFESSIONAL ENGINEER (TAC22 §137.3 AND §137.37).
7. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER 1.4.5(A) OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
8. ALL POND BOTTOMS, SIDE SLOPES, AND EARTHEN EMBANKMENTS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY, IN ACCORDANCE WITH THE CITY OF GEORGETOWN STANDARD SPECIFICATIONS AND PER GEOTECHNICAL ENGINEER'S RECOMMENDATION. ALLOW ADEQUATE VOLUME FOR TOPSOIL TO SUPPORT VEGETATION.
9. GRADING WITHIN THE 1/2 CRITICAL ROOT ZONE OF PROTECTED TREES, IDENTIFIED BY A HATCH PATTERN ON THESE PLANS, SHALL BE LIMITED TO LESS THAN 12 INCHES OF DISTURBANCE. NO GRADING ACTIVITY WITH DISTURBANCE OF MORE THAN 6 INCHES IS ALLOWED IN THE 1/4 CRITICAL ROOT ZONE.
10. GRADING WORK WITHIN THE 1/2 CRITICAL ROOT ZONE OF ALL PROTECTED TREES SHALL BE DONE BY HAND OR WITH RUBBER TIRED EQUIPMENT.
11. ALL RETAINING WALLS GREATER THAN FOUR FEET IN HEIGHT MEASURED FROM THE BOTTOM OF THE FOOTING TO THE TOP OF THE WALL SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.

DEWATERING PLAN NOTES:

1. CONTRACTOR SHALL MAINTAIN THE DEWATERING SYSTEM TO ENSURE PERFORMANCE. IF THE DEWATERING SYSTEM IS NOT PERFORMING, THE CONTRACTOR MUST IMMEDIATELY MAKE THE NECESSARY MODIFICATIONS, FOLLOWING THE ENVIRONMENTAL INSPECTOR'S DIRECTION TO ENSURE ADEQUATE SYSTEM PERFORMANCE. CONTRACTOR SHALL PROVIDE THE DEWATERING PLAN AT THE PRECONSTRUCTION MEETING.
2. THE SKIMMER IS TO BE USED DURING CONSTRUCTION AND SHALL BE REMOVED AFTER COMPLETING CONSTRUCTION OF THE BATCH DETENTION POND.

$$Q = C_w L H^{1.5}$$

Q - *weir flow rate (cfs)*

C_w - *Weir Coefficient* BROAD:2.60

L - *horizontal length of weir crest (ft)* BROAD:50 ft

H - *head above weir crest elevation (ft)*

Batch Detention Pond B - Volume

Elevation	Area		Volume		Cumulative Volume		Comments
	SF	ac	cf	ac*ft	cf	ac*ft	
703		0.000					Water Quality Volume
704	6,514	0.150	3,257	0.075	3,257	0.075	
705	15,930	0.366	11,222	0.258	14,479	0.332	
706	18,476	0.424	17,203	0.395	31,682	0.727	
707	20,170	0.463	19,323	0.444	51,005	1.171	
708	21,920	0.503	21,045	0.483	72,050	1.654	
709	24,204	0.556	23,062	0.529	95,112	2.183	100 yr Routing
710	25,918	0.595	25,061	0.575	120,173	2.759	Free Board

OUTFLOW STRUCTURE	
Elevation	Flow
ft	cfs
708.00	0.00
708.20	11.63
708.40	32.89
708.60	60.42
708.80	93.02
709.00	130.00
709.20	170.89
709.40	215.35
709.60	263.10
709.80	313.94
710.00	367.70

NO.	REVISION	BY	DATE

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DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

WQ POND B

BERRY CREEK CROSSING
DRAINAGE IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 22 OF 45

2023-11-CON

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Drainage Improvements\03_ACAD\Plansh\230248-PONDS.dwg | Data Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

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

SECTION C-C

SECTION D-D

STM B1

DRAWDOWN CALCUATIONS FOR A ROUND ORIFICE

PROJECT NAME: BERRY CREEK - POND B

Pipe Diameter =	6.00	IN	W.Q.V. =	72,050	CF	
Orifice Diameter =	2.73	IN	WQ Elev =	708.00	MSL	
Outflow Orifice Elev =	700.60	MSL	Pond Bottom Elev =	703.00	MSL	
Draining time	48.00	HR	Initial Head =	7.40	FT	

TIME	HEAD	OUTFLOW	VOL.	dV	Total dV	H	dH	W.E.
HRS	FT	CFS	CF	CF	CF	FT	FT	MSL
0.00	7.40	0.53	72,050	1,917	1,917	0.13	7.27	708.00
1.00	7.27	0.53	70,133	1,899	3,816	0.13	7.14	707.87
2.00	7.14	0.52	68,234	1,882	5,698	0.13	7.00	707.74
3.00	7.00	0.52	66,352	1,865	7,563	0.13	6.88	707.60
4.00	6.88	0.51	64,487	1,848	9,411	0.13	6.75	707.48
5.00	6.75	0.51	62,639	1,830	11,241	0.13	6.62	707.35
6.00	6.62	0.50	60,809	1,813	13,054	0.13	6.49	707.22
7.00	6.49	0.50	58,996	1,796	14,849	0.12	6.37	707.09
8.00	6.37	0.49	57,201	1,778	16,628	0.12	6.25	706.97
9.00	6.25	0.49	55,422	1,761	18,389	0.12	6.12	706.85
10.00	6.12	0.48	53,661	1,744	20,132	0.12	6.00	706.72
11.00	6.00	0.48	51,918	1,726	21,859	0.12	5.88	706.60
12.00	5.88	0.47	50,191	1,709	23,568	0.12	5.76	706.48
13.00	5.76	0.47	48,482	1,692	25,259	0.12	5.65	706.36
14.00	5.65	0.47	46,791	1,674	26,934	0.12	5.53	706.25
15.00	5.53	0.46	45,116	1,657	28,591	0.11	5.42	706.13
16.00	5.42	0.46	43,459	1,640	30,231	0.11	5.30	706.02
17.00	5.30	0.45	41,819	1,622	31,853	0.11	5.19	705.90
18.00	5.19	0.45	40,197	1,605	33,458	0.11	5.08	705.79
19.00	5.08	0.44	38,592	1,588	35,046	0.11	4.97	705.68
20.00	4.97	0.44	37,004	1,570	36,617	0.11	4.86	705.57
21.00	4.86	0.43	35,433	1,553	38,170	0.11	4.75	705.46
22.00	4.75	0.43	33,880	1,536	39,706	0.11	4.64	705.35
23.00	4.64	0.42	32,344	1,519	41,224	0.11	4.54	705.24
24.00	4.54	0.42	30,826	1,501	42,725	0.10	4.44	705.14
25.00	4.44	0.41	29,325	1,484	44,209	0.10	4.33	705.04
26.00	4.33	0.41	27,841	1,467	45,676	0.10	4.23	704.93
27.00	4.23	0.40	26,374	1,449	47,125	0.10	4.13	704.83
28.00	4.13	0.40	24,925	1,432	48,557	0.10	4.03	704.73
29.00	4.03	0.39	23,493	1,415	49,971	0.10	3.93	704.63
30.00	3.93	0.39	22,079	1,397	51,369	0.10	3.84	704.53
31.00	3.84	0.38	20,681	1,380	52,749	0.10	3.74	704.44
32.00	3.74	0.38	19,301	1,363	54,111	0.09	3.64	704.34
33.00	3.64	0.37	17,939	1,345	55,456	0.09	3.55	704.24
34.00	3.55	0.37	16,594	1,328	56,784	0.09	3.46	704.15
35.00	3.46	0.36	15,266	1,311	58,095	0.09	3.37	704.06
36.00	3.37	0.36	13,955	1,293	59,388	0.09	3.28	703.97
37.00	3.28	0.35	12,662	1,276	60,664	0.09	3.19	703.88
38.00	3.19	0.35	11,386	1,259	61,922	0.09	3.10	703.79
39.00	3.10	0.34	10,128	1,241	63,163	0.09	3.02	703.70
40.00	3.02	0.34	8,887	1,224	64,387	0.08	2.93	703.62
41.00	2.93	0.34	7,663	1,206	65,594	0.08	2.85	703.53
42.00	2.85	0.33	6,456	1,189	66,783	0.08	2.77	703.45
43.00	2.77	0.33	5,267	1,172	67,955	0.08	2.68	703.37
44.00	2.68	0.32	4,095	1,154	69,109	0.08	2.60	703.28
45.00	2.60	0.32	2,941	1,137	70,246	0.08	2.53	703.20
46.00	2.53	0.31	1,804	1,120	71,366	0.08	2.45	703.13
47.00	2.45	0.31	684	1,102	72,050	0.08	2.40	703.05
48.00	2.40	0.00	0	0	72,050	0.00	2.40	703.00

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STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

POND B SECTIONS

BERRY CREEK CROSSING
DRAINAGE IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 23 OF 45

2023-11-CON

Sheet Location: P:\Where Does\Berry Creek Crossing\Drainage Improvements\03_ACAD\Plansheets\2023456-PONDS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

0 10' 20'

SCALE: 1" = 10'

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- BOUNDARY
- EASEMENT
- 100YR — 100-YR FEMA FLOODPLAIN
- FUTURE LAYOUT
- EXISTING FENCE
- OE — EXISTING OVERHEAD ELECTRIC
- UE — EXISTING UNDERGROUND ELECTRIC
- TL — EXISTING TRANSMISSION LINE
- EXISTING POWER POLE
- EXISTING GUY
- EXISTING FIBER OPTIC CABLE
- EX WL — EXISTING WATER LINE
- EX WW — EXISTING WASTEWATER LINE
- PROPOSED WALL
- MAINTENANCE ACCESS DRIVE
- EXISTING GRAVEL ROAD
- TYPE F MORTARED RIPRAP
- ROCK RIPRAP (TYPE PER PLANS)
- EXISTING TREES TO REMAIN
- EXISTING HERITAGE TREES TO REMAIN

GENERAL NOTES:

1. CONTRACTOR TO UTILIZE A TEMPORARY CONSTRUCTION PUMP TO DISCHARGE WATER FROM THE POND AFTER A RAINFALL EVENT, DURING CONSTRUCTION. PUMP IS TO DISCHARGE UPSTREAM OF PROPOSED ROCK BERM LOCATED BEFORE THE CREEK BED. AT NO TIME SHALL THE PUMP BE DISCHARGED DIRECTLY INTO STORM SEWER SYSTEM BEFORE CROSSING A ROCK BERM.
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11. ALL RETAINING WALLS GREATER THAN FOUR FEET IN HEIGHT MEASURED FROM THE BOTTOM OF THE FOOTING TO THE TOP OF THE WALL SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.

DEWATERING PLAN NOTES:

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2. THE SKIMMER IS TO BE USED DURING CONSTRUCTION AND SHALL BE REMOVED AFTER COMPLETING CONSTRUCTION OF THE BATCH DETENTION POND.

SECTION A-A'

SECTION B-B'

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PROFESSIONAL ENGINEER
02/02/2024

POND B OUTFLOW STRUCTURE DETAIL

BERRY CREEK CROSSING DRAINAGE IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	DR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	DR

SHEET 24 OF 45

2023-11-CON

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Drainage Improvement\03_ACAD\Plansheet\230248-PONDS-WEIRS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

TRASH RACK AND ACTUATOR VALVE
N.T.S.

INTERBASIN PIPES DETAIL
N.T.S.

MAINTENANCE PAD INSTALLATION
N.T.S.

CLAY LINER INSTALLATION
N.T.S.

Table 3-6 Clay Liner Specifications (COA, 2004)

Property	Test Method	Unit	Specification
Permeability	ASTM D-2434	cm/sec	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

CLAY LINER SPECIFICATIONS PER TCEQ SPECIFICATIONS 3.4.2

LID DETAIL
SCALE 1:2

BATCH DETENTION ACTUATOR & VALVE DETAIL
SCALE 1:2

* FLOAT SWITCH TO BE PIPE MOUNTED ECO FLOAT, TYPE SI, NORMALLY OPEN, OR APPROVED EQUAL.

FLOAT SWITCH DETAIL

TRASH RACK / RISER PIPE DETAIL
N.T.S.

ACTUATOR VALVE POWER & CONTROLLER CIRCUIT BLOCK DIAGRAM

CONCRETE FILLED FIXED SEDIMENT MARKER FOR BATCH DETENTION POND
N.T.S.

Figure 6.64a Schematic of a skimmer, from Pennsylvania Erosion and Sediment Pollution Control Manual, March, 2000.

NOTE: DISCHARGE WATER MUST BE FILTERED USING FILTER BAG OR SOCK. DISCHARGE SHALL ALSO BE DIRECTED TOWARD SILT FENCE FOR ADDITIONAL FILTERING PRIOR TO LEAVING THE SITE.

DEWATERING SKIMMER
N.T.S.

ALARM RESPONSE SIGN
N.T.S.

POND MAINTENANCE ACCESS - TYP. CROSS SECTION
N.T.S.

NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C-478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF-SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH STORM SEWER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETTED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE, REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS-20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
8. MANHOLE BASE BEDDING MATERIAL SPECS. FOR 3/4" WASHED GRAVEL SIEVE SIZE 2", PERCENT (%) RETAINED 0
SIEVE SIZE 1 1/2", % RETAINED 0–10
SIEVE SIZE 3/4", % RETAINED 65–100
SIEVE SIZE 3/8", % RETAINED 85–100
SIEVE SIZE 5/8", % RETAINED 95–100

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STANDARD STORM SEWER MANHOLE – SECTION

ADOPTED 6/21/2006 | SD1.3 | SCALE: NTS | DATE: 7/2003 | DRAWN BY: MRG | CHK BY: DRB

NOTES:
1. BATCH DETENTION POND SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RG-348 MANUAL (ADDENDUM)
2. THE BATCH DETENTION POND AND RISER PIPE / TRASH RACK WILL FUNCTION AS THE DEWATERING OUTLET AND SHALL BE BE INSTALLED AND FUNCTIONAL PRIOR TO ANY GENERAL GRADING AND UTILITY WORK.
3. SYSTEM SHALL BE 12 VDC WITH SOLAR CHARGED 12 VDC BATTERY. ALTERNATE ELECTRICAL DESIGN MAY ALSO BE UTILIZED IN LIEU OF SOLAR POWER WITH ENGINEERS APPROVAL.
4. ACTUATOR SHALL BE ELECTRONIC QUARTER-TURN WITH MANUAL OVERRIDE AND POSITION INDICATOR.
5. ACTUATOR SHALL BE "AVID 12V ACTUATOR, EPI-6" OR EQUIVALENT.
6. ACTUATOR VALVE TO BE SET AT "NORMALLY CLOSED" POSITION.
7. CONTROLLER SHALL BE SET TO OPEN VALVE 12 HOURS AFTER INITIAL RAINFALL DETECTION. VALVE TO REMAIN OPEN UNTIL 2 HRS FOLLOWING BASIN EMPTY SIGNAL.
8. LOGIC CONTROLLER SYSTEM SHALL HAVE TEST SEQUENCE TO DEAL WITH LOW BATTERY/POWER OUTAGES, ON/OFF/RESET SWITCH AND THE PROGRAMMING SHALL BE FIELD UPLOADABLE.
9. CONTROLLER SHALL BE "MORNINGSTAR SOLAR CONTROLLER, 12V, 20 AMP" OR EQUIVALENT.
10. ALL WIRING SHALL BE INSTALLED IN CONDUIT AND BURIED. CONTACT ENGINEER FOR ADDITIONAL CONTROLLER SCHEMATICS.
11. CONTRACTOR TO INSTALL LIBERTY ALARM MODEL ALM-2W OR EQUIVALENT AT A CONTROLLER PANEL.
12. ATTACH ALARM RESPONSE SIGN TO CONTROLLER POLE. REFERENCE ALARM RESPONSE SIGN TO RIGHT.
13. HAZARDOUS MATERIAL THREAT (HMT) OPERATION - THE BASIN'S OUTLET VALVE IS NORMALLY CLOSED AND WILL DETAIN A HAZARDOUS MATERIAL SPILL. HOWEVER, AFTER A SPILL OCCURS, THE MANUAL CONTROLS ON THE CONTROLLER OR THE ACTUATOR/VALVE ARE USED TO PREVENT THE VALVE FROM AUTOMATICALLY OPENING PRIOR TO REMOVAL OF THE HAZARDOUS MATERIAL. ALTHOUGH NOT REQUIRED BY THE EDWARDS RULES, THE HMT OPERATION CAN BE USED TO COMPLY WITH APPENDIX A OF RG-348. IF A SPILL DOES OCCUR IN THE BASIN, ALL COMPONENTS OF THE CONTROLLER MUST BE INSPECTED AND CHECKED FOR PROPER OPERATION WITHIN 7 DAYS.

NO.	REVISION	BY	DATE

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STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

POND DETAILS 1 OF 2

BERRY CREEK CROSSING DRAINAGE IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: DR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: DR

SHEET 25 OF 45

2023-11-CON

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Drainage Improvement\03_ACAD\Plansht\2302\AB-PONDS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

APPROVED: 02/14/2024

FIGURE 2 ~ TYPE F STONE RIPRAP
dry or mortared

SHEET 2 OF 2

Texas Department of Transportation | Bridge Division Standard

STONE RIPRAP

SRR

FILE: srr19381-19.dgn	DN: AES	CK: JGD	DW: BWH	CK: AES
©TxDOT April 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

TYPE F STONE RIPRAP - MORTARED (TXDOT DETAIL - SRR)

N.T.S.

RIP-RAP CLASSIFICATION SPECIFICATIONS

CLASS 1 RIP-RAP

No more than 10% of the stone will have a diameter greater than twelve (12) inches; no more than 50% of the stone will have a diameter less than ten (10) inches; and no more than 10% of the stone will have a diameter of less than six (6) inches. The thickness of the rip-rap liner will be no less than twelve (12) inches.

CLASS 2 RIP-RAP

No more than 10% of the stone will have a diameter greater than sixteen (16) inches; no more than 50% of the stone will have a diameter less than twelve (12) inches; and no more than 10% of the stone will have a diameter of less than six (6) inches. The thickness of the rip-rap liner will be no less than sixteen (16) inches.

CLASS 3 RIP-RAP

No more than 10% of the stone will have a diameter greater than twenty two (22) inches; no more than 50% of the stone will have a diameter less than sixteen (16) inches; and no more than 10% of the stone will have a diameter of less than eight (8) inches. The thickness of the rip-rap liner will be no less than twenty two (22) inches.

CLASS 4 RIP-RAP

No more than 10% of the stone will have a diameter greater than twenty seven (27) inches; no more than 50% of the stone will have a diameter less than twenty two (22) inches; and no more than 10% of the stone will have a diameter of less than ten (10) inches. The thickness of the rip-rap liner will be no less than twenty seven (27) inches.

CLASS 5 RIP-RAP

No more than 10% of the stone will have a diameter greater than thirty four (34) inches; no more than 50% of the stone will have a diameter less than twenty seven (27) inches; and no more than 10% of the stone will have a diameter of less than sixteen (16) inches. The thickness of the rip-rap liner will be no less than thirty four (34) inches.

RIPRAP CLASSIFICATION SPECIFICATIONS

D = PIPE DIAMETER
D 50= MEDIAN ROCK DIAMETER
La = APRON LENGTH
Wa = APRON WIDTH
Y = OUTFALL HEIGHT

NOTE:
1. ROCK RIPRAP SHALL BE SOUND MATERIAL AND GRADED PER REQUIREMENTS SPECIFIED IN STANDARD SPECIFICATION ITEM NO. 591S.
2. ROCK SIZE (D_{50}) AND GRADATION SHALL BE STABLE FOR THE DESIGN HYDRAULIC CONDITIONS AND IN ACCORDANCE WITH THE ECM 1.4.6.D PERMANENT STRUCTURAL PRACTICES, STONE RIPRAP OR OTHER ENGINEERING STANDARD OF PRACTICE FOR SIZING ROCK RIPRAP. ROCK RIPRAP D_{50} AND FILTER TYPE SHALL BE NOTED ON PLANS.
3. GEOTEXTILE FILTER FABRIC SHALL MEET THE REQUIREMENTS SPECIFIED IN STANDARD SPECIFICATION ITEM NO. 620S.
4. AGGREGATE FOR GRANULAR FILTER SHALL MEET THE REQUIREMENTS SPECIFIED IN STANDARD SPECIFICATION ITEM NO. 403, AGGREGATE SIZE CLASSIFICATION/GRADE, NUMBER OF LAYERS AND LAYER THICKNESS SHOULD BE NOTED ON THE PLANS.

*EXTEND ARMOR TO OPPOSITE CREEK BANK FOR CHANNELS LESS THAN 10D IN WIDTH

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STORMDRAIN OUTFALL PROTECTION PIPE DISCHARGE ON SLOPE-LOW BANK	
RECORD COPY SIGNED BY MORGAN BYARS 09/01/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S-16

SLOPED HEADWALL - LOW BANK DETAIL (COA DETAIL - 508S-16)

N.T.S.

THIS STANDARD APPLIES ONLY UNDER THE FOLLOWING CONDITIONS:
A. H AND Z ARE SPECIFIED ON THE DRAWING.
B. GROUNDWATER IS NO HIGHER THAN THE BOTTOM OF THE FOOTING.
C. THE MATERIAL BELOW THE FOOTING IS FIRM AND STABLE.
D. THE MATERIAL BEHIND THE WALL HAS A LEVEL SURFACE.
E. THE MATERIAL IN FRONT OF THE WALL HAS A SLOPE NO STEEPER THAN 4 HORIZONTAL TO 1 VERTICAL.
F. THE FACE OF THE WALL IS NO STEEPER THAN 1 HORIZONTAL TO 2 VERTICAL.
G. SURCHARGE LOADS BEHIND THE WALL ARE NO CLOSER THAN DISTANCE H FROM THE TOP OF WALL.

NOTES:
1. DESIGN AND CONSTRUCTION OF ROCK WALL SHALL CONFORM TO THE REQUIREMENTS OF CITY CODE 16-7-2, PLACEMENT OF FENCES IN STREET CORNER AREAS, AND THE CITY OF AUSTIN TRANSPORTATION CRITERIA MANUAL FOR MINIMIM SIGHT DISTANCE.
2. CONCRETE SHALL CONFORM TO ITEM 403S, "CONCRETE FOR STRUCTURES".

DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	SLOPE PROTECTION AND TREE WELLS	
RECORD COPY SIGNED BY J. PATRICK MURPHY 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-6 1 OF 2

DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	SLOPE PROTECTION AND TREE WELLS	
RECORD COPY SIGNED BY J. PATRICK MURPHY 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-6 2 OF 2

SLOPE PROTECTION AND TREE WELLS (COA DETAIL - 610S-6)

N.T.S.

NO.	REVISION	BY	DATE

Know what's below. Call before you dig.

5508 HIGHWAY 290 W
SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com

TBPE NO.: 16384
TBPLS NO: 10194101

HRGreen.
DEVELOPMENT TX

STATE OF TEXAS
DIEGO ROJAS SIGALA
134900
LICENSED PROFESSIONAL ENGINEER
02/02/2024

POND DETAILS 2 OF 2

BERRY CREEK CROSSING DRAINAGE IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: DR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: DR

SHEET 26 OF 45

2023-11-CON

Sheet Location: P:\Work Domain\Berry Creek Crossing\Drainage Improvements\03_ACAD\Plansets\230246-PONDS.dwg | Date Plotted: February 01, 2024 | Plotted By: DRojas

OWNER/DEVELOPER:
IH35 SH130, LP
RAJEEV PURI
6002 CAMP BULLIS RD
SAN ANTONIO, TX 78257
(210) 863-0717
rpuri@athenadomain.com
www.athenadomain.com

ENGINEER:
HR GREEN DEVELOPMENT TX, LLC
SHERVIN NOOSHIN, P.E.
5508 HIGHWAY 290 WEST - SUITE 150
AUSTIN, TX 78735
(512) 872-6696
shervin.nooshin@hrgreen.com
www.hrgreen.com

SURVEYOR:
FOREST SURVEYING & MAPPING
1002 ASH ST
GEORGETOWN, TEXAS 78626
(512) 930-5927
forrestsasser@forestsurveying.com
www.forest-surveying.com

UTILITY PROVIDERS:

WATER:	WASTEWATER:	ELECTRIC:
CITY OF GEORGETOWN UTILITY SYSTEMS	CITY OF GEORGETOWN UTILITY SYSTEMS	PEDERNALES ELECTRIC COOPERATIVE
300-1 INDUSTRIAL AVE.	300-1 INDUSTRIAL AVE.	201 S. AVENUE F,
GEORGETOWN, TX 78626	GEORGETOWN, TX 78626	JOHNSON CITY, TX 78636
(512) 930-3555	(512) 930-3555	(877) 372-0391
gus.georgetown.org	gus.georgetown.org	www.pec.coop

ASSOCIATED CITY OF GEORGETOWN CASES:

PRELIMINARY PLAT - CITY PROJECT NUMBER:	2024-20-PP
WASTEWATER IMPROVEMENTS - CONSTRUCTION PLAN - CITY PROJECT NUMBER:	2022-20-CON
BERRY CREEK APARTMENTS, PHASE 1 - SITE DEVELOPMENT PLAN - CITY PROJECT NUMBER:	2022-74-SDP
DRAINAGE IMPROVEMENTS - CONSTRUCTION PLAN - CITY PROJECT NUMBER:	2023-11-CON

PROJECT INFORMATION:

PROPOSED USE: TxDOT & PRIVATE SHARED IMPROVEMENTS
ZONING DISTRICT: PUD - ORDINANCE NO. 2021-52

TRAFFIC IMPACT ANALYSIS:

REFER TO APPROVED TRAFFIC IMPACT ANALYSIS: 2022-1-TIA

AVERAGE DAILY TRIPS: 1510
AM PEAK HOUR: 91
PM PEAK HOUR: 114

PLANNED UNIT DEVELOPMENT:

THIS SITE IS PART OF A PLANNED UNIT DEVELOPMENT, DOCUMENT ORDINANCE NO. 2021-52.

WATERSHED STATUS:

THIS SITE IS LOCATED IN THE BERRY CREEK WATERSHED. THIS SITE IS LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE.

FLOODPLAIN INFORMATION:

NO PORTION OF THIS PROJECT IS ENCROACHED BY A SPECIAL FLOOD HAZARD AREAS INUNDATED BY THE 100 YEAR FLOOD AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY BOUNDARY MAP NUMBER 48491C0292F, EFFECTIVE DATE DECEMBER 20, 2019.

BENCHMARK NOTES:

LOCAL NORTHING:	10,224,775.79
LOCAL EASTING:	3,138,351.87
GRID NORTHING:	10,223,404.34
GRID EASTING:	3,137,930.93
ELEVATION:	732.74'
DESCRIPTION:	TBM #1: MAG NAIL W/ WASHER STAMPED "FOREST RPLS 1847" SET NEAR THE SOUTH EASTERN RIGHT OF WAY OF THE INTERSECTION OF IH35 FRONTAGE ROAD AND SH 130 FRONTAGE ROAD.
HORIZONTAL DATUM:	TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD83, GRID. COMBINED SCALE FACTOR: 0.99986587.
VERTICAL DATUM:	GEOID18, VERTICAL DATUM NAVD88

LOCAL NORTHING:	10,224,133.47
LOCAL EASTING:	3,138,843.72
GRID NORTHING:	10,222,762.11
GRID EASTING:	3,138,422.70
ELEVATION:	734.32'
DESCRIPTION:	TBM #2: MAG NAIL W/ WASHER STAMPED "FOREST RPLS 1847" SET ALONG THE FRONTAGE ROAD OF SH 130.
HORIZONTAL DATUM:	TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD83, GRID. COMBINED SCALE FACTOR: 0.99986587.
VERTICAL DATUM:	GEOID18, VERTICAL DATUM NAVD88

LOCAL NORTHING:	10,223,582.81
LOCAL EASTING:	3,139,227.64
GRID NORTHING:	10,222,211.52
GRID EASTING:	3,138,806.57
ELEVATION:	731.10'
DESCRIPTION:	TBM #3: MAG NAIL W/ WASHER STAMPED "FOREST RPLS 1847" SET ALONG THE FRONTAGE ROAD OF SH 130.
HORIZONTAL DATUM:	TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD83, GRID. COMBINED SCALE FACTOR: 0.99986587.
VERTICAL DATUM:	GEOID18, VERTICAL DATUM NAVD88

CITY OF GEORGETOWN NOTES:

1. THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE 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 TO THE CITY.
3. ALL ELECTRIC DISTRIBUTION LINES AND INDIVIDUAL SERVICE LINES SHALL BE INSTALLED UNDERGROUND. IF OVERHEAD LINES EXISTED PRIOR TO UNDERGROUND INSTALLATION, SUCH AS POLES, GUY WIRES, AND RELATED STRUCTURES SHALL BE REMOVED FOLLOWING CONSTRUCTION OF THE UNDERGROUND INFRASTRUCTURE (ONLY APPLICABLE FOR RESIDENTIAL PROPERTY).
4. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE. WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER (ONLY APPLICABLE FOR NON-RESIDENTIAL AND MULTI-FAMILY DEVELOPMENT).
5. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.

ADDITIONAL NOTES:

1. THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.
2. A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON AUGUST 2021. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.

STORMWATER PERMIT
FOR
BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35, GEORGETOWN, TEXAS 78626

2025-___-SWP

INITIAL SUBMITTAL DATE:
08/18/2025

VICINITY MAP
SCALE: 1"=4000'

LEGAL DESCRIPTION:

60.748 ACRES OF LAND IN THE JOHN BERRY SURVEY, ABSTRACT NO. 51, IN WILLIAMSON COUNTY, TEXAS AND OF TWO CALLED PROPERTIES.

BEING OF A CALLED 49.31 ACRE TRACT OF LAND, DESCRIBED IN THE SPECIAL WARRANTY DEED TO IH35 SH130, LP OF RECORD IN DOCUMENT NO. 2018066618, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS;

ALSO BEING A CALLED 11.438 ACRE TRACT OF LAND, DESCRIBED IN THE SPECIAL WARRANTY DEED TO IH35 SH130, LP OF RECORD IN DOCUMENT NO. 2022009903, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

I, SHERVIN NOOSHIN, P.E., CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THE INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SUBMITTED BY : _____ 08/15/2025
DATE

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED
PROFESSIONAL ENGINEER

SHERVIN NOOSHIN, P.E.
HR GREEN DEVELOPMENT TX, LLC
5508 HIGHWAY 290 WEST, SUITE 150
AUSTIN, TEXAS 78735

REVIEWED FOR COMPLIANCE WITH CITY OF GEORGETOWN REQUIREMENTS:
CITY OF GEORGETOWN, AS APPROVED BY PLANNING AND ZONING

REVISIONS

NO.	DATE	DESCRIPTION

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3	GENERAL NOTES 2 OF 2
4	TCEQ NOTES
5	APPROVED PRELIMINARY PLAT 1 OF 3
6	APPROVED PRELIMINARY PLAT 2 OF 3
7	APPROVED PRELIMINARY PLAT 3 OF 3
8	EXISTING CONDITIONS AND DEMOLITION PLAN
9	OVERALL EROSION CONTROL PLAN
10	PHASING PLAN
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14	PROPOSED DRAINAGE AREA MAP
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26	OVERALL WT & WW (PRIVATE) PLAN
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38	TURN LANE PAVING & PAVEMENT MARKING PLAN
39	TURN LANE TYPICAL SECTION
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43	TxDOT DETAIL EC [2] -16 & EC[3] -16
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45	TxDOT DETAIL BC [3] -21 & BC [4] -21
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47	TxDOT DETAIL BC [11] -21 & BC [12] -21
48	TxDOT DETAIL SMD [SLIP-1] 08 & SMD [SLIP-2] 08
49	TxDOT DETAIL SMD [SLIP-3] 08
50	TxDOT DETAIL PM [1] - 20 & PM [2] - 20
51	TxDOT DETAIL PM [3] - 20
52	TxDOT DETAIL SET P-PD

LIMITATIONS OF LIABILITY

LIMITATION OF LIABILITY – HR GREEN DEVELOPMENT TX, LLC ASSUMES NO LIABILITY FOR ANY DESIGN OR DRAWINGS IN THESE PLANS, THAT ARE NOT SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED WITH THE TEXAS BOARD OF PROFESSIONAL ENGINEERS AS A MEMBER OF THIS FIRM (#F-16384). OTHER CONSULTANTS' WORK SHOWN IN THESE PLANS IS THE RESPONSIBILITY OF THE CONSULTANT WHO PREPARED SUCH WORK, AND IS INCLUDED IN THIS PLAN SET FOR REVIEW REQUIREMENTS ONLY.

SITE PLAN COMPONENTS – ALL BUILDING AND STRUCTURAL IMPROVEMENTS SHOWN HEREON ARE SHOWN FOR CONCEPTUAL PURPOSES ONLY. HR GREEN DEVELOPMENT TX, LLC IS NOT RESPONSIBLE OR LIABLE FOR THE DESIGN OF BUILDING OR STRUCTURAL IMPROVEMENTS BY OTHERS.

STRUCTURAL COMPONENTS - ALL STRUCTURAL DESIGN IS THE RESPONSIBILITY OF THE OWNER'S STRUCTURAL ENGINEER. STRUCTURAL DESIGN SHOWN HEREON IS THE DESIGN OF THE OWNER'S STRUCTURAL ENGINEER.

PAVEMENT DESIGN - PAVEMENT DESIGN SHOWN HEREON IS THE DESIGN OF THE OWNER'S GEOTECHNICAL CONSULTANT. HR GREEN DEVELOPMENT TX, LLC MAKES NO WARRANTY OR GUARANTEE AS TO ITS SUITABILITY, AND ASSUMES NO LIABILITY THEREFOR.

NO.	BY	DATE	REVISION

Know what's below. Call before you dig.

5508 HIGHWAY 290 W
SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com

TBPE NO: 16384
TBPLS NO: 10194101

HRGreen® DEVELOPMENT TX

COVER

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 1 OF 52

2025- -SWP

Sheet Location: P:\Where Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\s250268-COVER.dwg | Date Plotted: August 15, 2025 | Plotted By: mwittequer
ALL PROJECT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL AND SPECIFICATIONS, ESTABLISHED BY HR GREEN DEVELOPMENT TX, LLC (HGDTX) THIS PROJECT ARE, AND SHALL REMAIN THE PROPERTY OF HR GREEN DEVELOPMENT TX, LLC. HGDTX HAS GRANTED TO THE OWNER A NON-EXCLUSIVE, IRREVOCABLE, ROYALTY FREE LICENSE TO USE THE DOCUMENTS FOR THE PURPOSES OF CONSTRUCTING, USING AND MAINTAINING THE PROJECT, PROVIDED THAT THE OWNER SUBSTANTIALLY PERFORMS ITS OBLIGATIONS UNDER THE CONTRACT DOCUMENTS, INCLUDING PROMPT PAYMENT OF ALL SUMS WHEN DUE. THE OWNER SHALL NOT OWN OR CONTROL THE DOCUMENTS PREPARED BY HGDTX, AND MAY NOT USE OR ALLOW ANYONE ELSE TO USE THE DOCUMENTS FOR FUTURE PROJECTS OR ADDITIONS TO THIS PROJECT WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF HR GREEN DEVELOPMENT TX. ANY REUSE, WITHOUT SPECIFIC WRITTEN VERIFICATION OR ADAPTATION BY HR GREEN DEVELOPMENT TX, LLC SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS COMPANY FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM

GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THESE PLANS AND THE CITY OF GEORGETOWN STANDARD CONSTRUCTION SPECIFICATIONS.
2. THESE PLANS AND GENERAL NOTES REFER TO THE GEOTECNICAL REPORT "SUBSURFACE EXPLORATION AND FOUNDATION ANALYSIS PROPOSED NEW BERRY CREEK APARTMENTS, GEORGETOWN, TEXAS" BY INTEC, PROJECT NO. S221751, FROM SEPTEMBER 16, 2020. INCLUDING ALL REVISIONS AND ADDENDA THAT MAY HAVE BEEN RELEASED AFTER THE NOTED DATE.
3. TOPOGRAPHIC DATA SHOWN HEREON BASED ON SURVEY PROVIDED BY FOREST SURVEYING & MAPPING ON JULY 2021.
4. THE CONTRACTOR SHALL REVIEW AND VERIFY THE EXISTING TOPOGRAPHIC SURVEY SHOWN ON THE PLANS REPRESENTS EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCIES FOUND TO THE OWNER AND ENGINEER.
5. AVAILABLE BENCHMARK(S) THAT MAY BE UTILIZED FOR THE CONSTRUCTION OF THIS PROJECT ARE LISTED ON THE COVER SHEET.
6. CONTRACTOR SHALL PROTECT ALL BENCHMARKS AND PROPERTY MONUMENTATION DISTURBED DURING CONSTRUCTION.
7. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL, INCLUDING BENCHMARKS PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS. PROPERTY LINES AND CORNERS SHALL BE HELD AS THE HORIZONTAL CONTROL.
8. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, AND IF APPLICABLE THE CITY AND OWNER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE CITY, ENGINEER, AND OWNER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.
9. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK TO HAVE THEM LOCATE THEIR EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
11. CONTRACTOR SHALL CALL TEXAS 811 AN ADEQUATE AMOUNT OF TIME PRIOR TO COMMENCING CONSTRUCTION OR ANY EXCAVATION.
12. CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES.
13. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.
14. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS AND RELOCATIONS OF EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, ADJUSTING EXISTING MANHOLES TO MATCH PROPOSED GRADE, RELOCATING EXISTING POLES AND GUY WIRES THAT ARE LOCATED IN PROPOSED DRIVEWAYS, ADJUSTING THE HORIZONTAL OR VERTICAL ALIGNMENT OF EXISTING UNDERGROUND UTILITIES TO ACCOMMODATE PROPOSED GRADE OR CROSSING WITH A PROPOSED UTILITY, AND ANY OTHERS THAT MAY BE ENCOUNTERED THAT ARE UNKNOWN AT THIS TIME AND NOT SHOWN ON THESE PLANS.
15. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.
16. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTORS' FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED BY THE CONTRACTOR AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
17. BRACING OF UTILITY POLES MAY BE REQUIRED BY THE UTILITY COMPANIES WHEN TRENCHING OR EXCAVATING IN CLOSE PROXIMITY TO THE POLES. THE COST OF BRACING POLES WILL BE BORNE BY THE CONTRACTOR, WITH NO SEPARATE PAY ITEM FOR THIS WORK. THE COST IS INCIDENTAL TO THE PAY ITEM.
18. CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL AND UTILITY OWNER REGULATIONS PERTAINING TO WORK SETBACKS FROM POWER LINES.
19. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS, APPROVALS, AND BONDS PRIOR TO CONSTRUCTION.
20. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES A COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, GEOTECHNICAL REPORT AND ADDENDA, PROJECT AND CITY SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS, EROSION CONTROL PLANS, SWPPP AND INSPECTION REPORTS.
21. ALL SHOP DRAWINGS AND OTHER DOCUMENTS THAT REQUIRE ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, SO THAT NO LESS THAN 10 BUSINESS DAYS FOR REVIEW AND RESPONSE IS AVAILABLE.
22. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO USE OF THE FACILITY AND THE FINAL CONNECTION OF SERVICES.
23. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS. CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
24. ALL SYMBOLS SHOWN ON THESE PLANS (E.G. FIRE HYDRANT, METERS, VALVES, INLETS, ETC.…) ARE FOR PRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS WITH APPROPRIATE CITY INSPECTOR AND ENGINEER.
25. THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES IN THE PROXIMITY OF THE BUILDINGS. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL, STRUCTURAL, MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.
26. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS.
27. THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PROVIDED TO THE ENGINEER BY THE PROJECT ARCHITECT AT THE TIME THESE PLANS WERE PREPARED. IT MAY NOT BE THE FINAL CORRECT VERSION BECAUSE THE BUILDING DESIGN WAS ONGOING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFIRMING THE FINAL CORRECT VERSION OF THE BUILDING FOOTPRINT WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO LAYOUT. DIMENSIONS AND/OR COORDINATES SHOWN ON THESE PLANS WERE BASED ON THE ABOVE STATED ARCHITECTURAL FOOTPRINT, AND ARE THEREFORE A PRELIMINARY LOCATION OF THE BUILDING. THE CONTRACTOR IS SOLELY RESPONSIBLE TO VERIFY WHAT PART OF THE BUILDING THE ARCHITECT'S FOOTPRINT REPRESENTS AND TO CONFIRM ITS FINAL POSITION ON THE SITE BASED ON THE FINAL ARCHITECTURAL FOOTPRINT, CIVIL DIMENSION CONTROL PLAN, SURVEY BOUNDARY AND/OR PLAT. ANY DIFFERENCES FOUND SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
28. ALL CONSTRUCTION SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
29. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL MATERIALS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND COMPLY WITH CITY STANDARD SPECIFICATIONS AND GEOTECHNICAL REPORT. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING MATERIALS. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR MATERIALS TESTING. ALL COPIES OF MATERIALS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
30. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
31. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR.
32. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, MANHOLES, POLES, GUY WIRES, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, COMMUNICATION BOXES/PEDESTALS, AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR ANY DAMAGES AT NO COST TO THE OWNER. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASS, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, ETC.… TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
33. ALL AREAS IN EXISTING RIGHT-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER, INCLUDING AS NECESSARY GRADING, LANDSCAPING, CULVERTS, AND PAVEMENT.
34. THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC... THAT ARE TO BE RELOCATED DURING CONSTRUCTION.
35. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
36. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
37. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
38. SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE ENGINEER'S SEAL HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL REQUIRED SAFETY PROCEDURES AND PROGRAMS.
39. SIGNS RELATED TO SITE OPERATION OR SAFETY ARE NOT INCLUDED IN THESE PLANS.
40. CONTRACTOR OFFICE AND STAGING AREA SHALL BE AGREED ON BY THE OWNER AND CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING REQUIREMENTS FOR THE CONSTRUCTION OFFICE, TRAILER, STORAGE, AND STAGING OPERATIONS AND LOCATIONS.
41. LIGHT POLES, SIGNS, AND OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN ACCESSIBLE ROUTES.
42. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
43. TOP RIM ELEVATIONS OF ALL EXISTING AND PROPOSED MANHOLES SHALL BE COORDINATED WITH TOP OF PAVEMENT OR FINISHED GRADE AND SHALL BE ADJUSTED TO BE FLUSH WITH THE ACTUAL FINISHED GRADE AT THE TIME OF PAVING. CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED VALVES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES TO MATCH ACTUAL FINISHED GRADES AT THE TIME OF PAVING.
44. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND PHASING, AND SHALL CONTACT THE APPROPRIATE CITY OFFICIALS, INCLUDING BUILDING OFFICIAL, ENGINEERING INSPECTOR, AND FIRE MARSHALL TO LEARN OF ANY REQUIREMENTS.
45. CONTRACTOR IS RESPONSIBLE FOR PREPARATION (IF NOT INCLUDED IN THE CONSTRUCTION PLANS), SUBMITTAL, AND APPROVAL BY THE CITY OF A TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION, AND THEN THE IMPLEMENTATION OF THE PLAN.
46. CONTRACTOR SHALL KEEP A NEAT AND ACCURATE RECORD OF CONSTRUCTION, INCLUDING ANY DEVIATIONS OR VARIANCES FROM THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND CITY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.
47. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE PLANS, CITY STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION AND DETAIL SHALL BE FOLLOWED.
48. IF A VOID IS ENCOUNTER WITHIN THE PROJECT LIMITS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
49. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS.
50. ANY TEMPORARY SPOILS STOCKPILE MUST BE LOCATED OUTSIDE OF ANY TREE DRIPLINES AND IN THE TEMPORARY SPOILS AREA DESIGNATED ON THE APPROVED PLANS. ALL SURPLUS MATERIAL WILL BE DISPOSED OF OFFSITE.
51. ALL DEBRIS AND EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE IN A MANNER NOT TO DAMAGE THE OWNER'S PROPERTY PRIOR TO ACCEPTANCE OF THE PROJECT.
52. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS AND CITY OF GEORGETOWN STANDARD SPECIFICATIONS. REVEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF SODDING OR SEEDING, AT THE CONTRACTOR'S OPTION. HOWEVER, THE TYPE OF REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION UNLESS OTHERWISE REQUESTED BY THE OWNER.
53. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEANUP SHALL BE TO THE SATISFACTION OF THE ENGINEER.
54. WHEN REQUIRED, CONTRACTOR SHALL REMOVE PAVEMENT IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF HIGHWAY AND PUBLIC TRANSPORTATION STANDARD SPECIFICATIONS, LATEST EDITION.
55. ALL PAVEMENT REMOVED SHALL BE DONE SUCH THAT THE REMAINING PAVEMENT IS LEFT WITH A CLEAN STRAIGHT EDGE.
56. WHEN REQUIRED, CONTRACTOR SHALL REMOVE EXISTING PAVEMENT STRIPING BY SAND BLASTING FROM EXISTING PAVEMENT IN ACCORDANCE WITH ITEM 678 OF THE TxDOT LATEST EDITION.
57. ALL WORK IN STATE R.O.W. AND EASEMENTS SHALL BE IN ACCORDANCE WITH TxDOT STANDARD SPECIFICATIONS, LATEST EDITION.
58. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MOWING AND THE REMOVAL OF ALL LITTER WITHIN THE PROJECT LIMITS SO AS TO KEEP THE SITE OF THE WORK IN A NEAT AND PRESENTABLE CONDITION AT ALL TIMES. THIS WORK WILL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS.
59. THE CONTRACTOR SHALL PROTECT ALL AREAS WHICH ARE NOT INCLUDED IN THE ACTUAL LIMITS OF THE PROPOSED CONSTRUCTION AREAS FROM DESTRUCTION. CARE SHALL BE EXERCISED TO PREVENT DAMAGE TO TREES, VEGETATION, FENCES, POWER POLES, AND OTHER NATURAL SURROUNDINGS. THE AREAS NOT TO BE DISTURBED INCLUDE ALL GOLF COURSE AREAS, UNLESS SPECIFIED OTHERWISE. THE CONTRACTOR SHALL, AT HIS EXPENSE, RESTORE ANY AREA DISTURBED AS A RESULT OF HIS OPERATIONS TO A CONDITION AS GOOD AS, OR BETTER THAN, THAT PRESENT PRIOR TO CONSTRUCTION.
60. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING EVERY 100 FOOT ROAD STATION, AND SHALL MAINTAIN THE MARKINGS FOR THE DURATION OF THE PROJECT. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE ITEMIZED CONSTRUCTION CONTRACT.
61. THE SUPERINTENDENT SHALL BE AVAILABLE ON THE PROJECT AT ALL TIMES WHEN WORK IS BEING PERFORMED.
62. NO BLASTING IS ALLOWED ON THIS PROJECT.
63. NO STORAGE OF HYDROCARBONS OR HAZARDOUS MATERIAL IS ALLOWED ON SITE.

DEMOLITION NOTES:

1. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS PRELIMINARY DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE.
2. THE ENGINEER DOES NOT WARRANT OR REPRESENT THAT THE PLAN, WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT THE UTILITIES SHOWN CAN BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND PROCESS FOR THE REMOVAL OF THEIR FACILITIES.
3. THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT. REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
4. CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION PLAN:
   - ENVIRONMENTAL SITE ASSESSMENT PROVIDED BY THE OWNER,
   - GEOTECHNICAL REPORT PROVIDED BY THE OWNER.
   - OTHER REPORTS THAT ARE APPLICABLE AND AVAILABLE.
5. CONTRACTOR SHALL CONTACT THE OWNER TO VERIFY WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO STARTING ANY WORK ON THE SITE.
6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY.
7. THE ENGINEER DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED.
8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT, FOUNDATIONS OR WALLS, THAT ARE ALSO TO BE REMOVED.

EROSION AND SEDIMENTATION CONTROL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS, LAWS, AND ORDINANCES THAT APPLY TO THE CONSTRUCTION SITE LAND DISTURBANCE.
2. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. AND SPECIFICATIONS FOR THE PROJECT. CONTRACTOR IS SOLELY RESPONSIBLE FOR INSTALLATION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL EROSION CONTROL DEVICES, BEST MANAGEMENT PRACTICES (BMPS), AND FOR UPDATING THE EROSION CONTROL PLAN DURING CONSTRUCTION AS FIELD CONDITIONS CHANGE.
4. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY STANDARDS FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.
5. CONTRACTOR SHALL DOCUMENT THE DATES OF INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL FOR EACH BMP EMPLOYED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE.
6. AS STORM SEWER INLETS ARE INSTALLED ON-SITE, TEMPORARY EROSION CONTROL DEVICES SHALL BE INSTALLED AT EACH INLET PER APPROVED DETAILS.
7. THE EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL THE AREA IT PROTECTS HAS BEEN PERMANENTLY STABILIZED.
8. CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL DEVICES NEEDED DUE TO PROJECT PHASING.
9. CONTRACTOR SHALL OBSERVE THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND MAKE FIELD ADJUSTMENTS AND MODIFICATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. IF THE EROSION CONTROL DEVICES DO NOT EFFECTIVELY CONTROL EROSION AND PREVENT SEDIMENTATION FROM WASHING OFF THE SITE, THEN THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
10. OFF-SITE SOIL BORROW, SPOIL, AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED AS PART OF THE PROJECT SITE AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND EROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN.
11. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. PROTECTIVE MEASURES SHALL BE PROVIDED IF NEEDED TO ACCOMPLISH THIS REQUIREMENT, SUCH AS COVERING OR ENCIRCLING THE AREA WITH AN APPROPRIATE BARRIER.
12. SITE ENTRY AND EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING AND FLOWING OF SEDIMENT AND DIRT ONTO OFF-SITE ROADWAYS. ALL SEDIMENT AND DIRT FROM THE SITE THAT IS DEPOSITED ONTO AN OFF-SITE ROADWAY SHALL BE REMOVED IMMEDIATELY.
13. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS FROM THE AFFECTED OFF-SITE ROADWAYS THAT ARE A RESULT OF THE CONSTRUCTION, AS REQUESTED BY OWNER AND CITY. AT A MINIMUM, THIS SHOULD OCCUR ONCE PER DAY FOR THE OFF-SITE ROADWAYS.
14. CONTRACTOR SHALL INSTALL A TEMPORARY SEDIMENT BASIN FOR ANY ON-SITE DRAINAGE AREAS THAT ARE GREATER THAN 10 ACRES, PER TCEQ AND CITY STANDARDS. IF NO ENGINEERING DESIGN HAS BEEN PROVIDED FOR A SEDIMENTATION BASIN ON THESE PLANS, THEN THE CONTRACTOR SHALL ARRANGE FOR AN APPROPRIATE DESIGN TO BE PROVIDED.
15. ALL FINES IMPOSED FOR SEDIMENT OR DIRT DISCHARGED FROM THE SITE SHALL BE PAID BY THE RESPONSIBLE CONTRACTOR.
16. WHEN SEDIMENT OR DIRT HAS CLOGGED THE CONSTRUCTION ENTRANCE VOID SPACES BETWEEN STONES OR DIRT IS BEING TRACKED ONTO A ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASH-DOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE.
17. TEMPORARY SEEDING OR OTHER APPROVED STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA, UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE.
18. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE MATERIAL, AND TRASH AS CONSTRUCTION PROGRESSES.
19. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND CITY INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE CONTRACTOR SHALL NOTIFY THE CITY OF GEORGETOWN, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE.
20. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
21. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.

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. CONSTRUCTION SHALL NOT PROCEED UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO THE CITY OF GEORGETOWN.

ACCESSIBILITY NOTES:

1. CONTRACTOR TO VERIFY A.D.A. COMPLIANCE FOR GRADES IN ALL SIDEWALK ACCESSIBLE ROUTES INCLUDING DRIVEWAY CROSSINGS AND HANDICAP PARKING STALLS.
2. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP. [TAS 4.3.7]
3. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN. THE MAXIMUM HORIZONTAL PROJECTION IS 30 FEET FROM A RAMP WITH A SLOPE BETWEEN 1:12 AND 1:15, AND 40 FEET FOR A RAMP WITH A SLOPE BETWEEN 1:16 AND 1:20. [ANSI 405.2 - 405.6]
4. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50. [TAS 4.3.7]
5. GROUND SURFACES ALONG ACCESSIBLE ROUTES MUST BE STABLE, FIRM, AND SLIP RESISTANT. [TAS 4.5.1]
6. HANDRAILS SHALL BE INSTALLED ALONG PEDESTRIAN WALKWAYS WHERE THE WALL DROP-OFFS ARE 30" OR GREATER.
7. ACCESSIBLE PARKING SPACES MUST BE LOCATED ON A SURFACE WITH A SLOPE NOT EXCEEDING 1:50.

RETAINING WALLS NOTES:

1. RETAINING WALLS SHOWN ARE FOR SITE GRADING PURPOSES ONLY. SURFACE SPOT ELEVATIONS AT THE TOP AND BOTTOM OF THE WALL ARE BASED ON FINISH GRADE ELEVATIONS.
2. RETAINING WALL TYPE OR SYSTEM SHALL BE SELECTED BY THE OWNER.
3. RETAINING WALL DESIGN SHALL BE PROVIDED BY A LICENSED STRUCTURAL ENGINEER AND SHALL FIT IN THE WALL ZONE OR LOCATION SHOWN ON THESE PLANS. STRUCTURAL DESIGN AND PERMITTING OF RETAINING WALLS, RAILINGS, AND OTHER WALL SAFETY DEVICES SHALL BE PERFORMED BY A LICENSED ENGINEER AND ARE NOT PART OF THIS PLAN SET.
4. RETAINING WALL DESIGN SHALL MEET THE INTENT OF THE GRADING PLAN AND SHALL ACCOUNT FOR ANY INFLUENCE ON ADJACENT BUILDING FOUNDATIONS, UTILITIES, PROPERTY LINES AND OTHER CONSTRUCTABILITY NOTES.
5. STRUCTURAL ENGINEER SHALL CONSULT THESE PLANS AND THE GEOTECHNICAL REPORT FOR POTENTIAL CONFLICTS.

GRADING NOTES:

1. THE CONTRACTOR AND GRADING SUBCONTRACTOR SHALL VERIFY THE SUITABILITY OF EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL OBTAIN ANY REQUIRED GRADING PERMITS FROM THE CITY.
3. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE.
4. PROPOSED SPOT ELEVATIONS AND CONTOURS OUTSIDE THE PAVEMENT ARE TO TOP OF FINISHED GRADE.
5. PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN CASE OF DISCREPANCY.
6. ALL FINISHED GRADES SHALL TRANSITION UNIFORMLY BETWEEN THE FINISHED ELEVATIONS SHOWN.
7. CONTOURS AND SPOT GRADES SHOWN ARE ELEVATIONS OF TOP OF THE FINISHED SURFACE. WHEN PERFORMING THE GRADING OPERATIONS, THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE ELEVATION HOLD-DOWN ALLOWANCE FOR THE THICKNESS OF PAVEMENT, SIDEWALK, TOPSOIL, MULCH, STONE, LANDSCAPING, RIP-RAP AND ALL OTHER SURFACE MATERIALS THAT WILL CONTRIBUTE TO THE TOP OF FINISHED GRADE.
8. NO REPRESENTATIONS OF EARTHWORK QUANTITIES OR SITE BALANCE ARE MADE BY THESE PLANS. THE CONTRACTOR SHALL PROVIDE THEIR OWN EARTHWORK CALCULATION TO DETERMINE THEIR CONTRACT QUANTITIES AND COST. ANY SIGNIFICANT VARIANCE FROM A BALANCED SITE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CIVIL ENGINEER.
9. ALL GRADING AND EARTHWORK SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
10. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL, SPECIFIED BY THE GEOTECHNICAL ENGINEER, AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE REMOVED FROM THE SITE AND APPROPRIATELY DISPOSED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE.
11. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF GRADING. REFERENCE EROSION CONTROL PLAN, DETAILS, GENERAL NOTES, AND SWPPP FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
12. BEFORE ANY EARTHWORK IS PERFORMED, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF THE PROJECT'S PROPERTY LINE AND SITE IMPROVEMENTS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.
13. CONTRACTOR TO DISPOSE OF ALL EXCESS EXCAVATION MATERIALS IN A MANNER THAT ADHERES TO LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL KEEP A RECORD OF WHERE EXCESS EXCAVATION WAS DISPOSED, ALONG WITH THE RECEIVING LANDOWNER'S APPROVAL TO DO SO.
14. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF TOPSOIL AT THE COMPLETION OF FINE GRADING. CONTRACTOR SHALL REFER TO LANDSCAPE ARCHITECTURE PLANS FOR SPECIFICATIONS AND REQUIREMENTS FOR TOPSOIL.
15. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
16. NO EARTHWORK FILL SHALL BE PLACED IN ANY EXISTING DRAINAGE WAY, SWALE, CHANNEL, DITCH, CREEK, OR FLOODPLAIN FOR ANY REASON OR ANY LENGTH OF TIME, UNLESS THESE PLANS SPECIFICALLY INDICATE THIS IS REQUIRED.
17. TEMPORARY CULVERTS MAY BE REQUIRED IN SOME LOCATIONS TO CONVEY RUN-OFF.
18. REFER TO DIMENSION CONTROL PLAN, AND PLAT FOR HORIZONTAL DIMENSIONS.
19. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND CONDITION FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
20. CONTRACTOR IS RESPONSIBLE FOR ALL SOILS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL SOILS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS AND THE GEOTECHNICAL REPORT. SOILS TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING SOILS. THE OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR SOILS TESTING.
21. ALL COPIES OF SOILS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
22. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE SOILS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
23. CONTRACTOR SHALL ENSURE THAT SUFFICIENT POSITIVE SLOPE AWAY FROM THE BUILDING PAD IS ACHIEVED FOR ENTIRE PERIMETER OF THE PROPOSED BUILDING(S) DURING GRADING OPERATIONS AND IN THE FINAL CONDITION. IF THE CONTRACTOR OBSERVES THAT THIS WILL NOT BE ACHIEVED, THE CONTRACTOR SHALL CONTACT THE ENGINEER TO REVIEW THE LOCATION.
24. THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER, OR BY OTHER MEANS APPROVED BY THE CITY, AT NO ADDITIONAL COST TO THE OWNER.
25. CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS NEEDED FOR GRADING OPERATIONS AND TO ACCOMMODATE PROPOSED GRADE, INCLUDING THE UNKNOWN UTILITIES NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL REFER TO THE GENERAL NOTES SECTION OF THESE PLANS FOR ADDITIONAL INFORMATION.
26. EXISTING TREE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. CONTRACTOR SHALL REPORT ANY DISCREPANCIES FOUND IN THE FIELD THAT AFFECT THE GRADING PLAN TO THE CIVIL ENGINEER.
27. CONTRACTOR SHALL FIELD VERIFY ALL PROTECTED TREE LOCATIONS, INDIVIDUAL PROTECTED TREE CRITICAL ROOT ZONES, AND PROPOSED SITE GRADING, AND NOTIFY THE CIVIL ENGINEER AND LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH THE TREE PRESERVATION PLAN BY THE LANDSCAPE ARCHITECT PRIOR TO COMMENCING THE WORK.
28. TREE PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARD TREE PROTECTION DETAILS AND THE APPROVED TREE PRESERVATION PLANS BY THE LANDSCAPE ARCHITECT.
29. CONTRACTOR SHALL REFER TO THE LANDSCAPING AND TREE PRESERVATIONS PLANS FOR ALL INFORMATION AND DETAILS REGARDING EXISTING TREES TO BE REMOVED AND PRESERVED.
30. NO TREE SHALL BE REMOVED UNLESS A TREE REMOVAL PERMIT HAS BEEN ISSUED BY THE CITY, OR CITY HAS OTHERWISE CONFIRMED IN WRITING THAT ONE IS NOT NEEDED FOR THE TREE(S).
31. NO TREE SHALL BE REMOVED OR DAMAGED WITHOUT PRIOR AUTHORIZATION OF THE OWNER OR OWNER'S REPRESENTATIVE. EXISTING TREES SHALL BE PRESERVED WHENEVER POSSIBLE AND GRADING IMPACT TO THEM HELD TO A MINIMUM.
32. AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING AND INADEQUATE SLOPE FOR DRAINAGE. ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORMWATER RUNOFF. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY AREAS OF POOR DRAINAGE ARE DISCOVERED.
33. CONTRACTOR FIELD ADJUSTMENT OF PROPOSED SPOT GRADES IS ALLOWED, IF THE APPROVAL OF THE CIVIL ENGINEER IS OBTAINED.

PAVING NOTES:

1. ALL PAVING MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION/DETAIL SHALL BE FOLLOWED.
2. ALL PRIVATE ON-SITE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING ALL ADDENDA.
3. ALL FIRELANE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARDS AND DETAILS. IF THESE ARE DIFFERENT THAN THOSE IN THE GEOTECHNICAL REPORT, THEN THE MORE RESTRICTIVE SHALL BE FOLLOWED.
4. ALL PUBLIC PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
5. CONTRACTOR IS RESPONSIBLE FOR ALL PAVING AND PAVING SUBGRADE TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL PAVING AND PAVING SUBGRADE TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING PAVING AND SUBGRADE. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR PAVING AND PAVING SUBGRADE TESTING.
6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE PAVING AND PAVING SUBGRADE, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
7. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAIL AND SPECIFICATIONS.
8. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO ADA AND TAS STANDARDS AND SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH AND FULL DEPTH OF THE CURB RAMP, NOT INCLUDING FLARES.
9. ALL ACCESSIBLE RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA AND TAS STANDARDS, LATEST EDITION.
10. ANY COMPONENTS OF THE PROJECT SUBJECT TO RESIDENTIAL USE SHALL ALSO CONFORM TO THE FAIR HOUSING ACT, AND COMPLY WITH THE FAIR HOUSING ACT DESIGN MANUAL BY THE US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
11. CONTRACTOR SHALL CONSTRUCT PROPOSED PAVEMENT TO MATCH EXISTING PAVEMENT WITH A SMOOTH, FLUSH, CONNECTION.
12. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDING AS SHOWN ON THE PLANS. ALL PAINT AND PAVEMENT MARKINGS SHALL ADHERE TO CITY AND OWNER STANDARDS.
13. REFER TO GEOTECHNICAL REPORT FOR PAVING JOINT LAYOUT PLAN REQUIREMENTS FOR PRIVATE PAVEMENT. REFER TO CITY STANDARD DETAILS AND SPECIFICATIONS FOR JOINT LAYOUT PLAN REQUIREMENTS FOR PUBLIC PAVEMENT.
14. ALL REINFORCING STEEL SHALL CONFORM TO THE GEOTECHNICAL REPORT, CITY STANDARDS, AND ASTM A-615, GRADE 60, AND SHALL BE SUPPORTED BY BAR CHAIRS. CONTRACTOR SHALL USE THE MORE STRINGENT OF THE CITY AND GEOTECHNICAL STANDARDS.
15. ALL JOINTS SHALL EXTEND THROUGH THE CURB. THE MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS SHALL BE 2 FEET.
16. CONTRACTOR SHALL SUBMIT A JOINTING PLAN TO THE ENGINEER AND OWNER PRIOR TO BEGINNING ANY OF THE PAVING WORK.
17. ALL SAWCUTS SHALL BE FULL DEPTH FOR PAVEMENT REMOVAL AND CONNECTION TO EXISTING PAVEMENT.
18. UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED.
19. CONTRACTOR IS RESPONSIBLE FOR INSTALLING NECESSARY CONDUIT FOR LIGHTING, IRRIGATION, ETC. PRIOR TO PLACEMENT OF PAVEMENT. ALL CONSTRUCTION DOCUMENTS (CIVIL, MEP, LANDSCAPE, IRRIGATION, AND ARCHITECT) SHALL BE CONSULTED.
20. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA, TAS, AND EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION.
21. CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA/TAS SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA AND TAS SLOPE COMPLIANCE ISSUES.

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 EDITION.

STORM DRAINAGE NOTES:

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER.
3. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING STORM SEWER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY STORM SEWER, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
4. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER.
5. FLOW LINE, TOP-OF-CURB, RIM, THROAT, AND GRATE ELEVATIONS OF PROPOSED INLETS SHALL BE VERIFIED WITH THE GRADING PLAN AND FIELD CONDITIONS PRIOR TO THEIR INSTALLATION.
6. ALL PUBLIC STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS.
7. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
8. ALL PRIVATE STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE.
9. ALL PVC TO RCP CONNECTIONS AND ALL STORM PIPE CONNECTIONS ENTERING STRUCTURES OR OTHER STORM PIPES SHALL HAVE A CONCRETE COLLAR AND BE GROUTED TO ASSURE THE CONNECTION IS WATERTIGHT.
10. ALL PUBLIC STORM SEWER LINES SHALL BE CLASS III RCP.
10. ALL PRIVATE STORM SEWER LINES SHALL BE HDPE.
11. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL STORM SEWER LINES.
12. EMBEDMENT FOR ALL STORM SEWER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS.
13. ALL WYE CONNECTIONS AND PIPE BENDS ARE TO BE PREFABRICATED AND INSTALLED PER MANUFACTURERS SPECIFICATIONS.
14. USE 4 FOOT JOINTS WITH BEVELED ENDS IF RADIUS OF STORM SEWER IS LESS THAN 100 FEET.
15. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
16. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

POND NOTES:

1. ANY PONDS THAT ARE INTENDED TO HOLD WATER INDEFINITELY SHALL BE CONSTRUCTED WATERTIGHT.
2. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR POND LINER SPECIFICATIONS.
3. A GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE ALL POND LINER MATERIAL, PLACEMENT PROCEDURES, AND PROVIDE TESTING TO ENSURE THE POND LINER MATERIAL PLACED IS WATERTIGHT.
4. STORM SEWER PIPES AND HEADWALLS THAT CONNECT TO A POND INTENDED TO HOLD WATER INDEFINITELY SHALL BE INSTALLED WITH WATERTIGHT JOINTS TO AT LEAST 1-FOOT ABOVE THE NORMAL POOL WATER SURFACE ELEVATION.
5. ANY GRAVEL OR OTHER PERVIOUS EMBEDMENT AROUND PIPES OR OUTFALL STRUCTURES NEAR THE POND SHALL BE ELIMINATED FOR AT LEAST 20-FEET FROM THE POND SO NO ROUTE FOR WATER TO LEAK THROUGH THE EMBEDMENT MATERIAL IS PROVIDED. BACKFILL IN THESE AREAS SHALL BE OF IMPERVIOUS MATERIAL.
6. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE WATER LEVEL FOLLOWING COMPLETION AND FILLING OF THE POND SHALL BE MONITORED BY THE CONTRACTOR FOR AT LEAST 60 DAYS TO OBSERVE WATER INFLOW, OUTFLOW, AND CALCULATE EVAPORATION TO VERIFY THAT THE POND IS WATERTIGHT.
7. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE POND WATER LEVEL SHALL ALSO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION SO THAT IT REMAINS FULL TO ITS DESIGN WATER LEVEL, AND IS NOT LOWERED, AS THIS MAY DRY-OUT THE POND LINER AND RISK ITS WATERTIGHT PROPERTIES.

WATER AND WASTEWATER NOTES:

1. ALL WATER AND WASTEWATER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING WATER AND WASTEWATER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY WATER OR WASTEWATER CONSTRUCTION, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY SERVICES ENTERING THE BUILDING.
4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL UTILITY CROSSINGS PRIOR TO THE INSTALLATION OF ANY PIPE.
5. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE WATER AND WASTEWATER IMPROVEMENTS.
6. ALL PUBLIC WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
7. ALL PRIVATE WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
8. FIRE SPRINKLER LINES SHALL BE DESIGNED AND INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR, AND COMPLY TO THE APPLICABLE CODES AND INSPECTIONS REQUIRED.
9. EMBEDMENT FOR ALL WATER AND WASTEWATER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS.
10. CONTRACTOR SHALL TAKE REQUIRED SANITARY PRECAUTIONS, FOLLOWING ANY CITY, TCEQ, AND AWWA STANDARDS, TO KEEP WATER PIPE AND FITTINGS CLEAN AND CAPPED AT TIMES WHEN INSTALLATION IS NOT IN PROGRESS.
11. ALL PUBLIC WATER LINES SHALL BE PVC C900. ALL PRIVATE WATER LINES SHALL BE PVC C900.
12. ALL PUBLIC WASTEWATER LINES SHALL BE PVC SDR 26. ALL PRIVATE WASTEWATER LINES SHALL BE PVC SDR 26.
13. CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL WATER AND WASTEWATER LINES.
14. ALL WATER AND WASTEWATER SERVICES SHALL BE COORDINATED WITH THE BUILDING PLUMBING PLANS.
15. CONTRACTOR SHALL COMPLY WITH CITY REQUIREMENTS FOR WATER AND WASTEWATER SERVICE DISRUPTIONS AND THE AMOUNT OF PRIOR NOTICE THAT IS REQUIRED, AND SHALL COORDINATE DIRECTLY WITH THE APPROPRIATE CITY DEPARTMENT.
16. CONTRACTOR SHALL SEQUENCE WATER AND WASTEWATER CONSTRUCTION TO AVOID INTERRUPTION OF SERVICE TO SURROUNDING PROPERTIES.
17. CONTRACTOR SHALL MAINTAIN WATER SERVICE AND WASTEWATER SERVICE TO ALL CUSTOMERS THROUGHOUT CONSTRUCTION (IF NECESSARY, BY USE OF TEMPORARY METHODS APPROVED BY THE CITY AND OWNER). THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
18. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL WATER AND WASTEWATER LINES CROSSING THE PROJECT. THE CONTRACTOR SHALL REPAIR ALL DAMAGED LINES IMMEDIATELY. ALL REPAIRS OF EXISTING WATER MAINS, WATER SERVICES, SEWER MAINS, AND SANITARY SEWER SERVICES ARE SUBSIDIARY TO THE WORK, AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
19. VALVE ADJUSTMENTS SHALL BE CONSTRUCTED SUCH THAT THE COVERS ARE AT FINISHED SURFACE GRADE OF THE PROPOSED PAVEMENT.
20. THE ENDS OF ALL EXISTING WATER MAINS THAT ARE CUT, BUT NOT REMOVED, SHALL BE PLUGGED AND ABANDONED IN PLACE. THIS WORK SHALL BE CONSIDERED AS A SUBSIDIARY COST TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
21. ALL FIRE HYDRANTS, VALVES, TEES, BENDS, WYES, REDUCERS, FITTINGS, AND ENDS SHALL BE MECHANICALLY RESTRAINED AND/OR THRUST BLOCKED TO CITY STANDARDS.
22. CONTRACTOR SHALL INSTALL A FULL SEGMENT OF WATER OR WASTEWATER PIPE CENTERED AT ALL UTILITY CROSSINGS SO THAT THE JOINTS ARE GREATER THAN 9-FEET FROM THE CROSSING.
23. ALL CROSSINGS AND LOCATIONS WHERE WASTEWATER IS LESS THAN 9-FEET FROM WATER, WASTEWATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 217.53.
24. ALL CROSSING AND LOCATIONS WHERE WATER IS LESS THAN 9-FEET FROM WASTEWATER, WATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 290.44.
25. ALL WATER AND WASTEWATER SHALL BE TESTED IN ACCORDANCE WITH THE CITY, AWWA, AND TCEQ STANDARDS AND SPECIFICATIONS. AT A MINIMUM, THIS SHALL CONSIST OF THE FOLLOWING: ALL WATERLINES SHALL BE HYDROSTATICALLY TESTED AND CHLORINATED BEFORE BEING PLACED INTO SERVICE. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. WASTEWATER LINES AND MANHOLES SHALL BE PRESSURE TESTED. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. AFTER COMPLETION OF THESE TESTS, A TELEVISION INSPECTION SHALL BE PERFORMED AND PROVIDED TO THE CITY AND OWNER ON A DVD.
26. CONTRACTOR SHALL INSTALL DETECTABLE WIRING OR MARKING TAPE A MINIMUM OF 12" ABOVE WATER AND WASTEWATER LINES. MARKER DECALS SHALL BE LABELED "CAUTION - WATER LINE", OR "CAUTION - SEWER LINE". DETECTABLE WIRING AND MARKING TAPE SHALL COMPLY WITH CITY STANDARDS, AND SHALL BE INCLUDED IN THE COST OF THE WATER AND WASTEWATER PIPE.
27. DUCTILE IRON PIPE SHALL BE PROTECTED FROM CORROSION BY A LOW-DENSITY POLYETHYLENE LINER WRAP THAT IS AT LEAST A SINGLE LAYER OF 8-MIL. ALL DUCTILE IRON JOINTS SHALL BE BONDED.
28. WATERLINES SHALL BE INSTALLED AT NO LESS THAN THE MINIMUM COVER REQUIRED BY THE CITY.
29. CONTRACTOR SHALL PROVIDE CLEAN-OUTS FOR PRIVATE SANITARY SEWER LINES AT ALL CHANGES IN DIRECTION AND 100-FOOT INTERVALS, OR AS REQUIRED BY THE APPLICABLE PLUMBING CODE. CLEAN-OUTS REQUIRED IN PAVEMENT OR SIDEWALKS SHALL HAVE CAST IRON COVERS FLUSH WITH FINISHED GRADE.
30. CONTRACTOR SHALL PROVIDE BACKWATER VALVES FOR PLUMBING FIXTURES AS REQUIRED BY THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL REVIEW BOTH MEP AND CIVIL PLANS TO CONFIRM WHERE THESE ARE REQUIRED.
31. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
32. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

SEQUENCE OF CONSTRUCTION:

1. INSTALL TREE PROTECTION AND INITIATE TREE MITIGATION MEASURES.
2. INSTALL EROSION CONTROLS AND OFF-SITE EROSION CONTROLS AS INDICATED ON APPROVED PLANS.
3. CONTACT CITY AND ANY OTHER INVOLVED AGENCY TO SCHEDULE PRE-CONSTRUCTION COORDINATION MEETING.
4. EVALUATE TEMPORARY EROSION CONTROL INSTALLATION. REVIEW CONSTRUCTION SCHEDULE WITH THE EROSION CONTROL PLAN.
5. BEGIN SITE CLEARING AND GRADING. INSPECT AND MAINTAIN ALL CONTROLS AS PER GENERAL NOTES.
6. CONSTRUCT UTILITY LINES I.E. WATER, WASTEWATER, AND STORM DRAINAGE. REFER TO PHASING PLAN.
7. CONSTRUCT PAVING/STREETS.
8. REVEGETATE DISTURBED AREAS OR COMPLETE A DEVELOPER'S CONTRACT FOR THE REVEGETATION ALONG WITH THE ENGINEER'S CONCURRENCE LETTER.
9. PROJECT ENGINEER INSPECTS JOB AND WRITES CONCURRENCE LETTER TO THE CITY. FINAL INSPECTION IS SCHEDULED UPON RECEIPT OF LETTER.
10. REMOVE TEMPORARY EROSION/SEDIMENTATION CONTROLS AT GRASS GROWTH.

NO.	REVISION	BY	DATE

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

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STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

GENERAL NOTES 1 OF 2

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 2 OF 52

2025- -SWP

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh2502683-gNOTES.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
ALL PROJECT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, PLANS AND SPECIFICATIONS FURNISHED BY HR GREEN DEVELOPMENT TX, LLC UNDER THIS PROJECT ARE INTENDED FOR USE ON THIS PROJECT ONLY. ANY REUSE, WITHOUT SPECIFIC WRITTEN VERIFICATION OR ADOPTION BY HR GREEN DEVELOPMENT TX, LLC, SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS COMPANY FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEYS' FEES ARISING OUT OF OR RESULTING THEREFROM.

FIRE PROTECTION NOTES:

1. 1,500 GPM FIRE FLOW SHALL BE PROVIDED FOR THIS PROJECT.

2. AT THE CONCLUSION OF CONSTRUCTION AND AS PART OF THE PROCESS FOR THE CITY TO ACCEPT THIS PHASE:

   - THE FIRE HYDRANTS SHALL BE FLOWED AND TESTED
   - A COPY OF THE REPORT SHALL BE EMAILED INTO THE FIRE DEPARTMENT
   - THE HYDRANTS SHALL BE PAINTED AND COLOR CODED.
   - CAUTION: IF PRESSURE REDUCING VALVES WERE INSTALLED IN THIS PHASING THEY MUST BE SET PRIOR TO FIRE HYDRANT FLOW TESTING.

3. PER CITY ORDINANCE SEC. 13.15.120, HYDRANT FLOW CODING STANDARDS. PUBLIC HYDRANTS WILL HAVE THE BONNETS PAINED SILVER, THE HYDRANTS WILL BE FLOW TESTED, AND THE BONNET PAINTED USING THE HYDRANT FLOW STANDARD IN PARAGRAPH C. FLOW COLOR:

   - GREATER THAN 1500 GPM BLUE
   - 1000 TO 1500 GPM GREEN
   - 500 - 999 GPM ORANGE
   - LASS THAN 500 GPM RED
   - NOT WORKING BLACK OR BAGGED

4. FIRE LANES SHALL BE MARKED AND LABELED AS A FIRELANE PER CITY STANDARDS.

5. APPROVAL OF THIS SITE PLAN DOES NOT IMPLY APPROVAL TO INSTALL UNDERGROUND FIRE LINES. PRIOR TO INSTALLATION OF UNDERGROUND FIRE LINES, A SEPARATE PERMIT SHALL BE SUBMITTED, UNDER GROUND FIRE LINE SUPPLY.

6. BACKFLOW PROTECTION WILL BE PROVIDED IN ACCORDANCE WITH THE CITY OF GEORGETOWN REQUIREMENTS WHEN REQUIRED. BACKFLOW PROTECTION WILL BE INSTALLED IN ACCORDANCE WITH THE DETAIL PROVIDED IN THE UTILITY DRAWINGS.

7. ALL PRIVATE FIRE LINES AND WHAT THEY PROVIDE SERVICE TO WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24 INSTILLATION OF PRIVATE SERVICE MAINS AND THEIR APPURTENANCES.

8. ALL TEES, PLUGS, CAPS, BENDS, REDUCERS, VALVES SHALL BE RESTRAINED AGAINST MOVEMENT. THRUST BLOCKING AND JOINT RESTRAINED WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24.

9. ALL UNDERGROUND SHALL REMAIN UNCOVERED UNTIL A VISUAL INSPECTION IS CONDUCTED BY THE GEORGETOWN FIRE MARSHAL'S OFFICE (FMO). ALL JOINT RESTRAINTS AND THRUST BLOCKING SHALL BE UNCOVERED FOR VISUAL INSPECTION.

10. ALL UNDERGROUND SHALL BE FLUSHED PER THE REQUIREMENTS OF NFPA STANDARD 24 AND WITNESSED BY GEORGETOWN FMO.

11. ALL UNDERGROUND SHALL PASS A HYDROSTATIC TEST WITNESSED BY GEORGETOWN FMO. ALL JOINTS SHALL BE UNCOVERED FOR HYDROSTATIC TESTING. ALL PIPING AND ATTACHMENTS SUBJECTED TO SYSTEM WORKING PRESSURE SHALL BE TESTED AT 200 PSI, OR 50 PSI MORE THAN THE SYSTEM WORKING PRESSURE, WHICHEVER IS GREATER, AND SHALL MAINTAIN THAT PRESSURE +/- 5 PSI FOR 2 HOURS.

12. FENCES, LANDSCAPING, AND OTHER ITEMS WILL NOT BE INSTALLED WITHIN 3 FT, AND WHERE THEY WILL OBSTRUCT THE VISIBILITY OR ACCESS TO HYDRANTS, OR REMOTE FDCS.

13. LICENSE REQUIREMENTS OF EITHER RME-U OR G. WHEN CONNECTING BY UNDERGROUND TO THE WATER PURVEYOR'S MAIN FROM THE POINT OF CONNECTION OR VALVE WHERE THE PRIMARY PURPOSE OF WATER IS FOR FIRE PROTECTION SPRINKLER SYSTEM.

14. DETAILS OF FIRE LANE MARKING. ALL CURBS AND CURB ENDS SHALL BE PAINTED RED WITH FOUR-INCH WHITE LETTERING STATING, "FIRE LANE—TOW AWAY ZONE". THE WORDS "FIRE LANE" BY THEMSELVES ARE NOT ACCEPTABLE. WORDING MAY NOT BE SPACED MORE THAN 30 FEET APART.

FIRE APPARATUS ACCESS ROAD GATE NOTES:

LA-D103.5 FIRE APPARATUS ACCESS ROAD GATES. GATES SECURING FIRE APPARATUS ACCESS ROADS SHALL COMPLY WITH ALL OF THE FOLLOWING CRITERIA:

1. THE MINIMUM UNOBSTRUCTED GATE WIDTH SHALL BE 20 FEET (6096MM).
   EXCEPTION: ONE- AND TWO-FAMILY DWELLINGS AS APPROVED BY THE FIRE CODE OFFICIAL.
2. GATES SHALL BE OF THE SWINGING OR SLIDING TYPE.
3. CONSTRUCTION OF GATES SHALL BE OF MATERIALS THAT ALLOW MANUAL OPERATION BY ONE PERSON.
4. GATE COMPONENTS SHALL ALWAYS BE MAINTAINED IN AN OPERATIVE CONDITION AND REPLACED OR REPAIRED WHEN DEFECTIVE.
5. ELECTRICALLY OPERATED GATES:
   A. SHALL BE EQUIPPED WITH A MEANS OF OPENING THE GATE BY FIRE DEPARTMENT PERSONNEL FOR EMERGENCY ACCHESS. EMERGENCY ACCESS DEVICES SHALL BE APPROVED BY THE FIRE CODE OFFICIAL.
   B. SHALL BE IN THE FULLY OPENED POSITION FOR NO MORE THAN 30 SECONDS.
   C. SHALL HAVE A MANUAL OVERRIDE SYSTEM. MANUAL OVERRIDE OPERATIONS SHALL BE LOCATED ON THE ENTRANCE SIDE OF THE GATE, OR WHEN POWER HAS FAILED, THE GATE(S) SHALL OPEN AND STAY OPEN UNTIL POWER IS RESTORED FOR NORMAL OPERATIONS.
   D. SHALL HAVE INSTALLED APPROVED PREEMPTIVE CONTROL OPENING EQUIPMENT.
   E. EXCEPTIONS.
      i. DRIVEWAYS SERVING ONE- AND TWO-FAMILY DWELLINGS AS APPROVED BY THE FIRE CODE OFFICIAL.
      ii. GATES SERVING AS AN EMERGENCY ACCESS WITH 24-HOUR STAFFED GATEHOUSES.
6. MANUAL OPENING GATES:
   A. MAY BE LOCKED WHEN APPROVED BY THE FIRE CODE OFFICIAL.
   B. IF EQUIPPED WITH A LOCK, KEYS SHALL BE PROVIDED FOR INSTALLATION INTO AN APPROVED FIRE DEPARTMENT KEY BOX. KEYS SHALL BE MAINTAINED CURRENT.
7. LOCKING DEVICE SPECIFICATIONS SHALL BE SUBMITTED FOR APPROVAL BY THE FIRE CODE OFFICIAL.
8. ELECTRIC GATE OPERATORS, WHERE PROVIDED, SHALL BE LISTED IN ACCORDANCE WITH UL 325.
9. GATES INTENDED FOR AUTOMATIC OPERATION SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED TO COMPLY WITH THE REQUIREMENTS OF ASTM F 2200.
10. A CONSTRUCTION PERMIT IN ACCORDANCE WITH SUBSECTION 503.6 IS REQUIRED TO INSTALL OR MODIFY A GATE ACROSS FIRE APPARATUS ROADWAYS.
11. MAINTENANCE OF GATES SECURING FIRE APPARATUS ACCESS. GATES SHALL BE MAINTAINED IN AN OPERATIVE CONDITION AND REPAIRED OR REPLACED WHEN DEFECTIVE. WHEN REQUIRED BY THE FIRE CODE OFFICIAL, DEFECTIVE GATES SHALL BE SECURED IN THE OPEN POSITION UNTIL REPAIRED.

CITY OF GEORGETOWN NOTES:

1. THESE CONSTRUCTION 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 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 TO THE CITY.

3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.

4. WASTEWATER MAINS AND SERVICE LINES SHALL BE SDR 26 PVC.

5. WASTEWATER MAINS SHALL BE INSTALLED WITHOUT HORIZONTAL OR VERTICAL BENDS.

6. MAXIMUM DISTANCE BETWEEN WASTEWATER MANHOLES IS 500 FEET.

7. WASTEWATER MAINS SHALL BE LOW PRESSURE AIR TESTED AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.

8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.

9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY ON DVD FORMAT PRIOR TO PAVING THE STREETS.

10. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.

11. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 FOR ALL OTHERS.

12. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 4 HOURS.

13. ALL BEND AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.

14. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.

15. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.

16. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.

17. FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TXDOT TYPE A GRADE 1.

18. HOT MIX ASPHALT CONCRETE PAVEMENT SHALL BE TYPE D UNLESS OTHERWISE SPECIFIED AND SHALL BE A MINIMUM OF 2 INCHES THICK ON PUBLIC STREETS AND ROADWAYS.

19. ALL SIDEWALK RAMPS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE.

20. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF HTE PUBLIC IMPROVEMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEAR IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.

21. 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 ON A FLASH DRIVE OR BY CLOUD SOURCE.

CITY OF GEORGETOWN WATER & WASTEWATER NOTES:

1. PIPE MATERIAL FOR WATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 200), OR DUCTILE IRON (C-115, MIN. CLASS 200) UNLESS SPECIFIED OTHERWISE.

2. PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D3034, SDR-26) UNLESS SPECIFIED OTHERWISE.

3. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR TO COORDINATE UTILITY TIE-INS AND NOTIFY HIM AT LEAST 48 HOURS PRIOR TO CONNECTING TO EXISTING LINES.

4. ALL MANHOLES SHALL HAVE ECCENTRIC CONES AND SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS. TAPPING OF FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.

5. THE CONTRACTOR MUST OBTAIN A BULK WATER PERMIT OR PURCHASE AND INSTALL A WATER METER FOR ALL WATER USED DURING CONSTRUCTION. A COPY OF THIS PERMIT MUST BE CARRIED AT ALL TIMES BY ALL WHO USE WATER. CONTRACTOR TO INSTALL ABOVE GROUND WATER TANK WITH SUPPLY LINE AS INDICATED ON PLANS.

6. LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE SCHEDULED WITH THE CITY INSPECTOR.

7. THE CONTRACTOR, AT HIS EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY CITY OF GEORGETOWN PERSONNEL.

8. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF INSPECTOR AND PROVIDE NO LESS THAN 24 HOURS NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING OR PRESSURE TESTING.

9. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES UNLESS AUTHORIZED BY THE CITY OF GEORGETOWN.

10. ALL VALVE BOXES AND COVERS SHALL BE CAST IRON.

11. TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE AND VALVE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE ENGINEER AND ACCEPTED BY THE CITY OF GEORGETOWN.

12. CONTACT CITY OF GEORGETOWN INSPECTION DEPARTMENT FOR ASSISTANCE IN OBTAINING EXISTING WATER AND WASTEWATER LOCATIONS.

13. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ASTM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

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

15. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12 A.M. AND 6 A.M.

16. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 313 AND 317, AS APPLICABLE. WHENEVER TCEQ AND CITY OF GEORGETOWN SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.

17. THE CONTRACTOR SHALL CONTACT THE "TEXAS811" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF GEORGETOWN WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES.

18. ALL MANHOLES IN UNPAVED AREAS PROVIDING DIRECT ACCESS TO A WASTEWATER LINE SHALL BE WATERTIGHT AND BEAR THE WORDING AND INSIGNIA FOR THE CITY OF GEORGETOWN.

19. THE OWNER IS RESPONSIBLE FOR ALL COST OF RELOCATION OR DAMAGE TO UTILITIES.

20. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO HIS/HER FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.

21. THE ENGINEER, IN PREPARING THESE PLANS HAS ATTEMPTED TO LOCATE ALL EXISTING UTILITIES IN THE AREAS OF EXPANSION OR NEW CONSTRUCTION. HOWEVER, THERE MAY BE UTILITIES THAT COULD NOT BE OR WERE NOT LOCATED. UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL CALL APPROPRIATE UTILITY COMPANIES FOR LOCATIONS OF THEIR UTILITIES AT LEAST 48 HOURS BEFORE COMMENCING EXCAVATION. IN THE EVENT THAT A UTILITY IS SITUATED SUCH THAT CONSTRUCTION CANNOT PROCEED AS SHOWN ON THE PLANS, THE CONSTRUCTION MANAGER/SUPERVISOR SHALL BE NOTIFIED IMMEDIATELY.

22. CONTRACTOR TO COORDINATE WITH APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION, ADJUSTMENT, OR RELOCATION OF EXISTING UTILITIES AS DESIGNATED ON PLANS.

23. THE MINIMUM HORIZONTAL SEPARATION BETWEEN WATER AND ASSOCIATED VALVING AND SEWER LINES AND ASSOCIATED MANHOLES, IS NINE (9) FEET OUTSIDE DIAMETER TO OUTSIDE DIAMETER. THE MINIMUM VERTICAL SEPARATION BETWEEN WATER AND SEWER LINES IS EIGHTEEN (18) INCHES.

24. THE TOP ELEVATION OF MANHOLES IN PAVED AREAS SHALL MATCH FINISH GRADE. THE TOP ELEVATION OF MANHOLES IN UNPAVED AREAS SHALL BE 3" (MIN.) ABOVE FINISH GRADE, UNLESS OTHERWISE NOTED ON PLANS.

25. CONTRACTOR SHALL COORDINATE INSPECTION OF UTILITY LINES WITH APPROPRIATE AUTHORITIES PRIOR TO BACKFILLING TRENCHES.

26. ALL WATER AND WASTEWATER LINES IN CITY R.O.W. AND EASEMENTS WILL MEET THE CITY OF GEORGETOWN WATER AND WASTEWATER DEPARTMENT DESIGN CRITERIA, AT A MINIMUM.

27. CITY MAINTENANCE OF UTILITIES ENDS AT THE PROPERTY LINE UNLESS IN AN EASEMENT.

28. EXTEND ALL EXISTING UTILITY MANHOLES, BOXES, COVERS, ETC. TO PROPOSED FINISH GRADE, UNLESS APPROVED OTHERWISE.

29. ALL UNDERGROUND UTILITY CONSTRUCTION WITHIN CITY R.O.W. OR PUBLIC EASEMENTS MUST BE ACCOMPLISHED IN ACCORDANCE WITH THE CITY OF GEORGETOWN STANDARD SPECIFICATIONS.

30. AN 80 MIL COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.

31. ALL WATER SERVICE, WASTEWATER SERVICE AND VALVE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:

WATER SERVICE	"W" ON TOP OF CURB
WASTEWATER SERVICE	"S" ON TOP OF CURB
VALVE	"V" ON FACE OF CURB
DRY UTILITIES	"DU" ON FACE OF CURB

32. CENTER ONE 20-FOOT 150 PSI PRESSURE RATED WASTEWATER PIPE SECTION AT ALL WATERLINE CROSSINGS.

33. 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 CHAPTER 217 (DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS) OR 30 TAC CHAPTER 290 (PUBLIC DRINKING WATER).

NO.	REVISION	BY	DATE

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GENERAL NOTES 2 OF 2

BERRY CREEK CROSSING
SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 3 OF 52

2025- -SWP

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\s2502063-xNOTES.dwg | Date Plotted: August 15, 2025 | Plotted By: mwhitepaw
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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) GENERAL CONSTRUCTION NOTES

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM MUST BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES 30 TEXAS ADMINISTRATIVE CODE (TAC) §§213.5(C) AND 217.51 - 217.70 AND 30 TAC CHAPTER 217, SUBCHAPTER D, AND THE CITY OF GEORGETOWN STANDARD SPECIFICATIONS.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SEWAGE COLLECTION SYSTEM PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.

3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
- THE NAME OF THE APPROVED PROJECT;
- THE ACTIVITY START DATE; AND
- THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.

7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.

8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.

9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE. THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET 32. IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.

10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).

11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: N/A.

IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: N/A.

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

12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.

IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET 32. (FOR POTENTIAL FUTURE LATERALS).

THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON PLAN SHEETS 27 TO 28 AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET 32.

13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.

14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).

15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:

(A) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:

(1) LOW PRESSURE AIR TEST.

(A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS PARAGRAPH.

(B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION.

(I) A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE.

(II) ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

EQUATION C.3

WHERE: $$T = \frac{0.085 \times D \times K}{Q}$$

T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS
K = 0.000419 X D X L, BUT NOT LESS THAN 1.0
D = AVERAGE INSIDE PIPE DIAMETER IN INCHES
L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET
Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

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

PIPE DIAMETER (INCHES)	MINIMUM TIME (SECONDS)	MAXIMUM LENGTH FOR MINIMUM TIME (FEET)	TIME FOR LONGER LENGTH (SECONDS/FOOT)
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

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

(E) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.

(F) WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS SECTION.

(G) A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.

(2) *INFILTRATION/EXFILTRATION TEST.*

(A) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.

(B) AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.

(C) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER.

(D) FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.

(E) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.

(b) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:

(1) FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL.

(A) MANDREL SIZING.

(I) A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTMS, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.

(II) IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDREL, MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.

(III) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.

(B) MANDREL DESIGN.

(I) A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.

(II) A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS.

(III) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.

(IV) EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING.

(C) METHOD OPTIONS.

(I) AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.

(II) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.

(III) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.

(2) FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.

(3) A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.

(4) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.

(5) GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).

(6) IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.
(A) ALL MANHOLES MUST PASS A LEAKAGE TEST.
(B) AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.
(1) HYDROSTATIC TESTING.
(A) THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.
(B) TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.
(C) A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE.
(2) VACUUM TESTING.
(A) TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.
(B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.
(C) STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.
(D) AN OWNER SHALL USE A MINIMUM 60 INCH/LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE.
(E) A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
(F) THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.
(G) A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.
(H) A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.

17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.5(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE:

TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. AT A MINIMUM, CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS MEET TCEQ'S "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS."

2. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI [§290.44(A)(1)].

3. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS [§290.44(A)(2)].

4. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY [§290.44(A)(3)].

5. ALL WATER LINE CROSSINGS OF WASTEWATER MAINS SHALL BE PERPENDICULAR [§290.44(E)(4)(B)].

6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE [§290.44(A)(4)].

7. THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES IS 0.25 PERCENT [§290.44(B)].

8. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES WITH VENT OPENINGS TO THE ATMOSPHERE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT [§290.44(D)(1)].

9. THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION [§290.44(F)(1)].

10. WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATERLINE SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED [§290.44(F)(2)].

11. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS.

- THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

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

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;

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

L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
S = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

12. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET §290.44(E)(1)-(4).

13. THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT [§290.44(E)(5)].

14. FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION [§290.44(E)(6)].

15. SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE [§290.44(E)(7)].

16. WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS [§290.44(E)(8)].

17. THE CONTRACTOR SHALL DISINFECT THE NEW WATERLINES IN ACCORDANCE WITH AWWA STANDARD C651-14 OR MOST RECENT, THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATERLINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER [§290.44(F)(3)].

18. DECHLORINATION OF DISINFECTING WATER SHALL BE IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD C655-09 OR MOST RECENT.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
- THE NAME OF THE APPROVED PROJECT;
- THE ACTIVITY START DATE; AND
- THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.

7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.

8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.

11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
- THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
- THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
- THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

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

NO.	REVISION	BY	DATE

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TBPE NO: 16384
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STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

TCEQ NOTES

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 4 OF 52

2025- -SWP

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh2502683-gNOTES.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez

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LEGEND

- PROPERTY BOUNDARY
- EASEMENT
- 840 EXISTING MAJOR CONTOUR
- 834 EXISTING MINOR CONTOUR
- 100YR 100-YR FEMA FLOODPLAIN
- EXISTING FENCE
- EX WL EXISTING WATER LINE
- EX WW EXISTING WASTEWATER LINE
- OE EXIST. OVERHEAD ELECTRIC
- UE EXIST. UNDERGROUND ELECTRIC
- TL TL EXIST. TRANSMISSION LINE
- EXIST. FIBER OPTIC CABLE
- EXISTING TREES
- EXISTING HERITAGE TREES
- EXISTING TREES - REMOVED
- EXISTING HERITAGE TREES - REMOVED
- EXISTING POWER POLE
- EXISTING GUY POLE
- EXISTING ELECTRIC METER
- EXISTING GRAVEL ROAD

CAUTION
EXISTING UTILITIES

CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.

THE CONTRACTOR IS ALLOWED TO REMOVE ANY ABANDONED UNDERGROUND UTILITY PART OF THE OLD RV PARK UTILITY NETWORKS. CONTRACTOR SHALL COORDINATE THE REMOVAL OF THE EXISTING OVERHEAD ELECTRICAL LINE AND POLES WITH THE OWNER AND P.E.C..

THERE MAY BE MORE UTILITIES THAN THOSE SHOWN IN THE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO: VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES, TAKE NECESSARY PRECAUTIONS TO PROTECT ALL FACILITIES ENCOUNTERED, AND SHALL NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE PROPOSED IMPROVEMENTS WITH THE OWNER OF THE FACILITIES THAT WILL BE CONNECTED OR CROSSED OR INSTALLED NEARBY. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, BOTH KNOWN AND UNKNOWN, SHALL BE REPAIRED OR RESTORED AT THE EXPENSE OF THE CONTRACTOR.

NO.	REVISION	BY	DATE

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5508 HIGHWAY 290 W
SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com
TBPE NO: 16384
TBPLS NO: 10194101

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

EXISTING CONDITIONS AND DEMOLITION PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 8 OF 52

2025- -SWP

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plansets\250903-XYCNO.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
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TREE LIST					
HERITAGE	TREE TAG	CALIPER (MULTI TRUNK)	SPECIES	CRZ	REMOVED
H	240	53" (45", 16")	TWIN LIVE OAK	53'	
H	242	46" (33" 25")	TWIN LIVE OAK	46'	
H	401	52"	LIVE OAK	52'	
H	402	29"	LIVE OAK	29'	
H	403	40"	LIVE OAK	40'	
H	404	35"	LIVE OAK	35'	
	405	20"	RED OAK	20'	
H	406	46"	LIVE OAK	46'	
H	407	34"	LIVE OAK	34'	
H	408	33"	LIVE OAK	33'	
H	409	36"	LIVE OAK	36'	
H	410	65" (45", 39")	TWIN LIVE OAK	65'	
	412	20"	LIVE OAK	20'	
	413	21"	LIVE OAK	21'	
H	414	52"	LIVE OAK	52'	
H	415	48" (31", 18", 16")	TRIPLE LIVE OAK	48'	
H	418	53"	LIVE OAK	53'	
	419	14"	ELM	14'	X
H	420	37"	LIVE OAK	37'	
	427	17"	ELM	17'	X
	428	19" (13", 11")	TWIN ELM	19'	
H	432	28" (19", 18")	TWIN LIVE OAK	28'	
H	446	26" (19", 14")	TWIN ELM	26'	
	449	22"	LIVE OAK	22'	
H	450	26" (21", 10")	TWIN LIVE OAK	26'	
	451	20"	LIVE OAK	20'	X
H	452	30"	LIVE OAK	30'	
	453	15" (10", 10")	TWIN LIVE OAK	15'	
H	456	29" (18", 12", 10")	TRIPLE LIVE OAK	29'	
	457	17"	ELM	17'	
H	458	33"	LIVE OAK	33'	
	460	14"	LIVE OAK	14'	X
	461	15"	LIVE OAK	15'	X
	462	14"	LIVE OAK	14'	X
	465	18"	LIVE OAK	18'	
	466	14"	ELM	14'	
H	467	28" (16", 15", 8")	TRIPLE LIVE OAK	28'	
H	547	50"	LIVE OAK	50'	
H	558	26"	LIVE OAK	26'	
H	559	31"	LIVE OAK	31'	
	560	19"	LIVE OAK	19'	
	567	16"	LIVE OAK	16'	
	568	15"	LIVE OAK	15'	
	569	14"	LIVE OAK	14'	
H	570	29"	LIVE OAK	29'	
H	6410	32"	LIVE OAK	32'	
	6411	24"	LIVE OAK	24'	

TREE MITIGATION

EXISTING TOTAL TREES (INCHES)	EXISTING HERITAGE TREES (26"+) (INCHES)	TOTAL HERITAGE TREES TO BE REMOVED (INCHES)	HERITAGE TREES PRESERVED (INCHES)	EXISTING PROTECTED TREES (12"-25") (INCHES)	TOTAL PROTECTED TREES TO BE REMOVED (INCHES)	PROTECTED TREES PRESERVED (INCHES)	REQUIRED HERITAGE MITIGATION (3:1 RATIO) (INCHES)	REQUIRED PROTECTED MITIGATION (1:1 RATIO FOR 40%) (INCHES)	TOTAL REQUIRED MITIGATION (INCHES)	MITIGATION AT $200/INCH ($)
1375	1027	0	1027	348	94	254	0	37.6	37.6	$7,520

EROSION AND SEDIMENTATION CONTROL NOTES:

1. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE IMPLEMENTATION, MAINTENANCE AND EFFECTIVENESS OF ALL EROSION AND SEDIMENTATION CONTROLS.
2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE, MODIFICATION AND REMOVAL DATES OF EACH EROSION AND SEDIMENTATION CONTROLS AND BMP.
3. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD, MODIFY AND REMOVE ANY EROSION AND SEDIMENTATION CONTROL ON THE SITE.
4. CONTRACTOR SHOULD UTILIZE DUST CONTROL MEASURES DURING THE SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME.
6. REFERENCE EROSION AND SEDIMENTATION CONSTRUCTION DETAILS INCLUDED IN THESE PLANS.
7. IF A DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, THE DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION OR MULCH PER CITY STANDARDS.

SEQUENCE OF MAJOR ACTIVITIES:

1. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES TO INCLUDE SILT FENCE, ROCK BERMS, AND STABILIZED CONSTRUCTION ENTRANCES WILL BE INSTALLED ACCORDING TO CONSTRUCTION PLANS AND IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
2. TREE PROTECTION MEASURES WILL ALSO BE INSTALLED FOR ALL TREES WITH CONSTRUCTION ACTIVITIES WITHIN CRITICAL ROOT ZONE.
3. TEMPORARY SPOILS, CONSTRUCTION STAGING AND CONCRETE WASHOUT AREA WILL BE CONSTRUCTED.
4. SEDIMENTATION TRAPS SHALL BE CLEANED OUT AND FILTER MEDIUM INSTALLED CONCURRENT WITH RE-VEGETATION.
5. THE DISTURBED AREA TO REMAIN PERVIOUS WILL BE VEGETATED USING THE PROCEDURES DETAILED IN THE CONSTRUCTION PLANS AND ALL TEMPORARY EROSION CONTROL MEASURES WILL BE REMOVED UPON RE-VEGETATION.
6. ALL AREAS WITHIN THE LIMITS OF CONSTRUCTION ARE EXPECTED TO BE DISTURBED DURING CONSTRUCTION.
7. TEMPORARY ROCK BERM TO BE REMOVED PRIOR TO FINAL INSPECTION.

SCALE: 1" = 60'

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- BOUNDARY LINE
- LOT LINE
- EASEMENT
- LOC — LIMITS OF CONSTRUCTION
- LOC/SF — LIMITS OF CONSTRUCTION/SILT FENCE
- SF — SILT FENCE
- TP — TREE PROTECTION
- 100YR — 100 YR FEMA FLOODPLAIN
- FLOW DIRECTION
- EXISTING TREE TO REMAIN
- EXISTING HERITAGE TREE TO REMAIN
- TREE TO BE REMOVED
- HERITAGE TREE TO BE REMOVED
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK BERM
- TEMPORARY SPOILS AREA
- STAGING AREA
- CONCRETE WASHOUT AREA

NO.	REVISION	BY	DATE

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08/15/2025

OVERALL EROSION CONTROL PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 9 OF 52

2025- -SWP

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Planset\250903-EROS.dwg | Date Plotted: August 15, 2025 | Plotted By: mwilsonjunz

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Existing Drainage Conditions												Time of Concentration Calculations									
User Inputs					Auto-Calculation		TOC Calcs	Routing Analysis Inputs					Sheet Flow				Shallow Concentrated Flow (Unpaved)			Pipe/Channel Flow 1		
Contributing Area	Area (sf)	CN (Pervious)	CN (Impervious)	Impervious Cover (sf)	Area (ac)	Impervious Cover (%)	TOC (min)	Area (sq. mi.)	Composite Curve Number	Lag Time	Reach Lag (if required)	Contributing Area	Length	Slope (ft/ft)	Roughness Coefficient	T_{sheet}	Length (ft)	Slope (ft/ft)	$T_{unpaved}$	Length (ft)	Velocity (ft)	$T_{channel}$ (min)
EX-01	2,489,620	77	98	463,724	57.15	18.6%	29.46	0.08930	80.9	17.68		EX-01	100	0.005	0.240	22.39	904	0.052	4.10	1071	6	2.98
EX-02	493,706	77	98	21,171	11.33	4.3%	26.08	0.01771	77.9	15.65	0.00	EX-02	100	0.005	0.240	22.39	477	0.035	2.63	378	6	1.05

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

LEGEND

- P-1 / 5.00 Ac — DRAINAGE AREA NAME / DRAINAGE AREA (IN ACRES)
- TIME OF CONCENTRATION
- POI-15 — DRAINAGE DESIGN POINT
- DIRECTION OF FLOW
- DRAINAGE AREA
- 835 — EXISTING MAJOR CONTOUR
- 834 — EXISTING MINOR CONTOUR
- 835 — PROPOSED MAJOR CONTOUR
- 834 — PROPOSED MINOR CONTOUR
- 100YR — 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE

DRAINAGE NOTES:

1. REFER TO DETENTION WAIVER STUDY APPROVED WITH THE ORIGINAL (2021-23-PP) AND REVISED (2024-20-PP) PRELIMINARY PLAT.
2. FLOW IN CREEK AND UPSTREAM BASINS NOT CONSIDERED. ONLY BASINS SHOWN ARE CONSIDERED FOR DRAINAGE ANALYSIS.
3. IMPERVIOUS COVER IN PROPOSED CONDITION INCLUDES TXDOT TURN LANE INCLUDED IN SITE DEVELOPMENT PLAN, "BERRY CREEK APARTMENTS - PHASE 1", CITY PROJECT NO. 2022-74-SDP.

Existing Conditions - Flows & Volumes - Atlas 14

ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
EX-01	81.80	164.00	225.90	338.40	9.80	19.80	27.50	41.90
EX-02	21.60	44.90	62.50	94.70	1.80	3.70	5.20	8.00
POI-01	81.80	164.00	225.90	338.40	9.80	19.80	27.50	41.90
POI-02	21.60	44.90	62.50	94.70	1.80	3.70	5.20	8.00

Proposed (Interim) Conditions - Flows & Volumes - Atlas 14

ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
PR-01	55.00	105.20	142.50	209.80	6.50	12.60	17.20	25.90
PR-02	12.30	25.10	34.90	52.70	1.40	2.90	4.00	6.10
PR-03	28.50	59.40	82.90	125.80	2.20	4.60	6.50	10.10
PR-04	7.60	15.80	22.00	33.40	0.60	1.30	1.80	2.80
POI-01	64.30	126.10	172.30	256.00	8.70	17.20	23.80	36.00
POI-02	15.10	31.50	44.00	66.90	2.00	4.10	5.80	8.90

Flow & Volume Comparison (Interim - Existing) - Atlas 14

ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
POI-01	-17.50	-37.90	-53.60	-82.40	-1.10	-2.60	-3.70	-5.90
POI-02	-6.50	-13.40	-18.50	-27.80	0.20	0.40	0.60	0.90

NO.	REVISION	BY	DATE

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08/15/2025

EXISTING DRAINAGE AREA MAP

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 13 OF 52

2025- -SWP

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X:\Projects\2025\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plansheets\2025083-ADM4.dwg | Date Plotted: September 05, 2025 | Plotted By: collin.rotson

Proposed (Interim) Drainage Conditions												Time of Concentration Calculations										
User Inputs					Auto-Calculation		TOC Calcs	Routing Analysis Inputs					Sheet Flow				Shallow Concentrated Flow (Unpaved)			Pipe/Channel Flow 1		
Contributing Area	Area (sf)	CN (Pervious)	CN (Impervious)	Impervious Cover (sf)	Area (ac)	Impervious Cover (%)	TOC (min)	Area (sq. mi.)	Composite Curve Number	Lag Time	Reach Lag (if required)	Contributing Area	Length	Slope (ft/ft)	Roughness Coefficient	T_{sheet}	Length (ft)	Slope (ft/ft)	$T_{unpaved}$	Length (ft)	Velocity (ft)	$T_{channel}$ (min)
PR-01	1,475,486	77	98	481,150	33.87	32.6%	28.48	0.05293	83.8	17.09	0.99	PR-01	100	0.005	0.240	22.39	904	0.052	4.10	716	6	1.99
PR-02	371,797	77	98	47,815	8.54	12.9%	25.87	0.01334	79.7	15.52	0.21	PR-02	100	0.005	0.240	22.39	477	0.035	2.63	304	6	0.84
PR-03	626,864	77	98	35,833	14.39	5.7%	6.00	0.02249	78.2	3.60		PR-03	100	0.219	0.240	4.94	59	0.280	0.12	264	6	0.73
PR-04	171,718	77	98	12,200	3.94	7.1%	8.02	0.00616	78.5	4.81		PR-04	30	0.015	0.240	5.51	282	0.020	2.06	163	6	0.45

SCALE: 1" = 100'

LEGEND

- P-1 / 5.00 Ac — DRAINAGE AREA NAME / DRAINAGE AREA (IN ACRES)
- TIME OF CONCENTRATION
- POI-15 — DRAINAGE DESIGN POINT
- DIRECTION OF FLOW
- DRAINAGE AREA
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 100YR — 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE

DRAINAGE NOTES:

1. REFER TO DETENTION WAIVER STUDY APPROVED WITH THE ORIGINAL (2021-23-PP) AND REVISED (2024-20-PP) PRELIMINARY PLAT.
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Existing Conditions - Flows & Volumes - Atlas 14								
ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
EX-01	81.80	164.00	225.90	338.40	9.80	19.80	27.50	41.90
EX-02	21.60	44.90	62.50	94.70	1.80	3.70	5.20	8.00
POI-01	81.80	164.00	225.90	338.40	9.80	19.80	27.50	41.90
POI-02	21.60	44.90	62.50	94.70	1.80	3.70	5.20	8.00

Proposed (Interim) Conditions - Flows & Volumes - Atlas 14								
ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
PR-01	55.00	105.20	142.50	209.80	6.50	12.60	17.20	25.90
PR-02	12.30	25.10	34.90	52.70	1.40	2.90	4.00	6.10
PR-03	28.50	59.40	82.90	125.80	2.20	4.60	6.50	10.10
PR-04	7.60	15.80	22.00	33.40	0.60	1.30	1.80	2.80
POI-01	64.30	126.10	172.30	256.00	8.70	17.20	23.80	36.00
POI-02	15.10	31.50	44.00	66.90	2.00	4.10	5.80	8.90

Flow & Volume Comparison (Interim - Existing) - Atlas 14								
ID	Peak Flows (cfs)				Volumes (ac-ft)			
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
POI-01	-17.50	-37.90	-53.60	-82.40	-1.10	-2.60	-3.70	-5.90
POI-02	-6.50	-13.40	-18.50	-27.80	0.20	0.40	0.60	0.90

NO.	REVISION	BY	DATE

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PROPOSED DRAINAGE AREA MAP

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 14 OF 52

2025- -SWP

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DRAINAGE NOTES:

1. REFER TO DETENTION WAIVER STUDY APPROVED WITH THE ORIGINAL (2021-23-PP) AND REVISED (2024-20-PP) PRELIMINARY PLAT.
2. FLOW IN CREEK AND UPSTREAM BASINS NOT CONSIDERED. ONLY BASINS SHOWN ARE CONSIDERED FOR DRAINAGE ANALYSIS.
3. IMPERVIOUS COVER IN PROPOSED CONDITION INCLUDES TXDOT TURN LANE INCLUDED IN SITE DEVELOPMENT PLAN, "BERRY CREEK APARTMENTS - PHASE 1", CITY PROJECT NO. 2022-74-SDP.

BERRY CREEK CROSSING - SHARED IMPROVEMENTS
RATIONAL METHOD FLOW CALCULATIONS FOR STORM INLETS

BASIN LABEL	INLET LABEL	INLET TYPE*	AREA (SQ.FT)	AREA (AC)	IMPERVIOUS (LOTS) (SF)	IMPERVIOUS (ROADS) (SF)	IMPERVIOUS %	PERVIOUS %	TC (MIN)	2-YR			10-YR			25-YR			100-YR		
										C	I	Q	C	I	Q	C	I	Q	C	I	Q
1	A1	CGRD	18,723	0.43	0	5,247	28%	72%	7.1	0.44	5.97	1.13	0.47	8.02	1.61	0.49	9.18	1.93	0.53	11.12	2.51
2	A17	CGRD	5,386	0.12	0	5,386	100%	0%	5.0	0.95	6.48	0.76	0.95	8.64	1.02	0.95	9.84	1.16	0.95	11.88	1.40

BERRY CREEK CROSSING - SHARED IMPROVEMENTS
TIME OF CONCENTRATION CALCULATIONS

Contributing Area	Sheet Flow				Shallow Concentrated Flow (Unpaved)				Gutter Flow		
	Length (ft)	Slope (ft/ft)	Roughness Coefficient	T_{sheet}	Length (ft)	Slope (ft/ft)	Roughness Coefficient	$T_{unpaved}$	Length (ft)	Velocity (ft/s)	Tpaved
1	30	0.011	0.24	1.63	130	0.01	0.24	5.20	81	6	0.23
2	0	0	0	0.00	0	0	0	0.00	295	6	0.82

Curb Inlets On Grade Calculation Summary: 25 year

Drainage Area No.	Inlet No.	Q_{25} (cfs)	Q_{pass} (cfs)	Q_{total} (cfs)	Slope (%)	n	Ku	Street Width (ft)	Crown Height (ft)	Inlet Depression, a (ft)	K0	K1	K2	y0 (ft)	a	b	Flow Spread, T (ft)	H1 (ft)	H2 (ft)	Qa/La (cfs/ft)	Length (ft)	Qa	Q_{pass} (cfs)	% Captured	Bypass to Inlet
1	A1	1.93	0.00	1.93	3.80%	0.015	0.560	34.00	0.500	0.42	2.85	0.50	3.03	0.24	0.0588	0.0017	4.85	0.66	0.42	0.70	10.00	6.97		100%	0.00
2	A17	1.16	22.16	23.32	1.00%	0.015	0.560	40.00	0.500	0.42	2.85	0.50	2.89	Overflow	0.0500	0.0013	20.00	0.92	0.42	0.97	10.00	9.69	13.62	42%	0.00

Curb Inlets On Grade Calculation Summary: 100 year

Drainage Area No.	Inlet No.	Q_{100} (cfs)	Q_{pass} (cfs)	Q_{total} (cfs)	Slope (%)	n	Ku	Street Width (ft)	Crown Height (ft)	Inlet Depression, a (ft)	K0	K1	K2	y0 (ft)	a	b	Flow Spread, T (ft)	H1 (ft)	H2 (ft)	Qa/La (cfs/ft)	Length (ft)	Qa	Q_{pass} (cfs)	% Captured	Bypass to Inlet
1	A1	2.51	0.00	2.51	3.80%	0.015	0.560	34.00	0.500	0.42	2.85	0.50	3.03	0.27	0.0588	0.0017	5.38	0.68	0.42	0.72	10.00	7.19		100%	0.00
2	A17	1.40	31.79	33.18	1.00%	0.015	0.560	40.00	0.500	0.42	2.85	0.50	2.89	Overflow	0.0500	0.0013	20.00	0.92	0.42	0.97	10.00	9.69	23.49	29%	0.00

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NO.	REVISION	BY	DATE

INLET DRAINAGE AREA MAP & CALCULATIONS

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 15 OF 52

2025- -SWP

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Plot Style: LandDev Global.ctb
Template: LDC_03052022.DWT
Xref: C:\Users\mvaldez\Desktop\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plansheets\250268\3-mainDWM.dwg | Date Plotted: September 05, 2025 | Plotted By: collin.mixon

BERRY CREEK CROSSING SHARED IMPROVEMENTS - TSS REMOVAL SUMMARY

DRAINAGE AREA	BMP TYPE	MAX TSS REMOVAL EFFICIENCY	BASIN AREA	PRE-DEVELOPMENT I.C.	PROPOSED I.C.		POST-DEVELOPMENT I.C.		TCEQ REQUIRED 80% TSS LOAD REMOVAL	CITY OF GEORGETOWN REQUIRED 85% POND TSS LOAD REMOVAL	PROVIDED TSS LOAD REMOVAL	VOLUME REQUIRED	VOLUME PROVIDED
					MF 1	SHARED IMPROVEMENTS							
			AC	AC	AC	AC	AC	%	LB	LB	LB	CF	CF
BDP-01 (E/X)	BATCH DETENTION POND	91%	33.87	1.22	9.51	0.31	11.04	33%	8,543	9,077	10,000	69,512	230,710
BDP-02 (E/X)	BATCH DETENTION POND	91%	8.54	0.53	0.00	0.57	1.10	13%	497	528	1,225	22,234	95,112
BP-01	BY-PASS	0%	14.00	0.11	0.05	0.00	0.16	1%	44				
BP-02	BY-PASS	0%	3.94	0.00	0.08	0.20	0.28	7%	244				
BP-03	BY-PASS	0%	0.62	0.07	0.00	0.16	0.23	37%	137		0		
VFS-01	VEGETATIVE FILTER STRIP	85%	0.12	0.00	0.06	0.00	0.06	49%	51		56		
VFS-02	VEGETATIVE FILTER STRIP	85%	0.27	0.00	0.11	0.00	0.11	40%	96		106		
TOTAL:			**61.36**	**1.93**	**9.81**	**1.24**	**12.97**	**21%**	**9,611**	**9,606**	**11,387**		

1 - FOR THE GEORGETOWN TSS REMOVAL REQUIREMENT, WE CONSIDER 85% OF TSS REMOVAL FOR THE DRAINAGE AREA THAT DRAINS TOWARD THE BATCH DETENTION PONDS.

SCALE: 1" = 100'

LEGEND

- P-1 / 5.00 Ac — DRAINAGE AREA NAME / DRAINAGE AREA (IN ACRES)
- TIME OF CONCENTRATION
- POI-15 — DRAINAGE DESIGN POINT
- DIRECTION OF FLOW
- DRAINAGE AREA
- 835 — EXISTING MAJOR CONTOUR
- 834 — EXISTING MINOR CONTOUR
- 835 — PROPOSED MAJOR CONTOUR
- 834 — PROPOSED MINOR CONTOUR
- 100YR — 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE

DRAINAGE NOTES:

1. REFER TO DETENTION WAIVER STUDY APPROVED WITH THE ORIGINAL (2021-23-PP) AND REVISED (2024-20-PP) PRELIMINARY PLAT.
2. FLOW IN CREEK AND UPSTREAM BASINS NOT CONSIDERED. ONLY BASINS SHOWN ARE CONSIDERED FOR DRAINAGE ANALYSIS.
3. IMPERVIOUS COVER IN PROPOSED CONDITION INCLUDES TXDOT TURN LANE INCLUDED IN SITE DEVELOPMENT PLAN, "BERRY CREEK APARTMENTS - PHASE 1", CITY PROJECT NO. 2022-74-SDP.

Know what's below. Call before you dig.

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SUITE 150
AUSTIN, TX 78735
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DEVELOPMENT TX

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

PROPOSED WATER QUALITY DRAINAGE AREA MAP

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

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SHEET 16 OF 52

2025- -SWP

NO.	REVISION	BY	DATE

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Saved: C:\Users\mvillarreal\Documents\berry creek crossing\commercial lot 1 & shared improvements\03_ACAD\Planset\250205-WYDAM.dwg | Date Plotted: September 09, 2025 | Plotted By: caitlin.mahon

BATCH DETENTION POND - A

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	61.36	acres
Predevelopment impervious area within the limits of the plan * =	1.93	acres
Total post-development impervious area within the limits of the plan * =	12.97	acres
Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = BDP-01 (EX)

Total drainage basin/outfall area =	33.87	acres
Predevelopment impervious area within drainage basin/outfall area =	1.22	acres
Post-development impervious area within drainage basin/outfall area =	11.04	acres
Post-development impervious fraction within drainage basin/outfall area =	0.33	
$L_{M\ THIS\ BASIN}$ * =	8547	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	33.87	acres
A_I =	11.04	acres
A_P =	22.83	acres
L_R =	11482	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 10000 lbs.

F = 0.87

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	1.44	inches
Post Development Runoff Coefficient =	0.27	
On-site Water Quality Volume =	48012	cubic feet

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

Off-site area draining to BMP =	7.32	acres
Off-site Impervious cover draining to BMP =	2.21	acres
Impervious fraction of off-site area =	0.30	
Off-site Runoff Coefficient =	0.26	
Off-site Water Quality Volume =	9915	cubic feet
Storage for Sediment =	11585	
Total Capture Volume (required water quality volume(s) x 1.20) =	69512	cubic feet
1/2 WQV =	34756	

BATCH DETENTION POND - B

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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P = Average annual precipitation, inches

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Predevelopment impervious area within the limits of the plan * =	1.93	acres
Total post-development impervious area within the limits of the plan * =	12.97	acres
Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = BDP-02 (EX)

Total drainage basin/outfall area =	8.54	acres
Predevelopment impervious area within drainage basin/outfall area =	0.53	acres
Post-development impervious area within drainage basin/outfall area =	1.10	acres
Post-development impervious fraction within drainage basin/outfall area =	0.13	
$L_{M\ THIS\ BASIN}$ * =	496	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	8.54	acres
A_I =	1.10	acres
A_P =	7.44	acres
L_R =	1225	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 1225 lbs.

F = 1.00

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	4.00	inches
Post Development Runoff Coefficient =	0.15	
On-site Water Quality Volume =	18529	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 =	3706	
Total Capture Volume (required water quality volume(s) x 1.20) =	22234	cubic feet
1/2 WQV =	11117	

VEGETATED FILTER STRIP - 1

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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Site Data: Determine Required Load Removal Based on the Entire Project

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Total post-development impervious area within the limits of the plan * =	12.97	acres
Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = VFS-01

Total drainage basin/outfall area =	0.12	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.06	acres
Post-development impervious fraction within drainage basin/outfall area =	0.49	
$L_{M\ THIS\ BASIN}$ * =	51	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	0.12	acres
A_I =	0.06	acres
A_P =	0.06	acres
L_R =	56	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 56 lbs.

F = 1.00

VEGETATED FILTER STRIP - 2

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = VFS-02

Total drainage basin/outfall area =	0.27	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.11	acres
Post-development impervious fraction within drainage basin/outfall area =	0.41	
$L_{M\ THIS\ BASIN}$ * =	96	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	0.27	acres
A_I =	0.11	acres
A_P =	0.16	acres
L_R =	106	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 106 lbs.

F = 1.00

BY-PASS - 1

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
Date Prepared: Shared Improvements
8/4/2025

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Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = BP-01

Total drainage basin/outfall area =	14.00	acres
Predevelopment impervious area within drainage basin/outfall area =	0.11	acres
Post-development impervious area within drainage basin/outfall area =	0.16	acres
Post-development impervious fraction within drainage basin/outfall area =	0.01	
$L_{M\ THIS\ BASIN}$ * =	44	lbs.

BY-PASS - 2

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Berry Creek Crossing
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8/4/2025

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Total post-development impervious cover fraction * =	0.21	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = BP-02

Total drainage basin/outfall area =	3.94	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.28	acres
Post-development impervious fraction within drainage basin/outfall area =	0.07	
$L_{M\ THIS\ BASIN}$ * =	244	lbs.

BY-PASS - 3

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ * =	9609	lbs.

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Number of drainage basins / outfalls areas leaving the plan area = 7

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

Drainage Basin/Outfall Area No. = BP-03

Total drainage basin/outfall area =	0.62	acres
Predevelopment impervious area within drainage basin/outfall area =	0.07	acres
Post-development impervious area within drainage basin/outfall area =	0.23	acres
Post-development impervious fraction within drainage basin/outfall area =	0.37	
$L_{M\ THIS\ BASIN}$ * =	139	lbs.

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NO.	REVISION	BY	DATE

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AUSTIN, TX 78735
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STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED
PROFESSIONAL ENGINEER

08/15/2025

PROPOSED WATER QUALITY CALCULATIONS

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 17 OF 52

2025- -SWP

LEGEND

- P-1 / 5.00 Ac — DRAINAGE AREA NAME / DRAINAGE AREA (IN ACRES)
- TIME OF CONCENTRATION
- POI-15 — DRAINAGE DESIGN POINT
- DIRECTION OF FLOW
- DRAINAGE AREA
- 835 — EXISTING MAJOR CONTOUR
- 834 — EXISTING MINOR CONTOUR
- 835 — PROPOSED MAJOR CONTOUR
- 834 — PROPOSED MINOR CONTOUR
- 100YR — 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE

DRAINAGE NOTES:

1. REFER TO DETENTION WAIVER STUDY APPROVED WITH THE ORIGINAL (2021-23-PP) AND REVISED (2024-20-PP) PRELIMINARY PLAT.
2. FLOW IN CREEK AND UPSTREAM BASINS NOT CONSIDERED. ONLY BASINS SHOWN ARE CONSIDERED FOR DRAINAGE ANALYSIS.
3. IMPERVIOUS COVER IN PROPOSED CONDITION INCLUDES TXDOT TURN LANE INCLUDED IN SITE DEVELOPMENT PLAN, "BERRY CREEK APARTMENTS - PHASE 1", CITY PROJECT NO. 2022-74-SDP.

WATER QUALITY NOTE:

1. ULTIMATE WATER QUALITY DRAINAGE AREAS AND CALCULATIONS FROM THE BERRY CREEK CROSSING PHASE 1 WPAP APPROVAL.

BERRY CREEK CROSSING - FUTURE ULTIMATE CONDITION - MAXIMUM IMPERVIOUS COVER ALLOWED

Lot Number	1	2	3	4	5	6	7	Turn Lanes	Total
Land Use	C-3	C-3	C-3	C-3	MF-2	MF-2	C-3		
Lot Area (ac)	2.13	5.40	3.76	4.58	23.42	17.73	3.72		**60.74**
Maximum I.C. Allowed (%)	70%	70%	70%	70%	50%	50%	70%		
Impervious Cover (ac)	1.49	3.78	2.63	3.21	11.71	8.86	2.60	0.25	**34.54**

BERRY CREEK CROSSING - FUTURE ULTIMATE CONDITION - IMPERVIOUS COVER BREAKDOWN

DRAINAGE AREA	LOTS 1	2	3	4	5	6	7	Turn Lanes	TOTALS
	C-3	C-3	C-3	C-3	MF-2	MF-2	C-3		
BDP-01			0.70	0.92	11.14	8.54	2.60	0.13	24.02
BDP-02	1.49	3.63	1.94	2.29				0.13	9.47
VFS-01					0.26				0.26
VFS-02						0.06			0.06
VFS-03						0.11			0.11
BP-01					0.31	0.16			0.47
BP-02		0.15							0.15
Total	1.49	3.78	2.63	3.21	11.71	8.86	2.60	0.25	**34.54**
	70%	70%	70%	70%	50%	50%	70%		

BERRY CREEK CROSSING - FUTURE ULTIMATE CONDITION - WATER QUALITY SUMMARY

DRAINAGE AREA	BMP TYPE	MAX TSS REMOVAL EFFICIENCY	AREA	PRE-DEVELOPMENT I.C.		POST-DEVELOPMENT I.C.		TCEQ REQUIRED 80% TSS LOAD REMOVAL	COG REQUIRED 80% TSS LOAD REMOVAL	PROVIDED TSS LOAD REMOVAL
			AC	AC	%	AC	%	LB	LB	LB
BDP-01	BATCH DETENTION POND	91%	33.62	0.00	0.0%	24.02	71.4%	20,907	22,213	22,525
BDP-02	BATCH DETENTION POND	91%	12.67	0.00	0.0%	9.47	74.8%	8,243	8,759	8,950
VFS-01	VEGETATIVE FILTER STRIP	85%	0.88	0.00	0.0%	0.26	29.2%	223	223	251
VFS-02	VEGETATIVE FILTER STRIP	85%	0.12	0.00	0.0%	0.06	50.4%	53	53	58
VFS-03	VEGETATIVE FILTER STRIP	85%	0.27	0.00	0.0%	0.11	40.6%	95	95	105
BP-01	BY-PASS		12.29	0.00	0.0%	0.47	3.8%	411	411	
BP-02	BY-PASS		0.89	0.00	0.0%	0.15	16.9%	131	131	
TOTAL:			**60.74**	**0.00**	**0%**	**34.54**	**57%**	**30,063**	**31,884**	**31,889**

OFFSITE AREAS

DRAINAGE AREA	BMP TYPE	MAX TSS REMOVAL EFFICIENCY	AREA	PRE-DEVELOPMENT I.C.		POST-DEVELOPMENT I.C.	
			AC	AC	%	AC	%
OS-01	OFFSITE AREA TO BE INCLUDED IN BDP-01		7.32	2.21	30%	2.21	30%
TOTAL:			**7.32**	**2.21**		**2.21**	

Notes:
- The BMPs have been designed for the maximum impervious cover allowed for the whole site per the PUD Ordinance 2021-68.
- City of Georgetown 85% TSS load removal requirement only required for ponds.
- The impervious cover of the two proposed turn

NO.	REVISION	BY	DATE

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

HRGreen
5508 HIGHWAY 290 W
SUITE 150
AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com
TBPE NO. 16384
TBPLS NO. 10194101

DEVELOPMENT TX

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

ULTIMATE WATER QUALITY DRAINAGE AREA MAP

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 18 OF 52

2025- -SWP

Plot Style: LandDev Global.ctb
Template: LDC_C3D2022.DWT
Saved: August 15, 2025 | Saved By: mvelasquez
Xref: C:\Users\mvelasquez\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Permits\250905-DAMWQ.PD.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
ALL RIGHTS RESERVED. THESE PLANS, BEING THE PROPERTY OF HRGREEN DEVELOPMENT TX, LLC, SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT AND ALL PERSONS ACTING THROUGH CLIENT AGREE TO RELEASE, INDEMNIFY AND HOLD HARMLESS HRGREEN DEVELOPMENT TX, LLC AND ITS OFFICERS, EMPLOYEES, AND CONSULTANTS FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM. ANY REUSE, MODIFICATION, ADAPTATION OR PUBLICATION OF THESE PLANS WITHOUT THE EXPRESS WRITTEN PERMISSION AND APPROPRIATE COMPENSATION TO HRGREEN DEVELOPMENT TX, LLC SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT AND ALL PERSONS ACTING THROUGH CLIENT AGREE TO RELEASE, INDEMNIFY AND HOLD HARMLESS HRGREEN DEVELOPMENT TX, LLC AND ITS OFFICERS, EMPLOYEES, AND CONSULTANTS FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM.

BATCH DETENTION POND - A

mmission on Environmental Quality

al Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVELOPED
Date Prepared: 6/22/2023

nformation is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
t blue indicate location of instructions in the Technical Guidance Manual - RG-348.
shown in red are data entry fields.
shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

d Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = 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

Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
redevelopment impervious area within the limits of the plan * =	0.00	acres
d-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

nber of drainage basins / outfalls areas leaving the plan area = 6

sin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = BDP-01

Total drainage basin/outfall area =	33.62	acres
velopment impervious area within drainage basin/outfall area =	0.00	acres
velopment impervious area within drainage basin/outfall area =	24.02	acres
opment impervious fraction within drainage basin/outfall area =	0.71	
$L_{M\ THIS\ BASIN}$ =	20907	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	22213	lbs. Per COG

proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

aximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_C x 34.6 + A_P x 0.54)

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 =	33.62	acres
A_I =	24.02	acres
A_P =	9.60	acres
L_R =	24352	lbs

action of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 22525 lbs.

F = 0.92

pture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	2.00	inches
Post Development Runoff Coefficient =	0.52	
On-site Water Quality Volume =	127033	cubic feet

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

Off-site area draining to BMP =	7.32	acres
Off-site Impervious cover draining to BMP =	2.21	acres
Impervious fraction of off-site area =	0.30	
Off-site Runoff Coefficient =	0.26	
Off-site Water Quality Volume =	13756	cubic feet
Storage for Sediment =	28158	
pture Volume (required water quality volume(s) x 1.20) =	**168947**	cubic feet

BATCH DETENTION POND - B

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVEL
Date Prepared: 6/22/2023

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = BDP-02

Total drainage basin/outfall area =	12.67	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	9.47	acres
Post-development impervious fraction within drainage basin/outfall area =	0.75	
$L_{M\ THIS\ BASIN}$ =	8243	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	8759	lbs. Per COG

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_C x 34.6 + A_P x 0.54)

where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	12.67	acres
A_I =	9.47	acres
A_P =	3.20	acres
L_R =	9593	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 8950 lbs.

F = 0.93

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 =	2.20	inches
Post Development Runoff Coefficient =	0.56	
On-site Water Quality Volume =	56366	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 =	11273	
Total Capture Volume (required water quality volume(s) x 1.20) =	**67639**	cubic feet

VEGETATED FILTER STRIP - 1

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FU
Date Prepared: 6/22/2023

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = VFS-01

Total drainage basin/outfall area =	0.88	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.26	acres
Post-development impervious fraction within drainage basin/outfall area =	0.29	
$L_{M\ THIS\ BASIN}$ =	223	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	237	lbs. Per COG

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_C x 34.6 + A_P x 0.54)

where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	0.88	acres
A_I =	0.26	acres
A_P =	0.62	acres
L_R =	251	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 251 lbs.

F = 1.00

16. Vegetated Filter Strips Designed as Required in RG-348 Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and
the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or
across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

VEGETATED FILTER STRIP - 2

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVEL
Date Prepared: 6/22/2023

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = VFS-02

Total drainage basin/outfall area =	0.12	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.06	acres
Post-development impervious fraction within drainage basin/outfall area =	0.50	
$L_{M\ THIS\ BASIN}$ =	53	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	56	lbs. Per COG

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_C x 34.6 + A_P x 0.54)

where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	0.12	acres
A_I =	0.06	acres
A_P =	0.06	acres
L_R =	58	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 58 lbs.

F = 1.00

16. Vegetated Filter Strips Designed as Required in RG-348 Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and
the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or
across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

VEGETATED FILTER STRIP - 3

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVEL
Date Prepared: 6/22/2023

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = VFS-03

Total drainage basin/outfall area =	0.27	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.11	acres
Post-development impervious fraction within drainage basin/outfall area =	0.41	
$L_{M\ THIS\ BASIN}$ =	95	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	101	lbs. Per COG

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_C x 34.6 + A_P x 0.54)

where: A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	0.27	acres
A_I =	0.11	acres
A_P =	0.16	acres
L_R =	105	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 105 lbs.

F = 1.00

16. Vegetated Filter Strips Designed as Required in RG-348 Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and
the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or
across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

BY-PASS - 1

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVELOPED
Date Prepared: 6/22/2023

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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where: $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = BP-01

Total drainage basin/outfall area =	12.29	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.47	acres
Post-development impervious fraction within drainage basin/outfall area =	0.04	
$L_{M\ THIS\ BASIN}$ =	411	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	436	lbs. Per COG

BY-PASS - 2

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: BERRY CREEK CROSSING - FULLY DEVELOPED
Date Prepared: 6/22/2023

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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 * =	60.74	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	34.54	acres
Total post-development impervious cover fraction * =	0.57	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	30063	lbs. Per TCEQ
$L_{M\ TOTAL\ PROJECT}$ =	31941	lbs. Per COG

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

Number of drainage basins / outfalls areas leaving the plan area = 6

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

Drainage Basin/Outfall Area No. = BP-02

Total drainage basin/outfall area =	0.89	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.15	acres
Post-development impervious fraction within drainage basin/outfall area =	0.17	
$L_{M\ THIS\ BASIN}$ =	131	lbs. Per TCEQ
$L_{M\ THIS\ BASIN}$ =	139	lbs. Per COG

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STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

ULTIMATE WATER QUALITY CALCULATIONS

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 19 OF 52

2025- -SWP

DATE | BY | REVISION | NO.

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Plot Style: Landdev Global.ctb
Template: LDC_C3D2022.DWT
Base Location: C:\Users\mvillarreal\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\01_ACAD\Plans\sh250983-DAMWQ-FD.dwg | Date Plotted: August 15, 2025 | Plotted By: mvillarreal

KEY MAP
N.T.S

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

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- LIMITS OF CONSTRUCTION
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- FENCE
- RETAINING WALL
- TREE WELL
- CURB/EOP
- TREE TO REMAIN
- TREE TO REMAIN - HERITAGE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- PRESSURE REDUCING VALVE
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT

PAVING LEGEND

- ASPHALT - "DRIVE AREAS" (REFER TO GEOTECH. REPORT FOR SPECIFICATIONS - SEE SHEET ##)
- TEMPORARY 6-INCH COMPACTED FLEX BASE ACCESS ROAD
- ASPHALT - SECTION DESIGN PROVIDED BY TxDOT (REFER TO SHEET 39)

ABBREVIATIONS

BW - BOTTOM OF WALL (GROUND)
EG - EXISTING GRADE
EP - EDGE OF PAVEMENT
G - PROPOSED GRADE (GROUND)
HP - HIGH POINT
TC - TOP OF CURB
TW - TOP OF WALL

GRADING NOTES:

1. FILL SHOULD BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY TxDOT -114 - E, AND PER GEOTECHNICAL ENGINEER'S RECOMMENDATION.
2. VEGETATE ALL DISTURBED AREAS PER CITY OF GEORGETOWN SPECIFICATIONS.

PAVEMENT NOTES:

1. CONTRACTOR SHALL REFER TO THE GEOTECNICAL REPORT "SUBSURFACE EXPLORATION AND FOUNDATION ANALYSIS PROPOSED NEW BERRY CREEK APARTMENTS, GEORGETOWN, TEXAS" BY INTEC, PROJECT NO. S221751, DATED SEPTEMBER 16, 2022, INCLUDING ALL REVISIONS AND ADDENDA THAT MAY HAVE BEEN RELEASED AFTER THE NOTED DATE FOR ALL PAVING DESIGN AND RECOMMENDATIONS.
2. THE INFORMATION PRESENTED IN THE GEOTECHNICAL REPORT SHALL SUPERCEDE ANY CONFLICTING INFORMATION PRESENTED IN THIS PAVING PLAN.
3. CONTRACTOR SHALL CONTACT THE ENGINEER IF THERE IS ANY DISCREPANCY BETWEEN THIS PAVING PLAN AND THE GEOTECHICAL REPORT.
4. FIRE APPARATUS ACCESS ROADS MUST BE CONSTRUCTED OF ASPHALT OR CONCRETE WITH MAXIMUM GRADES OF 13% FOR ASPHALT AND 15% FOR CONCRETE, EXCLUDING THE TEMPORARY 6" FLEX BASE ACCESS ROAD.
5. PAVEMENT IDENTIFIED AS HEAVY DUTY SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF A 75,000 POUNDS LIVE-LOAD UNDER ALL WEATHER CONDITIONS.

NO.	REVISION	BY	DATE

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08/15/2025

OVERALL GRADING & PAVING PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 20 OF 52

2025- -SWP

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Permits\2509365.GPR, -Key | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
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INSET DETAIL #1

SCALE: 1" = 10'

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- LIMITS OF CONSTRUCTION
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- FENCE
- RETAINING WALL
- TREE WELL
- CURB/EOP
- TREE TO REMAIN
- TREE TO REMAIN - HERITAGE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- PRESSURE REDUCING VALVE
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT

ABBREVIATIONS

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EP - EDGE OF PAVEMENT
G - PROPOSED GRADE (GROUND)
HP - HIGH POINT
TC - TOP OF CURB
TW - TOP OF WALL

GRADING NOTES:

1. FILL SHOULD BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY TxDOT -114 - E, AND PER GEOTECHNICAL ENGINEER'S RECOMMENDATION.
2. VEGETATE ALL DISTURBED AREAS PER CITY OF GEORGETOWN SPECIFICATIONS.

KEY MAP

N.T.S

NO.	REVISION	BY	DATE

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STATE OF TEXAS
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08/15/2025

GRADING PLAN A

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 21 OF 52

2025- -SWP

THIS DEVELOPMENT TX, LLC SHALL BE IN THE COUNTY SOLE FOR, AND GUIDE SHALL BOUND, PROVIDED BY HP GEOLOGY, AND SHALL NOT BE LIABLE IN CASE ANY CHANGES OR DEVIATIONS ARE MADE WITHOUT PRIOR WRITTEN APPROVAL OR ADOPTION BY HP GEOLOGY. ANY REUSE, WITHOUT PRIOR WRITTEN VERIFICATION OR ADAPTION BY HP GEOLOGY FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT USER'S SOLE RISK AND WITHOUT LIABILITY TO HP GEOLOGY. THIS PLAN IS FOR DESIGN PURPOSES ONLY.

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\drt250983-GRR..dwg | Date Plotted: August 15, 2025 | Plotted By: mwheuser

MATCH LINE - SEE PLAN A

BLOCK A
LOT 4
4.45 AC.

BLOCK A
LOT 3
4.11 AC.

RIBBON CURB

S 74°53'10" W 353.11'

ACCESS PERMITTED
DOC # 2005014498

CONCRETE REMAINS

HP: 9+27.12
ELEV: 728.31

HP: 13+14.83
ELEV: 725.23

LP: 7+12.35
ELEV: 725.69

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

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- LOC — LIMITS OF CONSTRUCTION
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- FENCE
- RETAINING WALL
- TREE WELL
- CURB/EOP
- TREE TO REMAIN
- TREE TO REMAIN - HERITAGE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- PRESSURE REDUCING VALVE
- WASTEWATER LINE
- WASTEWATER MANHOLE
- C.O. WASTEWATER CLEANOUT

ABBREVIATIONS

BW - BOTTOM OF WALL (GROUND)
EG - EXISTING GRADE
EP - EDGE OF PAVEMENT
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TC - TOP OF CURB
TW - TOP OF WALL

GRADING NOTES:

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2. VEGETATE ALL DISTURBED AREAS PER CITY OF GEORGETOWN SPECIFICATIONS.

IH 35
SH 130
KEY MAP
N.T.S

NO.	REVISION	BY	DATE

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GRADING PLAN B

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 22 OF 52

2025- -SWP

BLOCK A
LOT 1
1.56 AC.

BLOCK A
LOT 2
5.74 AC.

BLOCK A
LOT 3
4.11 AC.

BLOCK A
LOT 4
4.45 AC.

BLOCK A
LOT 5
15.87 AC.

BLOCK A
LOT 7
3.72 AC.

EXISTING
WQ POND

IH 35
FRONTAGE ROAD

SH 130
FRONTAGE ROAD

PERMANENT BUFFER EASEMENT DOC.# 2025013508

SHARED ACCESS EASEMENT DOC.# 2025013508

ACCESS PERMITTED DOC.# 2005015488

UTILITY EASEMENT # 1 (CALLED 0.932-ACRES) DOCUMENT NO. 2017009837

PUBLIC UTILITY EASEMENT DOCUMENT NO. 2017009837

STORM C1

STORM C2

STORM B1

STORM A2

STORM A1

FFE 722.00

FFE 721.00

FFE 714.50

FFE 712.50

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

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- 100 YR FEMA FLOODPLAIN
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- PRESSURE REDUCING VALVE
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT

DRAINAGE NOTES:

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. REFER TO THE LANDSCAPE/HARDSCAPE PLANS FOR ADDITIONAL DRAINAGE AND FINE GRADING FOR ALL AMENITIES.
3. ALL PUBLIC STORM SEWER LINES SHALL BE CLASS III RCP.
4. ALL PRIVATE STORM SEWER LINES SHALL BE HDPE.

NO.	REVISION	BY	DATE

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08/15/2025

OVERALL STORM (PRIVATE) PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

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Sheet Location: P:\Athens Dynamic\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh250108-SDP6_dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez

BLOCK A
LOT 1
1.56 AC.

EXISTING
WQ POND

BLOCK A
LOT 2
5.74 AC.

LARRY D. KOKEL AND DALE ILLG
(CALLED 73.1153 ACRES)
DOCUMENT NO. 9665744

PERMANENT BUFFER EASEMENT DOC # 2025033508

SHARED ACCESS EASEMENT DOC # 2025033508

S 12°29'08" E 68.94'

N 17°34'16" E 176.97'

S 76°55'52" E 682.59'

S 74°53'40" W 353.11'

PERENNIAL WATERCOURSE

FIRE HYDRANT, WATER METER, WATER VALVE & WATER LINE

OVERHEAD ELECTRIC

CONCRETE REMAINS

STA. 4+85.60 STORM C2
4'X4' JUNCTION BOX C4
RIM: 730.14
24" HDPE FL IN = 724.13 (S)
24" HDPE FL OUT = 724.13 (E)

±50 LF 24" HDPE @ 1.50%

STA. 4+35.98 STORM C2
HORZ. DEFL.
24" HDPE FL IN = 723.39 (W)
24" HDPE FL OUT = 723.39 (SE)

±65 LF 24" HDPE @ 1.50%

STA. 3+70.89 STORM C2
WYE
24" HDPE FL IN = 722.41 (NW)
18" HDPE FL IN = 722.91 (W)
24" HDPE FL OUT = 722.41 (SE)

±52 LF 24" HDPE @ 1.50%

STA. 5+37.13 STORM C2
STUB
24" HDPE FL OUT = 724.90 (N)

STA. 1+38.03 LAT C2-3
10' CURB INLET XX4 (37)
RIM: 729.19
18" HDPE FL OUT = 724.63 (E)

±38 LF 18" HDPE @ 4.51%

±24 LF 24" HDPE @ 1.50%

STA. 3+47.17 STORM C2
HORZ. DEFL.
24" HDPE FL IN = 722.05 (NW)
24" HDPE FL OUT = 722.05 (SE)

±28 LF 24" HDPE @ 1.50%

STA. 3+18.94 STORM C2
WYE
24" HDPE FL IN = 721.63 (NW)
18" HDPE FL IN = 722.13 (N)
24" HDPE FL OUT = 721.63 (SE)

±42 LF 24" HDPE @ 1.50%

STA. 2+76.46 STORM C2
HORZ. DEFL.
24" HDPE FL IN = 720.99 (NW)
24" HDPE FL OUT = 720.99 (E)

STORM C2

STA. 1+08.00 LAT C2-1
HORZ. DEFL.
18" HDPE FL IN = 720.40 (N)
18" HDPE FL OUT = 720.40 (SE)

±8 LF 18" HDPE @ 1.00%

STA. 1+59.20 STORM C2
WYE
18" HDPE FL IN = 720.32 (NW)
24" HDPE FL IN = 719.82 (W)
24" HDPE FL OUT = 719.82 (E)

STA. 1+24.51 STORM C2
HORZ. DEFL.
24" HDPE FL IN = 719.47 (W)
24" HDPE FL OUT = 719.47 (E)

±25 LF 24" HDPE @ 1.00%

±50 LF 36" HDPE @ 5.00%

UTILITY CROSSING
STA. 3+69.09 STORM C2
=STA. 14+47.47 WW A

STA. 1+23.16 LAT C2-2
10' CURB INLET XX4 (35)
RIM: 728.29
18" HDPE FL OUT = 723.73 (S)

±16 LF 18" HDPE @ 9.92%

STA. 1+29.84 LAT C2-1
STUB
18" HDPE FL OUT = 720.62 (S)

±119 LF 36" HDPE @ 5.00%

UTILITY CROSSING
STA. 1+25.34 LAT C2-1
=STA. 5+39.76 WL A

±22 LF 18" HDPE @ 1.00%

±117 LF 24" HDPE @ 1.00%

UTILITY CROSSING
STA. 3+44.53 STORM C1
=STA. 11+50.99 WW A

STA. 3+74.50 STORM C1
STUB
36" HDPE FL OUT = 720.73 (N)

STA. 1+34.00 STORM C1
36" HEADWALL
CONTRACTOR TO USE CAUTION WHILE CONSTRUCTING THE STORM PIPE AND HEADWALLS TO NOT DAMAGE THE EXISTING POND CLAY LINER.
CONTRACTOR TO SEAL EXISTING CLAY LINER AROUND THE PROPOSED PIPE/HEADWALL TO PREVENT LEAKAGE. HW C1
RIM: 709.00
36" HDPE FL IN = 705.40 (S)

±72 LF 36" HDPE @ 5.00%

STORM C1

STA. 2+05.71 STORM C1
5'x5' JUNCTION BOX C2
RIM: 716.95
36" HDPE FL IN = 712.29 (S)
36" HDPE FL OUT = 708.99 (N)

UTILITY CROSSING
STA. 3+09.70 STORM C1
=STA. 5+96.15 WL A

STA. 3+24.50 STORM C1
=STA. 3+24.50 STORM C1
5'X5' JUNCTION BOX
RIM:726.16
36 FL IN = 718.23 (S)
24 FL IN = 719.23 (W)
36" HDPE FL OUT = 718.23 (N)

STA. ??? STORM B1
STUB
18" HDPE FL OUT = 719.17 (S)

UTILITY CROSSING
STA. 1+67.39 STORM B2
=STA. 8+67.16 WL A

±20 LF 18" HDPE @ 2.00%

STA. 1+14.63 STORM B1
HORZ. DEFL.
18" HDPE FL IN = 718.77 (N)
18" HDPE FL OUT = 718.77 (SE)

±10 LF 18" HDPE @ 2.00%

STA. 1+22.20 STORM B1
HORZ. DEFL.
18" HDPE FL IN = 718.57 (NW)
18" HDPE FL OUT = 718.57 (E)

±41 LF 18" HDPE @ 2.00%

STA. 1+60.00 STORM B1
STUB
24" HDPE FL OUT = 717.60 (N)

STORM B1

STA. 1+00.00 STORM B1
STUB
24" HDPE FL IN = 717.00 (S)

UTILITY CROSSING
STA. 1+01.94 STORM B1
=STA. 9+13.81 WL A

±25 LF 24" HDPE @ 1.00%

STA. 1+24.99 STORM B1
4'X4' JUNCTION BOX B1
RIM: 723.87
18" HDPE FL IN = 717.75 (W)
24" HDPE FL IN = 717.25 (S)
24" HDPE FL OUT = 717.25 (N)

UTILITY CROSSING
STA. 1+37.76 STORM B1
=STA. 8+33.58 WW A

±35 LF 24" HDPE @ 1.00%

MATCH LINE - SEE PLAN B

SCALE: 1" = 30'

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- 100 YR FEMA FLOODPLAIN
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
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- WATER VALVE
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- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT

DRAINAGE NOTES:

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2. REFER TO THE LANDSCAPE/HARDSCAPE PLANS FOR ADDITIONAL DRAINAGE AND FINE GRADING FOR ALL AMENITIES.
3. ALL PUBLIC STORM SEWER LINES SHALL BE CLASS III RCP.
4. ALL PRIVATE STORM SEWER LINES SHALL BE HDPE.

KEY MAP
N.T.S

NO.	REVISION	BY	DATE

Know what's below. Call before you dig.

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STATE OF TEXAS
SHERWIN HOOSHIN
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08/15/2025

STORM (PRIVATE) PLAN A

BERRY CREEK CROSSING
SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 24 OF 52

2025- -SWP

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Sheet Location: P:\Athens Dynamic\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_AC&DP\Revit\24250383-SDP6_rev1 | Date Plotted: August 15, 2025 | Plotted By: mvetsayan

18" HDPE FL IN = 718.77 (N)
18" HDPE FL OUT = 718.77 (SE)

±10 LF 18" HDPE @ 2.00%

STA. 1+22.20 STORM B1
HORZ. DEFL.
18" HDPE FL IN = 718.57 (NW)
18" HDPE FL OUT = 718.57 (E)

±41 LF 18" HDPE @ 2.00%

STA. 1+60.00 STORM B1
STUB
24" HDPE FL OUT = 717.60 (N)

1+00

STORM B1

1+60

18" HDPE FL IN = 717.75 (W)
24" HDPE FL IN = 717.25 (S)
24" HDPE FL OUT = 717.25 (N)

UTILITY CROSSING
STA. 1+37.76 STORM B1
=STA. 8+33.58 WW A

±35 LF 24" HDPE @ 1.00%

MATCH LINE - SEE PLAN A

BLOCK A
LOT 4
4.45 AC.

BLOCK A
LOT 5
15.87 AC.

KEY MAP
N.T.S

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

LEGEND

- 830 — EXISTING MAJOR CONTOUR
- 833 — EXISTING MINOR CONTOUR
- 835 — PROPOSED MAJOR CONTOUR
- 836 — PROPOSED MINOR CONTOUR
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- 100 YR FEMA FLOODPLAIN
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- PRESSURE REDUCING VALVE
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT

DRAINAGE NOTES:

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. REFER TO THE LANDSCAPE/HARDSCAPE PLANS FOR ADDITIONAL DRAINAGE AND FINE GRADING FOR ALL AMENITIES.
3. ALL PUBLIC STORM SEWER LINES SHALL BE CLASS III RCP.
4. ALL PRIVATE STORM SEWER LINES SHALL BE HDPE.

±41 LF 18" HDPE @ 2.00%

STA. 3+80.00 STORM A2
5' DIA SSMH A7
RIM: 730.00
18" HDPE FL IN = 722.68 (SW)
24" HDPE FL OUT = 722.18 (E)

4+21

4+00

STA. 4+20.61 STORM A2
STUB
18" HDPE FL OUT = 723.49 (NE)

3+00

±229 LF 24" HDPE @ 2.00%

STORM A2

2+00

STA. 1+50.61 STORM A2
5' DIA SSMH XX4 (10)
RIM: 725.75
24" HDPE FL IN = 717.59 (W)
30" HDPE FL OUT = 717.09 (S)

UTILITY CROSSING
STA. 1+62.16 STORM A2
=STA. 1+88.16 WW D

±38 LF 30" HDPE @ 0.50%

±14 LF 30" HDPE @ 0.50%

1+00

STA. 1+12.50 STORM A2
HORZ. DEFL.
30" HDPE FL IN = 716.90 (N)
30" HDPE FL OUT = 716.90 (S)

STA. 0+98.70 STORM A2
CONNECTION TO 30" HDPE STUB
(CITY PROJ. NO. 2022-74-SDP)
CONTRACTOR TO VERIFY
LOCATION PRIOR TO
CONNECTION. CONTACT
ENGINEER FOR ANY
DISCREPANCIES.
30" HDPE FL IN = 716.83 (N)

0+50

STA. 7+61.43 STORM A1
4'X4' JUNCTION BOX A6
RIM: 724.22
24" HDPE FL OUT = 712.26 (E)

7+71

±221 LF 24" HDPE @ 3.80%

7+00

6+00

STORM A1

STA. 5+40.00 STORM A1
NULL STRUCTURE
24" HDPE FL IN = 703.84 (W)
30" HDPE FL OUT = 703.84 (E)

UTILITY CROSSING
STA. 4+91.93 STORM A1

±99 LF 30" HDPE @ 3.80%

5+00

STA. 4+40.93 STORM A1
5' DIA SSMH A5
RIM: 708.76
30" HDPE FL IN = 700.08 (W)
30" HDPE FL OUT = 700.08 (SE)

4+00

±83 LF 30" HDPE @ 3.80%

STA. 3+58.00 STORM A1
5' DIA SSMH A4
RIM: 707.04
30" HDPE FL IN = 696.93 (NW)
30" HDPE FL OUT = 696.93 (E)

3+00

±58 LF 30" HDPE @ 3.50%

±50 LF 30" HDPE @ 5.00%

STA. 3+00.00 STORM A1
5'x5' JUNCTION BOX A3
RIM: 703.07
30" HDPE FL IN = 694.90 (W)
30" HDPE FL OUT = 689.90 (E)

STA. 2+50.00 STORM A1
5' DIA SSMH A2
RIM: 699.41
30" HDPE FL IN = 687.40 (W)
30" HDPE FL OUT = 682.75 (SE)

STORM A1

2+00

±115 LF 30" HDPE @ 5.00%

STA. 1+35.00 STORM A1
30" HEADWALL
CONTRACTOR TO USE CAUTION WHILE
CONSTRUCTING THE STORM PIPE AND
HEADWALLS TO NOT DAMAGE THE
EXISTING POND CLAY LINER.
CONTRACTOR TO SEAL EXISTING
CLAY LINER AROUND THE PROPOSED
PIPE/HEADWALL TO PREVENT LEAKAGE. HW A1
RIM: 680.08
30" HDPE FL IN = 677.00 (NW)

1+00

NO.	REVISION	BY	DATE

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AUSTIN, TX 78735
PHONE: 512.872.6696
HRGreen.com

TBPE NO.: 16384
TBPLS NO.: 10194101

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DEVELOPMENT TX

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER

08/15/2025

STORM (PRIVATE) PLAN B

BERRY CREEK CROSSING
SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 25 OF 52

2025- -SWP

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_AC4D\Plans\b250983-SDR_dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez

ALL PROJECT DOCUMENTS, INCLUDING, BUT NOT LIMITED TO, PLANS AND SPECIFICATIONS, PROVIDED BY HRGREEN, ARE INSTRUMENTS OF SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT AND, UNLESS OTHERWISE PROVIDED, HRGREEN SHALL BE DEEMED THE AUTHOR AND OWNER OF SUCH INSTRUMENTS OF SERVICE. ANY REUSE WITHOUT PRIOR WRITTEN VERIFICATION OR ADAPTATION BY HRGREEN FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT USER'S SOLE RISK AND USER SHALL INDEMNIFY AND HOLD HARMLESS HRGREEN FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY HRGREEN SHALL BE AT USER'S SOLE RISK AND USER SHALL INDEMNIFY AND HOLD HARMLESS HRGREEN FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM

0 60' 120'

SCALE: 1" = 60'

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- AUTOMATIC AIR RELEASE VALVE
- FLUSH VALVE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL

WATER NOTES:

1. ALL PROPOSED WATERLINES, EXCEPT FIRE LEADS, SHALL BE PVC C900 DR 18 PER CITY SPECIFICATIONS.
2. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
3. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
4. CONTRACTOR TO REFERENCE IRRIGATION PLANS BY LANDSCAPE ARCHITECT.
5. CONTRACTOR TO ADD AN RPZ BACKFLOW PREVENTER AT FIRE RISERS AND IRRIGATION METERS.
6. CONTRACTOR TO ENSURE ALL FIRE HYDRANTS, METERS AND VALVES ARE NOT TO BE PLACED IN SIDEWALKS.
7. WET TAP TO AN EXISTING WATER LINE WILL REQUIRE THE USE OF A FULL BODY TAPPING SLEEVE AND VALVE.
8. THRUST BLOCKING SHALL BE PROVIDED AT BENDS, PI'S, TEES & FITTINGS ACCORDING TO CITY SPECIFICATIONS.
9. ALL JOINT RESTRAINTS SHALL BE IN ACCORDANCE TO CITY OF GEORGETOWN SPECIFICATIONS.
10. ANY JOINT DEFLECTION, VERTICAL OR HORIZONTAL, SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
11. WATERLINES SHALL BE AT DEPTH TO PROVIDE 36" MINIMUM COVER.

WASTEWATER NOTES:

1. ALL PROPOSED WASTEWATER PIPES TO BE PVC SDR-26 UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. ALL WASTEWATER MANHOLES & CLEANOUTS TO BE COATED PER CITY SPECIFICATIONS.
3. ANY JOINT DEFLECTION (VERTICAL OR HORIZONTAL) SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
4. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
5. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
6. ALL MANHOLES LOCATED IN PAVEMENT ARE TO BE RAISED TO FINISHED GRADE.

WASTEWATER AND WATER CROSSING NOTES:

WHEN THE WASTEWATER LINE PIPE CROSSES BELOW A WATER SUPPLY PIPE, EACH PORTION OF THE WASTEWATER PIPE WITHIN NINE FEET OF THE WATER SUPPLY PIPE MUST BE ENCASED IN CEMENT-STABILIZED:

1. THE CEMENT STABILIZED SAND MUST INCLUDE AT LEAST 160 POUNDS OF CEMENT FOR EVERY CUBIC YARD.
2. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE QUARTER PIPE DIAMETER BELOW THE CENTERLINE OF THE COLLECTION PIPE.
3. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE FULL PIPE DIAMETER ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE, OR 12-INCHES ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE WHICH EVER IS GREATER.

NO.	REVISION	BY	DATE

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TBPLS NO.: 10194101

STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER

08/15/2025

OVERALL WT & WW (PRIVATE) PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 26 OF 52

2025- -SWP

Sheet Location: P:\Athens Dynamic\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh250908-3-UTIL.dwg | Date Plotted: August 15, 2025 | Plotted By: mvalenzuela

ALL PROJECT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, PLANS AND SPECIFICATIONS PREPARED BY HR GREEN DEVELOPMENT, LLC (HRG) IN THIS PROJECT ARE INTENDED FOR USE ON THIS PROJECT ONLY. ANY REUSE, WITHOUT SPECIFIC WRITTEN VERIFICATION OR ADAPTATION BY HRG SHALL BE AT USER'S SOLE RISK AND USER SHALL INDEMNIFY AND HOLD HARMLESS COMPANY FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM.

BLOCK A
LOT 1
1.56 AC.

BLOCK A
LOT 2
5.74 AC.

EXISTING
WQ POND

LARRY D. KOKEL AND DALE ILLIG
(CALLED 73.153 ACRES)
DOCUMENT NO. 9663744

PERMANENT BUFFER EASEMENT DOC.# 2025033508

SHARED ACCESS EASEMENT DOC.# 2025033508

STA. 1+00.00 WL A
1-12"X12" TAPPING SLEEVE;
1-12" GATE VALVE;
1-22.5° BEND;
1-11.25° BEND
CONNECTION TO EXISTING 12" WL
CONTRACTOR TO FIELD VERIFY LOCATION PRIOR TO CONNECTION AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS.
FL=725.98

FIRE HYDRANT W/ BACKFLOW METER, WATER VALVE & 12" WATER CAP ON TONIC

12" PVC WL A

STA. 2+53.02 WL A
1-22.5 ° BEND
12" FL=725.54

STA. 3+02.65 WL A
1-22.5 ° BEND
12" FL=725.04

STA. 14+84.85 WW A
6" WW STUB
6" PVC FL OUT = 717.91 (SW)

UTILITY CROSSING
STA. 14+47.47 WW A
=STA. 3+69.09 STORM C2

UTILITY CROSSING
STA. 14+67.32 WW A
=STA. 3+47.42 WL A

±48 LF 6" PVC @ 1.00%

STA. 14+37.02 WW A
4' DIA WWMH A9
RIM: 730.56
6" PVC FL IN = 717.43 (NE)
8" PVC FL OUT = 717.26 (SE)

STA. 3+79.34 WL A
1-22.5 ° BEND
12" FL=723.89

STA. 4+31.87 WL A
1-22.5 ° BEND
12" FL=722.21

±75 LF 8" PVC @ 1.00%

UTILITY CROSSING
STA. 5+39.76 WL A
=STA. 1+25.34 LAT C2-1

STA. 13+62.30 WW A
4' DIA WWMH A8
RIM: 729.75
8" PVC FL IN = 716.52 (W)
8" PVC FL OUT = 716.42 (E)

±200 LF 8" PVC @ 1.00%

UTILITY CROSSING
STA. 5+96.15 WL A
=STA. 3+09.70 STORM C1

UTILITY CROSSING
STA. 11+50.99 WW A
=STA. 3+44.53 STORM C1

STA. 11+62.67 WW A
4' DIA WWMH A7
RIM: 727.52
8" PVC FL IN = 714.42 (W)
8" PVC FL OUT = 714.32 (E)

±97 LF 8" PVC @ 1.00%

STA. 10+65.75 WW A
4' DIA WWMH A6
RIM: 729.06
8" PVC FL IN = 713.35 (W)
8" PVC FL OUT = 713.25 (E)

STA. 9+54.92 WL A
1 - 12" PVC CAP MJ
1 - AUTOMATIC FLUSH VALVE
FL=718.00

CLEANOUT XX3 (17)
RIM: 723.33
6" FL OUT = 708.73 (SE)

UTILITY CROSSING
STA. 8+67.16 WL A
=STA. 1+67.39 STORM B2

UTILITY CROSSING
STA. 1+38.29 WW C
=STA. 9+24.91 WL A

UTILITY CROSSING
STA. 9+13.81 WL A
=STA. 1+01.94 STORM B1

±254 LF 8" PVC @ 2.00%

UTILITY CROSSING
STA. 8+33.58 WW A
=STA. 1+37.76 STORM B1

STA. 8+11.85 WW A
4' DIA WWMH A5
RIM: 723.48
8" PVC FL IN = 708.17 (W)
6" PVC FL IN = 708.23 (NW)
8" PVC FL OUT = 708.07 (NE)

9+55
±49 LF 6" PVC @ 1.00%

±93 LF

MATCH LINE - SEE PLAN B

STA. 5+42.58 WW E
4' DIA WWMH E2
RIM: 731.50
8" PVC FL OUT = 721.80 (E)

±104 LF 8" PVC @ 0.50%

MATCH LINE - SEE PLAN B

SCALE: 1" = 30'

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- AUTOMATIC AIR RELEASE VALVE
- FLUSH VALVE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL

WATER NOTES:

1. ALL PROPOSED WATERLINES, EXCEPT FIRE LEADS, SHALL BE PVC C900 DR 18 PER CITY SPECIFICATIONS.
2. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
3. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
4. CONTRACTOR TO REFERENCE IRRIGATION PLANS BY LANDSCAPE ARCHITECT.
5. CONTRACTOR TO ADD AN RPZ BACKFLOW PREVENTER AT FIRE RISERS AND IRRIGATION METERS.
6. CONTRACTOR TO ENSURE ALL FIRE HYDRANTS, METERS AND VALVES ARE NOT TO BE PLACED IN SIDEWALKS.
7. WET TAP TO AN EXISTING WATER LINE WILL REQUIRE THE USE OF A FULL BODY TAPPING SLEEVE AND VALVE.
8. THRUST BLOCKING SHALL BE PROVIDED AT BENDS, PIS, TEES & FITTINGS ACCORDING TO CITY SPECIFICATIONS.
9. ALL JOINT RESTRAINTS SHALL BE IN ACCORDANCE TO CITY OF GEORGETOWN SPECIFICATIONS.
10. ANY JOINT DEFLECTION, VERTICAL OR HORIZONTAL, SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
11. WATERLINES SHALL BE AT DEPTH TO PROVIDE 36" MINIMUM COVER.

WASTEWATER NOTES:

1. ALL PROPOSED WASTEWATER PIPES TO BE PVC SDR-26 UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. ALL WASTEWATER MANHOLES & CLEANOUTS TO BE COATED PER CITY SPECIFICATIONS.
3. ANY JOINT DEFLECTION (VERTICAL OR HORIZONTAL) SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
4. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
5. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
6. ALL MANHOLES LOCATED IN PAVEMENT ARE TO BE RAISED TO FINISHED GRADE.

WASTEWATER AND WATER CROSSING NOTES:

WHEN THE WASTEWATER LINE PIPE CROSSES BELOW A WATER SUPPLY PIPE, EACH PORTION OF THE WASTEWATER PIPE WITHIN NINE FEET OF THE WATER SUPPLY PIPE MUST BE ENCASED IN CEMENT-STABILIZED:

1. THE CEMENT STABILIZED SAND MUST INCLUDE AT LEAST 160 POUNDS OF CEMENT FOR EVERY CUBIC YARD.
2. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE QUARTER PIPE DIAMETER BELOW THE CENTERLINE OF THE COLLECTION PIPE.
3. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE FULL PIPE DIAMETER ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE, OR 12-INCHES ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE WHICH EVER IS GREATER.

NO.	REVISION	BY	DATE

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STATE OF TEXAS
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96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

WATER & WW (PRIVATE) PLAN A

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 27 OF 52

2025- -SWP

Sheet Location: P:\athena downs\berry creek crossing\commercial lot 1 & shared improvements\03_ACAD\Planset\250283-UTIL.dwg | Date Plotted: September 09, 2025 | Plotted By: cconnell

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STA. 11+50.99 WW A
=STA. 3+44.53 STORM C1

STA. 11+62.67 WW A
4' DIA WWMH A7
RIM: 727.52
8" PVC FL IN = 714.42 (W)
8" PVC FL OUT = 714.32 (E)

±97 LF 8" PVC @ 1.00%

STA. 10+65.75 WW A
4' DIA WWMH A6
RIM: 729.06
8" PVC FL IN = 713.35 (W)
8" PVC FL OUT = 713.25 (E)

±254 LF 8" PVC @ 2.00%

UTILITY CROSSING
STA. 8+67.16 WL A
=STA. 1+67.39 STORM B2

UTILITY CROSSING
STA. 9+24.91 WL A
=STA. 1+01.94 STORM B1

UTILITY CROSSING
STA. 9+13.81 WL A
=STA. 1+01.94 STORM B1

UTILITY CROSSING
STA. 8+33.58 WW A
=STA. 1+37.76 STORM B1

STA. 8+11.85 WW A
4' DIA WWMH A5
RIM: 723.48
8" PVC FL IN = 708.17 (W)
6" PVC FL IN = 708.23 (NW)
8" PVC FL OUT = 708.07 (NE)

RIM: 723.33
6" FL OUT = 708.73 (SE)

±49 LF 6" PVC @

MATCH LINE - SEE PLAN A

MATCH LINE - SEE PLAN A

STA. 7+19.27 WW A
4' DIA WWMH A4
RIM: 721.85
8" PVC FL IN = 707.33 (SW)
8" PVC FL OUT = 707.23 (E)

±93 LF 8" PVC @ 0.80%

±197 LF 8" PVC @ 0.80%

STA. 5+22.59 WW A
4' DIA WWMH A3
RIM: 719.09
8" PVC FL IN = 705.65 (W)
8" PVC FL OUT = 705.55 (E)

±32 LF 8" PVC @ 0.80%

STA. 4+90.20 WW A
4' DIA WWMH A2
RIM: 718.35
8" PVC FL IN = 705.29 (W)
8" PVC FL OUT = 705.19 (S)

±354 LF 8" PVC @ 0.80%

STA. 1+35.75 WW A
4' DIA WWMH A1
RIM: 717.23
8" PVC FL IN = 702.36 (N)
8" PVC FL OUT = 702.26 (SE)

±36 LF 8" PVC @ 0.80%

STA. 1+00.00 WW A
CONNECTION TO 5' WWMH
(CITY PROJ. NO. 2022-74-SDP)
CONTRACTOR TO VERIFY
LOCATION PRIOR TO
CONNECTION. CONTACT
ENGINEER FOR ANY
DISCREPANCIES.
8" PVC FL IN = 701.97 (NW)

STA. 5+42.58 WW E
4' DIA WWMH E2
RIM: 731.50
8" PVC FL OUT = 721.80 (E)

±104 LF 8" PVC @ 0.50%

STA. 4+38.54 WW E
4' DIA WWMH E1
RIM: 731.76
8" PVC FL IN = 721.28 (W)
8" PVC FL OUT = 721.18 (SE)

±296 LF 8" PVC @ 0.50%

STA. 1+42.26 WW E
CONNECTION TO 8" WW STUB
(CITY PROJ. NO. 2022-74-SDP)
CONTRACTOR TO VERIFY
LOCATION PRIOR TO
CONNECTION. CONTACT
ENGINEER FOR ANY
DISCREPANCIES.
8" PVC FL IN = 719.70 (NW)

BLOCK A
LOT 3
4.11 AC.

BLOCK A
LOT 4
4.45 AC.

BLOCK A
LOT 5
15.87 AC.

KEY MAP
N.T.S

SCALE: 1" = 30'

LEGEND

- 830 — EXISTING MAJOR CONTOUR
- 833 — EXISTING MINOR CONTOUR
- 835 — PROPOSED MAJOR CONTOUR
- 836 — PROPOSED MINOR CONTOUR
- 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE
- EASEMENT
- RETAINING WALL
- TREE WELL
- WW — WASTEWATER LINE
- WASTEWATER MANHOLE
- C.O. — WASTEWATER CLEANOUT
- WATER LINE
- FIRE HYDRANT
- WATER VALVE
- AUTOMATIC AIR RELEASE VALVE
- FLUSH VALVE
- PROPOSED STORM LINE
- STORM SEWER JUNCTION BOX
- SD — STORM SEWER MAHNOLE
- CURB INLET
- AREA INLET
- GRATE INLET
- CONCRETE HEADWALL

WATER NOTES:

1. ALL PROPOSED WATERLINES, EXCEPT FIRE LEADS, SHALL BE PVC C900 DR 18 PER CITY SPECIFICATIONS.
2. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
3. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
4. CONTRACTOR TO REFERENCE IRRIGATION PLANS BY LANDSCAPE ARCHITECT.
5. CONTRACTOR TO ADD AN RPZ BACKFLOW PREVENTER AT FIRE RISERS AND IRRIGATION METERS.
6. CONTRACTOR TO ENSURE ALL FIRE HYDRANTS, METERS AND VALVES ARE NOT TO BE PLACED IN SIDEWALKS.
7. WET TAP TO AN EXISTING WATER LINE WILL REQUIRE THE USE OF A FULL BODY TAPPING SLEEVE AND VALVE.
8. THRUST BLOCKING SHALL BE PROVIDED AT BENDS, PI'S, TEES & FITTINGS ACCORDING TO CITY SPECIFICATIONS.
9. ALL JOINT RESTRAINTS SHALL BE IN ACCORDANCE TO CITY OF GEORGETOWN SPECIFICATIONS.
10. ANY JOINT DEFLECTION, VERTICAL OR HORIZONTAL, SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
11. WATERLINES SHALL BE AT DEPTH TO PROVIDE 36" MINIMUM COVER.

WASTEWATER NOTES:

1. ALL PROPOSED WASTEWATER PIPES TO BE PVC SDR-26 UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. ALL WASTEWATER MANHOLES & CLEANOUTS TO BE COATED PER CITY SPECIFICATIONS.
3. ANY JOINT DEFLECTION (VERTICAL OR HORIZONTAL) SHALL BE WITHIN THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION.
4. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
5. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
6. ALL MANHOLES LOCATED IN PAVEMENT ARE TO BE RAISED TO FINISHED GRADE.

WASTEWATER AND WATER CROSSING NOTES:

WHEN THE WASTEWATER LINE PIPE CROSSES BELOW A WATER SUPPLY PIPE, EACH PORTION OF THE WASTEWATER PIPE WITHIN NINE FEET OF THE WATER SUPPLY PIPE MUST BE ENCASED IN CEMENT-STABILIZED:

1. THE CEMENT STABILIZED SAND MUST INCLUDE AT LEAST 160 POUNDS OF CEMENT FOR EVERY CUBIC YARD.
2. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE QUARTER PIPE DIAMETER BELOW THE CENTERLINE OF THE COLLECTION PIPE.
3. THE CEMENT STABILIZED SAND MUST BE INSTALLED ONE FULL PIPE DIAMETER ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE, OR 12-INCHES ABOVE THE TOP OF THE COLLECTION SYSTEM PIPE WHICH EVER IS GREATER.

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08/15/2025

WATER & WW (PRIVATE) PLAN B

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 28 OF 52

2025- -SWP

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GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

TYPE OF STRUCTURE	REACH LENGTH	MAXIMUM DRAINAGE AREA	SLOPE
SILT FENCE	N/A	2 ACRES	0 – 10%
	200 FEET	2 ACRES	10 – 20%
	100 FEET	1 ACRE	20 – 30%
	50 FEET	1/2 ACRE	> 30%
TRIANGLE FILTER DIKE	100 FEET	1/2 ACRE	< 30% SLOPE
	50 FEET	1/4 ACRE	> 30% SLOPE
ROCK BERM *, **	500 FEET	< 5 ACRES	0 – 10%

* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW.

** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

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

ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES
EC01 | NTS | 1/2003 | MRS | TRB

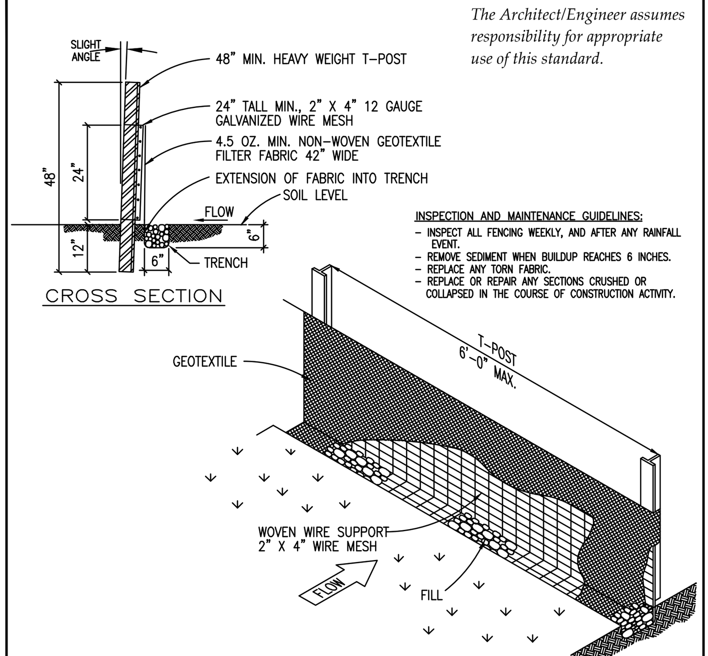
NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SW3P) THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS.

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARD'S AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100lb/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 82% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS . RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95% *COVERAGE*, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4') BEHIND THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.
20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

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

ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES
EC01A | NTS | 1/2003 | MRS | TRB

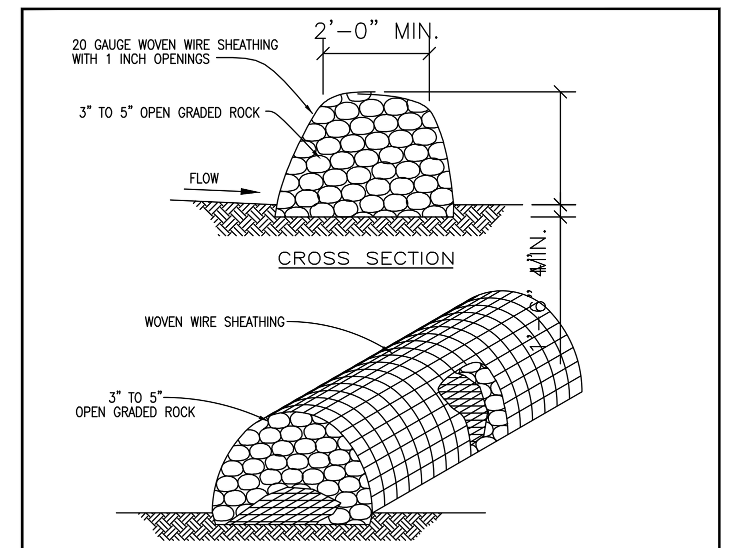
The Architect/Engineer assumes responsibility for appropriate use of this standard.



INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

INSTALLATION:
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SILT FENCE DETAIL
EC02 | NTS | 1/2003 | MRS | TRB



INSTALLATION:
- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

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

ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
ROCK BERM DETAIL
EC03 | NTS | 1/2003 | MRS | TRB

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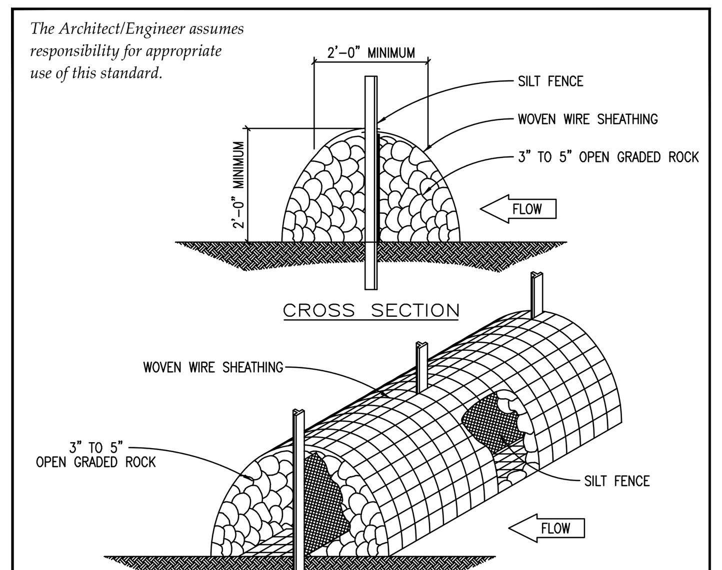
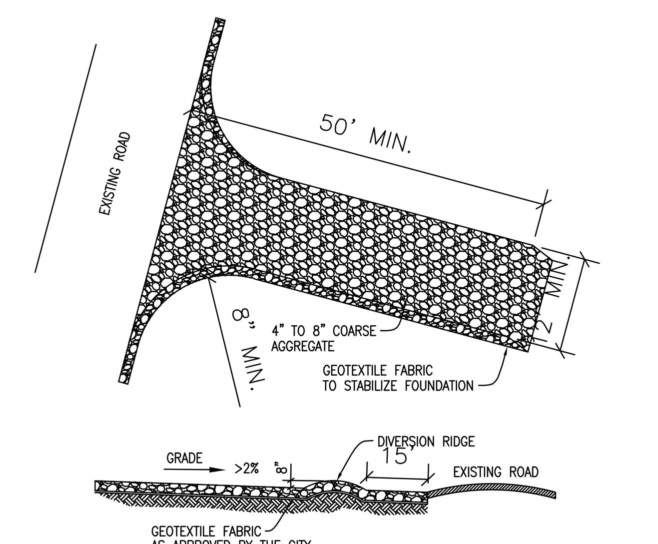


INSTALLATION:
- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT. INSTALLATION SHOULD BE AS DESCRIBED IN DRAWING NO. EC-02 "SILT FENCE DETAIL".
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE AND ON BOTH SIDES OF THE SILT FENCE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE CONTRACTOR. FOR THE INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE ON ROCK BERM.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- THE BERM SHOULD BE REPLACES WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
HIGH SERVICE ROCK BERM DETAIL
EC04 | NTS | 1/2003 | MRS | TRB

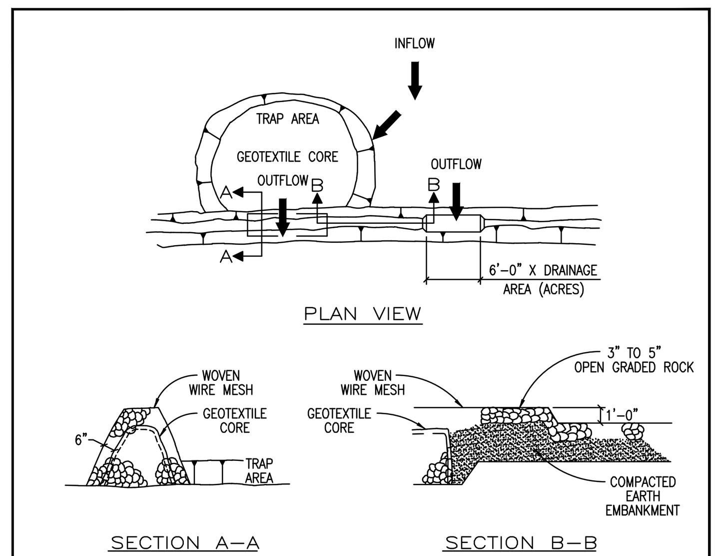


INSTALLATION:
- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

INSPECTIONS AND MAINTENANCE GUIDELINES:
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

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

ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STABILIZED CONSTRUCTION ENTRANCE
EC06 | NTS | 1/2003 | MRS | TRB

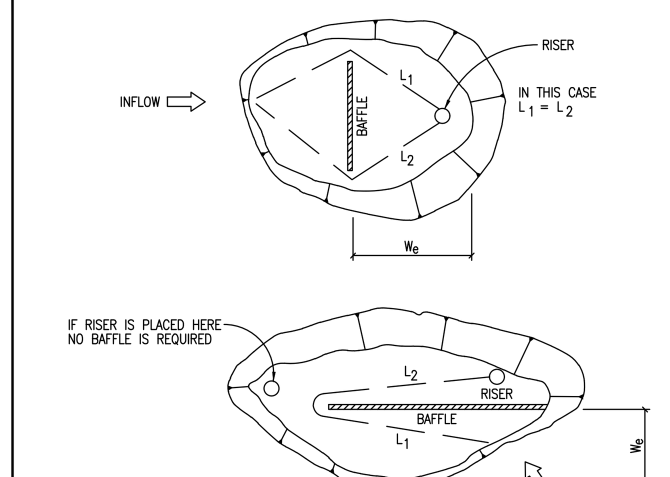


INSTALLATION:
- LOCATE THE SEDIMENT TRAP SO AS TO DISTURB AS FEW TREES AS POSSIBLE.
- CLEAR AND GRUB THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MATS.
- LAYOUT THE WIRE MESH AND THEN THE GEOTEXTILE FABRIC.
- CONSTRUCT THE GEOTEXTILE CORE AND CORRESPONDING ROCK EMBANKMENT TO THE DESIGNATED HEIGHT AND CONFIGURATION.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE. SECURE WITH TIE WIRE.
- PLACE THE EMBANKMENT MATERIAL IN 8 TO 12 INCH LIFTS AND MACHINE COMPACT.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- TRASH AND OTHER DEBRIS SHOULD BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO HALF OF THE DESIGN DEPTH OF THE TRAP.
- SEDIMENT REMOVED FROM THE TRAP SHOULD BE DEPOSITED IN AN APPROVED SPOILS AREA AND IN SUCH A MANNER THAT IT WILL NOT CAUSE ADDITIONAL SILTATION.

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

ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SEDIMENT TRAP DETAIL
EC07 | NTS | 1/2003 | MRS | TRB



SEDIMENT BASIN BAFFLE DESIGN

$W_e = A / (L_1 + L_2)$

W_e = EFFECTIVE WIDTH OF BASIN

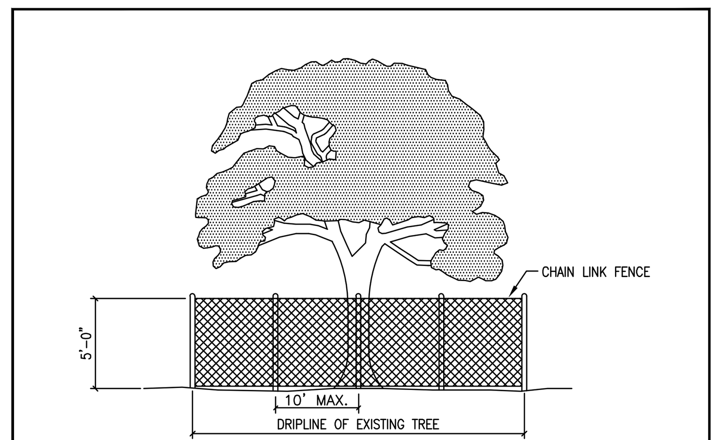
A = SURFACE AREA OF BASIN WHEN FILLED TO RISER CREST

L_1, L_2 = SHORTEST TRAVEL DISTANCE AROUND THE BAFFLE FROM INLET TO OUTLET

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE.
- ACCUMULATED SILT SHOULD BE REMOVED AND THE BASIN SHOULD BE RE-GRADED TO ITS ORIGINAL DIMENSIONS AT SUCH POINT THAT THE CAPACITY OF THE IMPOUNDMENT HAS BEEN REDUCED TO 1/2 OF ITS ORIGINAL STORAGE CAPACITY.
- THE REMOVED SEDIMENT SHOULD BE STOCKPILED OR REDISTRIBUTED IN AREAS THAT ARE PROTECTED FROM EROSION.

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

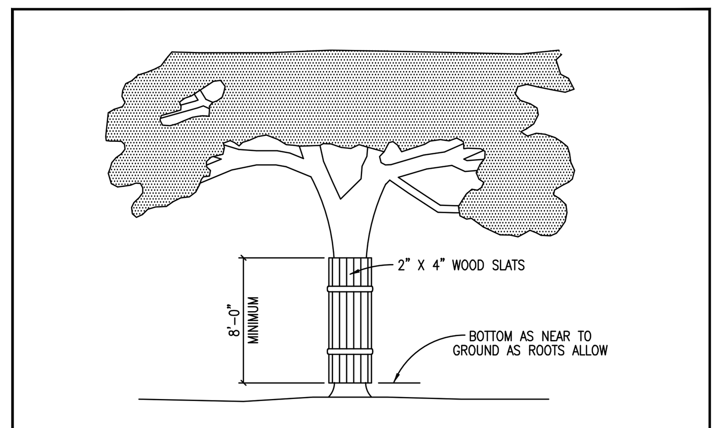
ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SEDIMENT BASIN BAFFLE DESIGN
EC08 | NTS | 1/2003 | MRS | TRB



NOTES:
1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   - A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MATERIALS.
   - B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
   - C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
   - D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   - A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   - B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

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

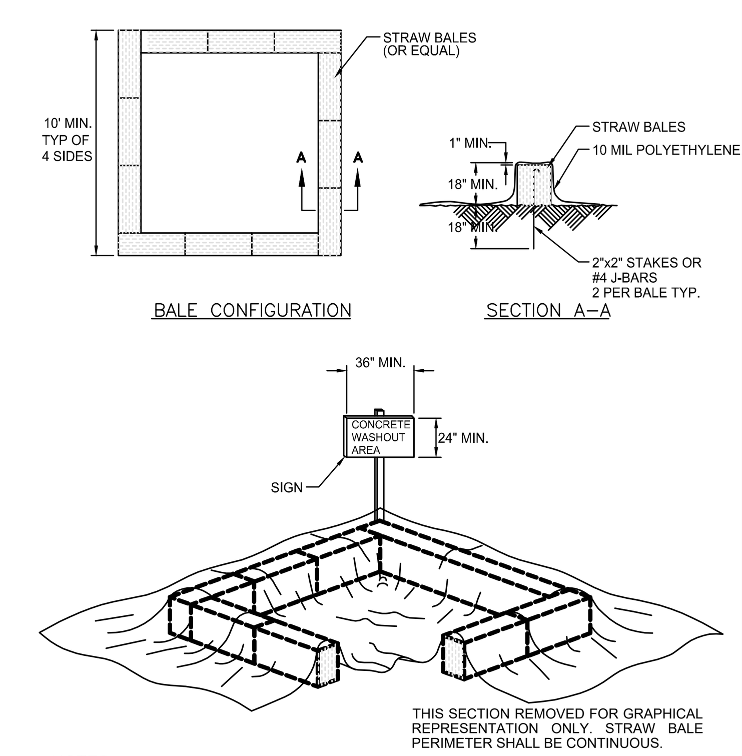
ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TREE PROTECTION – CHAIN LINK FENCE
EC09 | NTS | 1/2003 | MRS | TRB



NOTES:
1. WHERE ANY EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN FOUR FEET (4'-0") TO A TREE TRUNK; PROTECT THE TRUNK WITH STRAPPED-ON-PLANKING TO A HEIGHT OF EIGHT FEET (8'-0"), OR TO THE LIMITS OF LOWER BRANCHING IN ADDITION TO THE REDUCED FENCING PROVIDED.
2. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO (2) DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE, AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
3. PRIOR EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINE. MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT, TO MINIMIZE DAMAGE TO REMAINING ROOTS.
4. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES SHOULD BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
5. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
6. NO LANDSCAPE TOPSOIL DRESSING GREATER THE FOUR INCHES (4") SHALL BE PERMITTED WITHIN THE DRIPLINE OF A TREE. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
7. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.

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

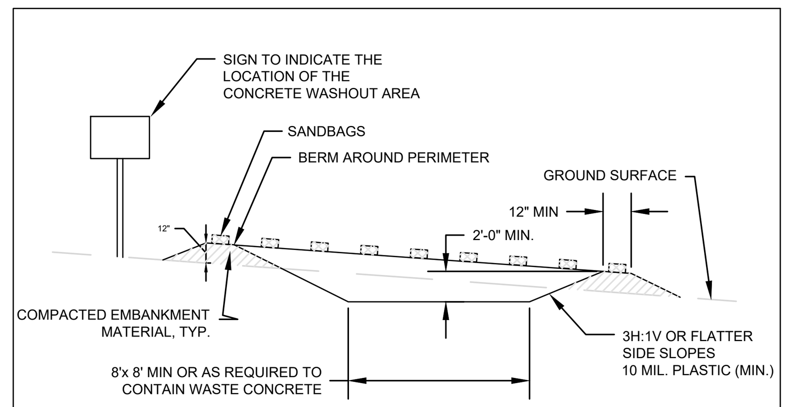
ADOPTED 6/21/2006
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TREE PROTECTION – WOOD SLATS
EC10 | NTS | 1/2003 | MRS | TRB



NOTES:
1. FACE SIGN TOWARD NEAREST STREET OR ACCESS POINT
2. CONCRETE WASHOUT SHALL BE LOCATED BEHIND CURB AND 50 FT. MINIMUM FROM DRAINAGE INLETS OR WATERCOURSES

CONCRETE WASHOUT AREA

N.T.S.



NOTES:
1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. VEHICLE TRACKING CONTROL (DETAIL SW-14) IS REQUIRED IF ACCESS TO CONCRETE WASHOUT AREA IS OFF PAVEMENT.
3. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
4. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
5. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN ACCEPTED WASTE SITE.
6. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.

CONCRETE WASHOUT AREA

N.T.S.

Figure 1.4-F Silt Fence Typical Placement – Two Slopes

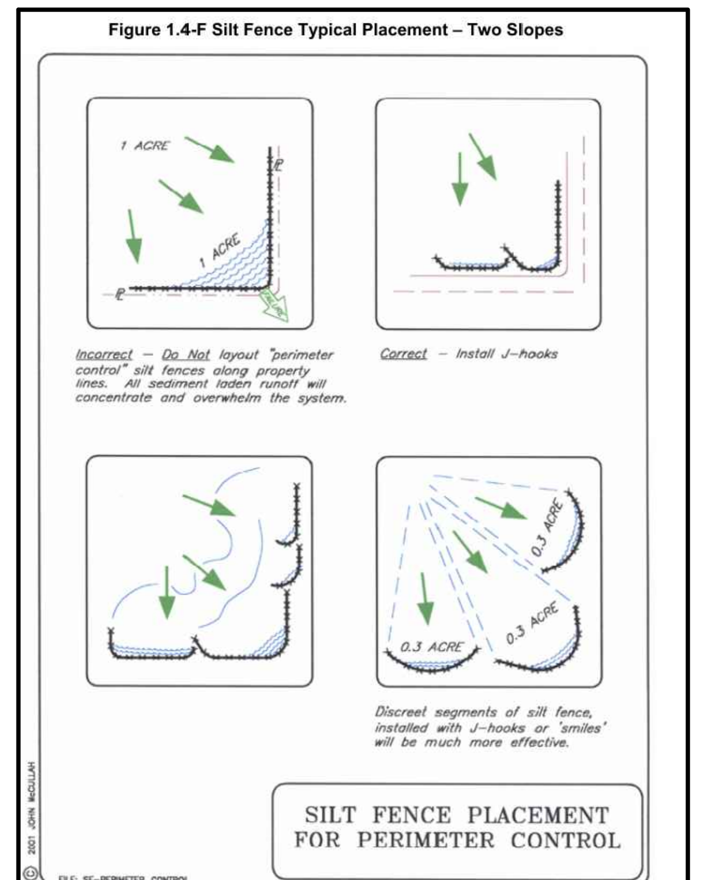


Figure 1.4-G Silt Fence Placement for Perimeter Control

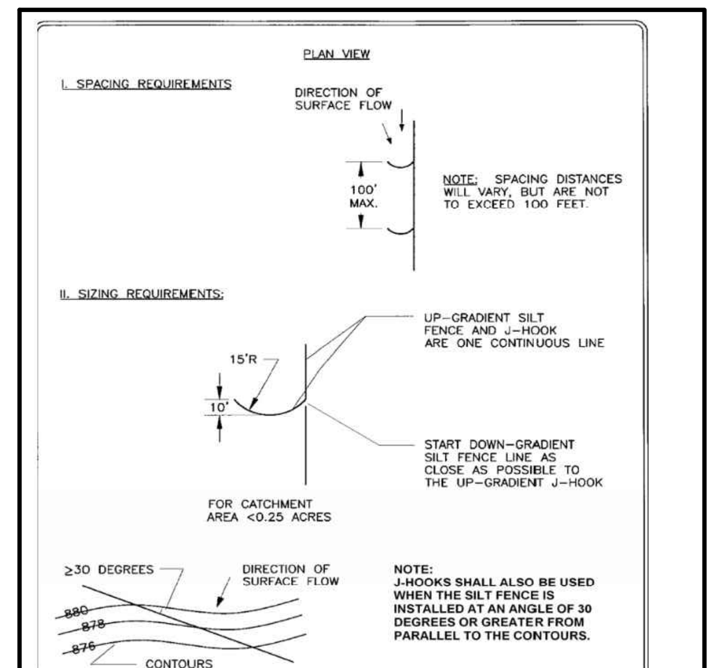


Figure 1.4-H Silt Fence J - Hook Detail (N.T.S.)

H. Triangular Sediment Filter Dikes.

(See Standard Specifications manual item 648S and Specifications manual item 648S *for detail)*

1. Description.

A temporary barrier constructed of wire mesh and geotextile fabric, installed along a flat area.

2. Purpose.

The purpose of a triangular sediment filter dike is to intercept and detain water-borne sediment from a stabilized construction entrance, roadway

NO.	REVISION	BY	DATE

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STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

EROSION CONTROL DETAILS

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 29 OF 52

2025- -SWP

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh2502683-dtEROS.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez

ALL PROJECT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, PLANS AND SPECIFICATIONS FURNISHED BY HR GREEN DEVELOPMENT TX, LLC UNDER THIS PROJECT ARE INTENDED FOR USE ON THIS PROJECT ONLY. ANY REUSE, WITHOUT SPECIFIC WRITTEN VERIFICATION OR ADOPTION BY HR GREEN DEVELOPMENT TX, LLC, SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS COMPANY FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEYS' FEES ARISING OUT OF OR RESULTING THEREFROM.

NOTES:
1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI CONCRETE.
2. STORM SEWER PIPE MATERIAL TO BE R.C.P. (CLASS III) UNLESS OTHERWISE APPROVED BY THE CITY OF GEORGETOWN.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
CURB INLET DETAIL	SD09
	NTS 1/2003

NOTES:
1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI CONCRETE.
2. STORM SEWER PIPE MATERIAL TO BE R.C.P. (CLASS III) UNLESS OTHERWISE APPROVED BY THE CITY OF GEORGETOWN.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
CURB DRAIN INLET TYPICAL SECTION	SD10
	NTS 1/2003

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

NOTES:
1. STANDARD STORM SEWER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480A V–1420\,1480A\ COVER TO BE STAMPED WITH "STORM SEWER".
2. STANDARD STORM SEWER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 41420012 00145391.
4. FOR BOLTED STORM SEWER MANHOLE SET REFER TO DETAIL SD11A.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
STANDARD STORM SEWER MANHOLE SET	SD11
	NTS 1/2003

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

NOTES:
1. BOLTED STORM SEWER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480APT V–1420\,1480215PT. COVER TO BE STAMPED WITH "STORM SEWER"
2. BOLTED STORM SEWER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 00148393 41420015.
4. FOR STANDARD STORM SEWER MANHOLE SET REFER TO DETAIL SD11.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
BOLTED STORM SEWER MANHOLE SET	SD11A
	NTS 1/2006

MANHOLE PLAN

CITY OF GEORGETOWN NOTES:

MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

A. ALL MANHOLES SHALL BE 48" I.D. R.C.P., CLASS III, WITH RUBBER O–RING GASKET JOINTS CONFORMING TO ASTM C478, C433 AND C76.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW–07) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. MANHOLES MAY HAVE A FLAT LID, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY CALVERT CONCRETE OR APPROVED EQUAL M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING, AND O–RING JOINT CONFORMING TO ASTM C443.
F. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C–923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE–TENTH OF A FOOT (0.1').
H. GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM OF FIVE (5) GRADE RINGS ARE ALLOWED.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
STANDARD STORM SEWER MANHOLE PLAN	SD12
	NTS 1/2003

NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C–478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF–SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH STORM SEWER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE. REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS–20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
STANDARD STORM SEWER MANHOLE – SECTION	SD13
	NTS 1/2003

MINIMUM RIP–RAP QUANTITIES	
PIPE	SQ. YDS.
18"	6.2
24"	6.9
27"	7.8
30"	9.5
36"	10.4
42"	12.0
48"	14.3
54"	16.4

NOTES:
1. WHEN HEADWALLS AND WINGWALLS ARE REQUIRED, THEY SHALL CONFORM TO THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARDS, OR AS DIRECTED BY THE CITY.
2. ENERGY DISSIPATERS SHALL BE REQUIRED IF PIPE VELOCITY IS GREATER THAN 5.0 F.P.S. OR AS DIRECTED BY THE CITY OF GEORGETOWN.
3. SUPPORT REINFORCING WIRE MESH REQUIRED AS SUPPORT FOR APPROACH SLAB AND SHALL BE SUPPORTED BY REBAR CHAIRS OR OTHER APPROVED METHODS.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
TYPICAL CONCRETE RIP–RAP AT PIPE	SD19
	NTS 1/2003

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
CONCRETE TRANCH CAP DETAIL FOR STORM SEWER	SD39
	NTS 1/2003

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

NOTES:
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE IN LIFTS NOT TO EXCEED 6" AND EACH LIFT THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
6. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
TRENCH, EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY FOR STORM SEWER	SD40
	NTS 1/2003

NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY FOR STORM SEWER	SD41
	NTS 1/2003

NOTES
1. PIPE SHALL BE REINFORCED CONCRETE PIPE CLASS III UNLESS THE DEPTH OF PIPE REQUIRES A STRONGER CLASS.
2. ALL FITTINGS AND WYES SHALL BE MANUFACTURED AND NOT CONSTRUCTED ON THE PROJECT WITHOUT PRIOR APPROVAL FROM THE CITY.
3. ALL JOINTS SHALL BE WRAPPED WITH MARFI–140–N GEOTEXTILE FABRIC OR APPROVED EQUIVALENT. EACH JOINT SHALL BE WRAPPED WITH 18" WIDE FABRIC CENTERED ON THE JOINT.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
TRENCH AND EMBEDMENT DETAIL (PROFILE) FOR STORM SEWER	SD42
	NTS 1/2003

RIP-RAP CLASSIFICATION SPECIFICATIONS

CLASS 1 RIP-RAP

No more than 10% of the stone will have a diameter greater than twelve (12) inches; no more than 50% of the stone will have a diameter less than ten (10) inches; and no more than 10% of the stone will have a diameter of less than six (6) inches. The thickness of the rip-rap liner will be no less than twelve (12) inches.

CLASS 2 RIP-RAP

No more than 10% of the stone will have a diameter greater than sixteen (16) inches; no more than 50% of the stone will have a diameter less than twelve (12) inches; and no more than 10% of the stone will have a diameter of less than six (6) inches. The thickness of the rip-rap liner will be no less than sixteen (16) inches.

CLASS 3 RIP-RAP

No more than 10% of the stone will have a diameter greater than twenty two (22) inches; no more than 50% of the stone will have a diameter less than sixteen (16) inches; and no more than 10% of the stone will have a diameter of less than eight (8) inches. The thickness of the rip-rap liner will be no less than twenty two (22) inches.

CLASS 4 RIP-RAP

No more than 10% of the stone will have a diameter greater than twenty seven (27) inches; no more than 50% of the stone will have a diameter less than twenty two (22) inches; and no more than 10% of the stone will have a diameter of less than ten (10) inches. The thickness of the rip-rap liner will be no less than twenty seven (27) inches.

CLASS 5 RIP-RAP

No more than 10% of the stone will have a diameter greater than thirty four (34) inches; no more than 50% of the stone will have a diameter less than twenty seven (27) inches; and no more than 10% of the stone will have a diameter of less than sixteen (16) inches. The thickness of the rip-rap liner will be no less than thirty four (34) inches.

CITY OF AUSTIN WATER AND WASTEWATER UTILITY	TYPICAL BOX MANHOLE 760 mm (30") & LARGER PIPE
Kathi L Payne 2-17-00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 506S-5

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	STANDARD HEADWALL AND ENERGY DISSIPATORS
Bill Barker 8/16/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 508S-13 1 OF 2

NOTES:
1. ALL CONCRETE SHALL BE TYPE "C" AS PER SPEC. 403S. CONCRETE FOR STURCTURES.
2. CHAMFER ALL EXTERNAL VISIBLE CORNERS.
3. DISSIPATOR BLOCKS REQUIRED ON DISCHARGE HEADWALLS ONLY.

D	457 mm (18")	533 mm (21")	610 mm (24")	685 mm (27")	765 mm (30")	838 mm (33")	914 mm (36")	1067 mm (42")	1219 mm (48")	1372 mm (54")	1524 mm (60")	
A	225 mm (9")	250 mm (10")	300 mm (12")	350 mm (14")	375 mm (15")	400 mm (16")	450 mm (18")	525 mm (21")	600 mm (24")	675 mm (27")	750 mm (30")	
B	150 mm (6")	175 mm (7")	200 mm (8")	225 mm (9")	250 mm (10")	275 mm (11")	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")	
C	2.29 m (90")	2.67 m (105")	3.05 m (120")	3.43 m (135")	3.81 m (150")	4.19 m (165")	4.57 m (180")	5.33 m (210")	6.10 m (240")	6.86 m (270")	7.62 m (300")	
L	1.37 m (54")	1.60 m (63")	1.83 m (72")	2.06 m (81")	2.29 m (90")	2.51 m (99")	2.74 m (108")	3.20 m (126")	3.66 m (144")	4.11 m (162")	4.57 m (180")	
E	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	700 mm (28")	800m (32")	900 mm (36")	1000 mm (40")	

DIMENSIONS IN MILLIMETERS. METERS AND (INCHES).
DISCHARGE VELOCITIES GREATER THAN 3 METERS/SECOND (10 fps) REQUIRE ROCK OUTLET PROTECTION.

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	STANDARD HEADWALL AND ENERGY DISSIPATORS
Bill Barker 8/16/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 508S-13 2 OF 2

NO.	REVISION	BY	DATE

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STATE OF TEXAS SHERWIN HOOSHIN 96807 LICENSED PROFESSIONAL ENGINEER
08/15/2025

STORM DETAILS

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 31 OF 52

2025- -SWP

Sheet Location: P:\Athens Dynamic\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03. ACAD\Plansets\2025\083-xSTRM.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelarquez
ALL PROJECT ASSIGNMENTS, INCLUDING, BUT NOT LIMITED TO, PLANS AND DRAWINGS PREPARED BY HR GREEN DEVELOPMENT, LLC (HRGD) AS PART OF THIS PROJECT ONLY, ARE REAL, PROPRIETARY AND EXPRESSLY RESERVED TO HRGD AND ARE INTENDED FOR USE ON THIS PROJECT ONLY. ANY REUSE, IN WHOLE OR IN PART, OF HRGD'S WRITTEN DOCUMENTS OR ELECTRONIC FILES BY THE CLIENT OR ANY OTHER PERSON OR ENTITY FOR ANY OTHER PROJECT, ADDITION TO THIS PROJECT, OR COMPLETION OF THIS PROJECT BY OTHERS, WITHOUT THE PRIOR EXPRESS WRITTEN CONSENT OF HRGD, SHALL BE AT THE CLIENT'S SOLE RISK, AND CLIENT SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS HRGD FROM ALL CLAIMS, DAMAGES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM

SEE DETAIL WW-03

MANHOLE PLAN

CITY OF GEORGETOWN NOTES:

MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

A. ALL MANHOLES SHALL BE 48" I.D., R.C.P., CLASS III, WITH RUBBER PROFILE GASKET – SINGLE OFF–SET JOINT CONFORMING TO ASTM C478, C433 AND C76.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW–07) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. MANHOLES MAY HAVE A FLAT LID, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY HANSEN PIPE AND PRECAST OR APPROVED EQUAL. M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING AND WITH PROFILE GASKET – SINGLE OFF–SET JOINT CONFORMING TO ASTM C443.
F. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C–923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE–TENTH OF A FOOT (0.1').
H. GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM ADJUSTMENT OF 12" ARE ALLOWED.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STANDARD MANHOLE – PLAN

WW02

NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C–478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF–SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL. COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE. REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS–20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
9. MANHOLE BASE BEDDING MATERIAL SPECS, FOR 3/4" WASHED GRAVEL:
   SIDE SIZE 2", PERCENT (%) RETAINED 0
   SIDE SIZE 1 1/2", % RETAINED 0–10
   SIDE SIZE 1", % RETAINED 45–75
   SIDE SIZE 3/4", % RETAINED 85–100
   SIDE SIZE 3/8", % RETAINED 95–100

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STANDARD MANHOLE – SECTION

WW03

NOTES:
1. CONCRETE ENCASEMENT FOR DROP CONNECTION TO BE POURED INTEGRALLY WITH BOTH MANHOLE SLAB AND WALL.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO FEET (2') OR MORE ABOVE THE MAIN INVERT CHANNEL.
3. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
4. WHEN P.V.C. IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS MAY BE UTILIZED IN THE DROP ASSEMBLY ONLY.
5. MINIMUM PIPE SIZE FOR DROP IS EIGHT INCHES (8").
6. SEE STANDARD MANHOLE DETAIL (DWG. # WW–03) FOR ADDITIONAL REQUIREMENTS.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
DROP CONNECTION–PRECAST MANHOLE TYPE "A"

WW04

NOTES:
1. TO BE USED WHERE DROP IS SIX INCHES (6") TO TWO FEET (2'–0").
2. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
3. CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED SLAB TO EXTEND UNDER THE DROP CONNECTION.
4. SLOPE MANHOLE ITSELF WITH A 1:2 SLOPE FROM MANHOLE WALL TO CHANNEL.
5. INVERT SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR 4" DEEP.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
DROP CONNECTION–PRECAST MANHOLE TYPE "B"

WW05

FLOW PATTERNS FOR INVERT CHANNELS

SECTION "A–A"

NOTES:
1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
3. CHANNELS FOR FUTURE CONSTRUCTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND, AND COVERED WITH 1" OF MORTAR.
4. SLOPE MANHOLE ITSELF WITH A 1:2 SLOPE FROM MANHOLE WALL TO CHANNEL.
5. INVERT SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR 4" DEEP.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
FLOW PATTERNS FOR INVERT CHANNELS

WW06

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

NOTES:
1. STANDARD WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480A V–1420/1480Z1, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. STANDARD WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING #1420012 D01445390.
4. FOR BOLTED WASTEWATER MANHOLE SET REFER TO DETAIL WW07A.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STANDARD WASTEWATER MANHOLE SET

WW07

NOTES:
1. BOLTED WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480APT V–1420/1480Z1PT, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. BOLTED WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING D01483392 41420015.
4. FOR STANDARD WASTEWATER MANHOLE SET REFER TO DETAIL WW07.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
BOLTED WASTEWATER MANHOLE SET

WW07A

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
48"x58" TO 33"x38"x36" TALL ECCENTRIC CONCRETE SECTION

WW08

NOTES:
1. AVAILABLE WITH CAST IRON RING AND COVER CAST IN PLACE.
2. PERMITTED ONLY WITH WRITTEN APPROVAL FROM GEORGETOWN UTILITY SYSTEMS, CITY OF GEORGETOWN

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
48" MANHOLE FLAT LID

WW09

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
FLEXIBLE "SEAL BOOT" CONNECTOR

WW10

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SEWER CLEAN–OUT DETAIL

WW12

SADDLE TEE				
PART NO.	SIZE	L1	H	F
52635	8"x4"	5.625	5.059	1.448

PLASTIC TRENDS INC. – 1/8 BEND – SPIGOT					
PART NO.	SIZE	A	B	C	D
Z 408	6	11.270	6.148	1.810	6.090

NOTES:
1. FLEXIBLE SADDLE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
2. SADDLE TEE SHALL BE ORIENTATED 45° TO MAIN. (SEE SEWER SERVICE CONNECTIONS DETAIL – DWG # WW–13)
3. EXCAVATE AROUND EXISTING 8–INCH PIPE, EXPOSING SUFFICIENT ROOM FOR S.S. CLAMPS.
4. THOROUGHLY CLEAN AND DRY THE MATING SURFACE WITH RAG OR PAPER TOWEL. MAKE SURE THEY ARE FREE OF DUST AND MOISTURE.
5. MARK THE SIZE OF THE HOLE TO BE CUT USING THE GASKET SKIRT OR THE SADDLE ITSELF AS THE TEMPLATE.
6. SAW CUT THE SECTION OF THE PIPE WHERE THE SADDLE WILL BE LOCATED, WITH A SABER OR KEY HOLE SAW.
7. TEST TO MAKE SURE SADDLE FITS HOLE PROPERLY.
8. SERVICE PIPE SHALL NOT EXTEND MORE THAN ONE–HALF INCH INTO THE MAIN.
9. PLACE GASKET SKIRT AND SADDLE OVER OPENING AND TIGHTEN BAND CLAMPS EVENLY UNTIL SADDLE IS FIRMLY ATTACHED TO THE PIPE. APPLY PRESSURE ON THE SADDLE AGAINST THE PIPE WHILE TIGHTENING THE CLAMPS AS INDICATED ABOVE. DO NOT OVER TIGHTEN, DO NOT STRIP THREAD.
10. REPLACE THE BEDDING AND BACKFILL IN ACCORDANCE WITH THE TRENCH EMBEDMENT DETAIL.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
GASKETED SEWER FITTING FOR SEWER SERVICE CONNECTIONS TO EXISTING MAINS

WW13A

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER NON–PAVED AREAS

WW16

TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY

WW18

NOTES:
1. SEE STANDARD MANHOLE DETAIL (DWG. # WW–03) FOR ADDITIONAL REQUIREMENTS.
2. VENT OPENING TO BE MIN. 4" ABOVE FINISHED GRADE OR MIN. 1' ABOVE 100 YEAR FLOOD ELEVATION.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TYPICAL MANHOLE WITH VENT

WW19

NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C–478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF–SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL. COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE. REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS–20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
9. MANHOLE BASE BEDDING MATERIAL SPECS, FOR 3/4" WASHED GRAVEL:
   SIDE SIZE 2", PERCENT (%) RETAINED 0 SIDE SIZE 1 1/2", % RETAINED 0–10
   SIDE SIZE 1", % RETAINED 45–75 SIDE SIZE 3/4", % RETAINED 85–100
   SIDE SIZE 3/8", % RETAINED 95–100
10. ALL PVC PIPE SHALL BE REMOVED FROM INVERT.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
PRECAST MANHOLE ON CAST–IN–PLACE FOUNDATION

WW20

NOTE:
INSTALLATION OF THE CONCRETE CASTING IS REQUIRED FOR AND APPLIES TO ALL TYPES OF MANHOLES TO BE LOCATED IN THE ROADWAY.

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

APPROVED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CONCRETE CASTING MANHOLE DETAIL

WW21

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER NON–PAVED AREAS AT ABANDONED UTILITY CROSSINGS

WW13

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08/15/2025

WATER & WW DETAILS 1 OF 2

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 32 OF 52

2025- -SWP

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plansets\250825-dtl.dTL .dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
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The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS

ADOPTED 6/21/2006 | NTS | 1/2003 | W02

NOTES:
1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT THE CENTERLINE AS SHOWN ON DETAIL "A".
2. WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISHED GRADE.
3. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9. CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
4. ROTATE THE CORPORATION STOP SO THAT THE OPERATING NUT IS ACTUATED FROM THE VERTICAL POSITION RATHER THAN THE HORIZONTAL. SEE STD. RISER FOR CORP. STOP DETAIL, (DWG # W08).
5. SERVICE LINES SHALL BE CONTINUOUS FROM CORPORATION STOP TO CORPORATION STOP WITH NO FITTINGS IN BETWEEN.
6. SERVICE CASING SHALL NOT BE INSTALLED BY WATER JETTING UNDER ROADWAY.
7. CASING REQUIRED FOR ALL PAVEMENT CROSSINGS. 4" SDR-26 REQUIRED FOR OPEN-CUT. STEEL CASING PIPE REQUIRED FOR JACK AND BORE. LIMITS OF CASING SHOULD EXTEND SIX FEET BEYOND THE EDGE OF PAVEMENT OR BACK-OF-CURB.
8. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. METER BOX TO BE CAPABLE OF HOUSING ITRON AUTOMATIC METER READING DEVICE. USE DFW-PLASTICS, INC. PART NO. 1200.SBAMR OR APPROVED EQUAL.
11. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY. SEE DETAIL W23.
12. CASING SHALL EXTEND OUT TO WITHIN 4' INSIDE OF THE R.O.W. LINE, ON BOTH SIDES.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL WATER SERVICE-ELEVATION

ADOPTED 01/23/2013 | NTS | 1/2013 | W03

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

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SINGLE WATER SERVICE PLAN

ADOPTED 01/23/2013 | NTS | 1/2013 | W04

NOTES:
1. VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR – 6 INCHES FROM INSTALLED FINISH GRADE.
2. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL – SERIES 2500
   B. MUELLER – 2360 SERIES
   C. CLOW

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL VALVE SETTING

ADOPTED 6/21/2006 | NTS | 1/2003 | W07

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD RISER BOX FOR CORPORATION STOP

ADOPTED 6/21/2006 | NTS | 1/2003 | W08

NOTES:
1. FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. ALL FIRE HYDRANT EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED SILVER USING A HIGH GRADE ENAMEL.
4. HEEL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
5. THE FOLLOWING ARE ACCEPTABLE ARE:
   A. KENNEDY – M67
   B. AMERICAN DARLING – B-84B
   C. CLOW MEDALLION
6. DOUBLE BLUE REFLECTOR "PYE-LITES" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED AT CENTERLINE OF STREET PERPENDICULAR TO HYDRANT.
7. ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MIL. POLYETHYLENE FILM.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL FIRE HYDRANT INSTALLATION

ADOPTED 6/21/2006 | NTS | 1/2003 | W10

ALL THRUST BLOCKS SHALL BE FORMED. LAID FORMS SHALL BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO COVERING. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKS, FOR PRESSURE MAINS FOUR INCHES (4") AND GREATER, CONCRETE SHALL HAVE 2,500 P.S.I. MINIMUM STRENGTH AT TWENTY EIGHT (28) DAYS AND BEAR AGAINST UNDISTURBED STABLE SOILS. AREA OF CONTACT SHALL BE GOVERNED BY SIZE, MAXIMUM PRESSURE IN PIPE, AND BEARING CAPACITY OF SOIL. PROTECT FITTINGS, BOLTS, ETC., BY COVERING WITH VISQUEEN OR OTHER ACCEPTABLE MATERIAL. CONCRETE SHALL BE A MINIMUM OF TWELVE INCHES (12") THICK.

PIPE SIZE	THRUST BLOCK AREA REQUIRED	PIPE SIZE	THRUST BLOCK AREA REQUIRED	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	
16"	24.0 SQ. FT.			

* THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

VALVES ARE FOR 90° BENDS, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. PLUS 33% SAFETY FACTOR FOR OTHER SOILS AND PRESSURES, THE AREA REQUIRED IS IN DIRECT PROPORTION.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN

ADOPTED 6/21/2006 | NTS | 1/2003 | W11

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD AIR RELEASE VALVE FOR WATER MAIN

ADOPTED 6/21/2006 | NTS | 1/2003 | W12

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD AIR RELEASE VALVE FOR WATER MAIN

ADOPTED 6/21/2006 | NTS | 1/2003 | W13

NOTES:
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE IN LIFTS NOT TO EXCEED 6" AND EACH LIFT THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
6. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY

ADOPTED 6/21/2006 | NTS | 1/2003 | W17

NOTES:
1. TEST STATION SHALL BE HANDLEY INDUSTRIES INC. – 2 INCH CATHODIC TEST STATIONS OR APPROVED EQUAL.
2. THE 15" ABS PLASTIC BOX SHALL BE A FLANGED TOP FOR INSTALLATION AT GROUND LEVEL.
3. ALL TERMINALS ARE TO BE MADE OF SOLID BRASS.
4. PLASTIC LIDS SHALL BE COLOR BLUE AND MARKED "WATER".
5. TEST TERMINALS ARE TO BE INCORPORATED WITH HANDLEY VALVE BOXES.
6. BURY SPLICE SHALL BE 3M DIRECT BURY SPLICE (DBR) OR APPROVED EQUAL.
7. TEST STATIONS SHALL BE INSTALLED AT EACH FIRE HYDRANT LOCATION.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRACER WIRE INSTALLATION AND TEST STATION LOCATION

ADOPTED 6/21/2006 | NTS | 1/2003 | W18

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
FIRE HYDRANT SAMPLING POINT

ADOPTED 6/21/2006 | NTS | 1/2003 | W19

NOTES:
1. SEE VALVE SETTING DETAIL, DWG. #W–07.
2. ACCEPTABLE GATE VALVES ARE:
   A. MUELLER – 2360 SERIES
   B. CLOW

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
INLINE VALVE INSTALLATION

ADOPTED 6/21/2006 | NTS | 1/2003 | W21

NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY

ADOPTED 6/21/2006 | NTS | 1/2003 | W22

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
METER BOX (NON–TRAFFIC AREAS)

ADOPTED 6/21/2006 | NTS | 1/2003 | W23

DIMENSION					
PIPE SIZE	A	B	MANDREL O.D.	PIPE O.D.	WALL THINNESS
6" SDR 26	3.9"	5.0"	5.993"	6.275"	0.274"
8" SDR 26	4.5"	6.0"	7.366"	8.400"	0.323"
10" SDR 26	5.5"	7.5"	9.207"	10.500"	0.404"
12" SDR 26	7.0"	9.0"	10.961"	12.500"	0.481"
15" SDR 26	9.0"	11.5"	13.418"	15.300"	0.588"

NOTES:
1. AFTER WELDING IS COMPLETED, TRUE THE OUTSIDE DIAMETER DIMENSION. FOR THE FULL LENGTH OF "B" TO 0.010".
2. MANDREL OD MUST BE EQUAL TO 95% OF THE ID OF THE PIPE
3. ADJUSTABLE MANDREL NOT ACCEPTABLE.
4. REFERENCE THE PIPE MANUFACTURER'S SPECIFICATIONS FOR MANDREL SIZE AND SUPPLY CALCULATED DIMENSIONS IN A SUBMITTAL.
5. A PROVING RING IS REQUIRED.
6. MANDREL WILL HAVE AN ODD NUMBER OF RUNNERS (9 OR MORE).

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2024	PIPE MANDREL	
RECORDED COPY SIGNED BY LAURIE MOYER, P.E.	2-15-2015 APPROVED/ ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	510S-PM-SM N.T.S. STANDARD DETAIL

WATERLINE / WASTEWATER LINE CROSSING DETAIL
N.T.S.

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WATER & WW DETAILS 2 OF 2

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 33 OF 52

2025- -SWP

Sheet Location: P:\athena.donsmithberry creek crossing\commercial lot 1 & shared improvements\03_ACAD\Sheets\250508S-sht(TTL).dwg | Date Plotted: September 09, 2025 | Plotted By: rcampbell
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Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh2502683-XCOND TURN.dwg | Date Plotted: August 15, 2025 | Plotted By: mvelasquez
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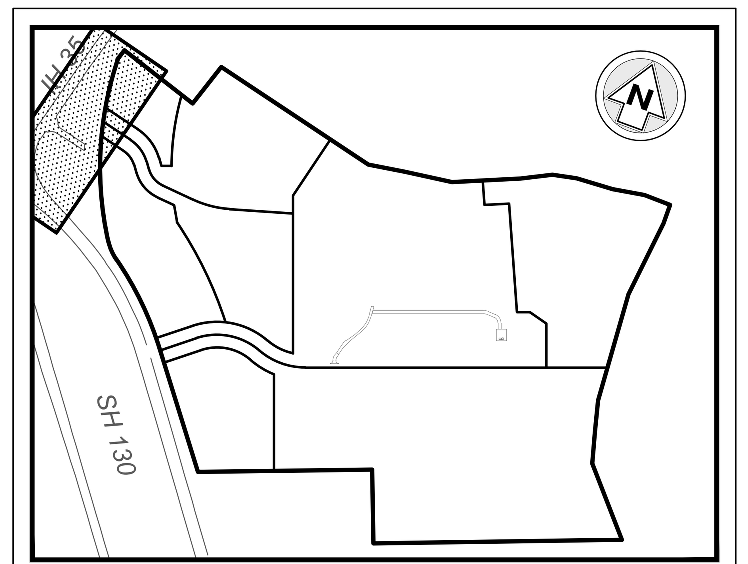
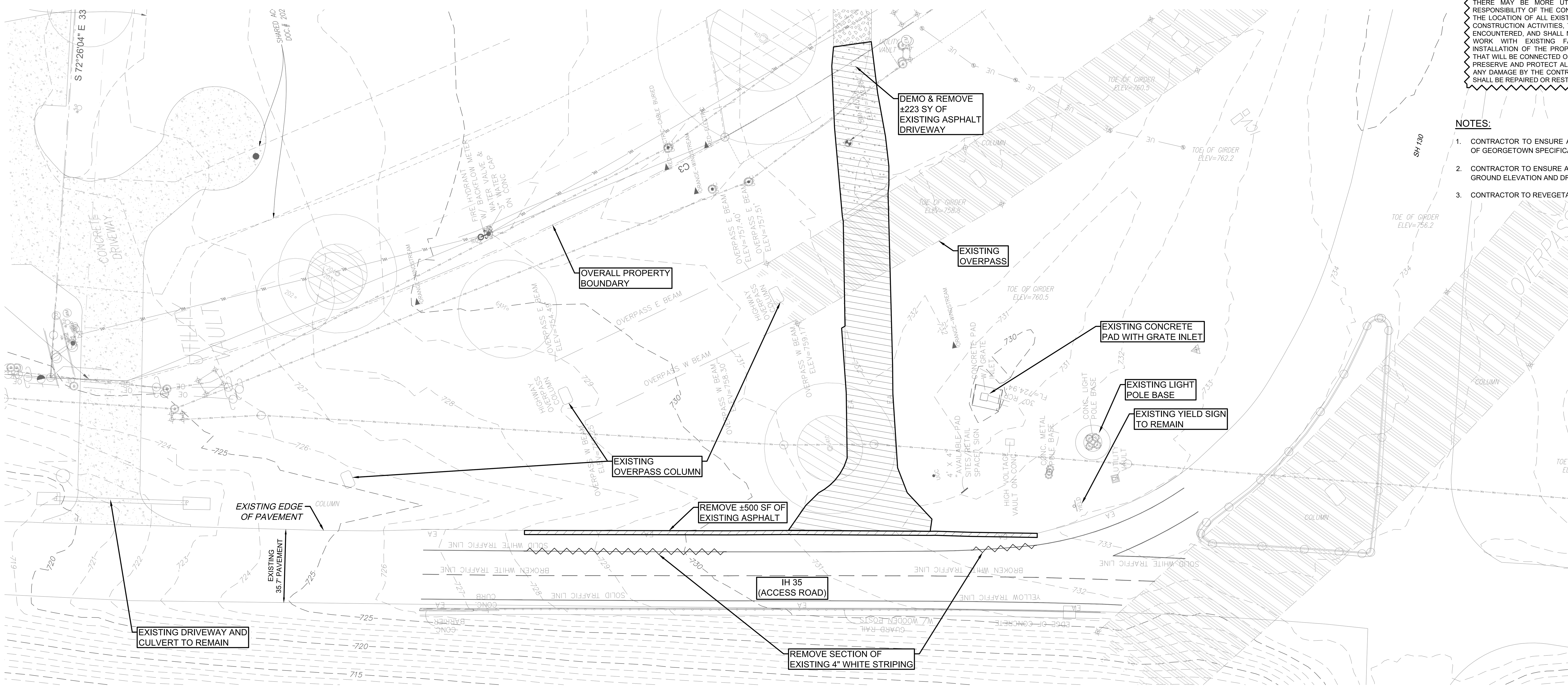


KEY MAP
N.T.S



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

LEGEND

- PROPERTY BOUNDARY
- EASEMENT
- 840 EXISTING MAJOR CONTOUR
- 834 EXISTING MINOR CONTOUR
- 100YR 100-YR FEMA FLOODPLAIN
- EXISTING FENCE
- EX WL EXISTING WATER LINE
- EX WW EXISTING WASTEWATER LINE
- OE EXIST. OVERHEAD ELECTRIC
- UE EXIST. UNDERGROUND ELECTRIC
- TL EXIST. TRANSMISSION LINE
- EX FO EXIST. FIBER OPTIC CABLE
- EXISTING TREES
- EXISTING HERITAGE TREES
- EXISTING TREES - REMOVED
- EXISTING HERITAGE TREES - REMOVED
- EXISTING POWER POLE
- EXISTING GUY POLE
- EXISTING ELECTRIC METER
- EXISTING GRAVEL ROAD

CAUTION
EXISTING UTILITIES

CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.

THE CONTRACTOR IS ALLOWED TO REMOVE ANY ABANDONED UNDERGROUND UTILITY PART OF THE OLD RV PARK UTILITY NETWORKS. CONTRACTOR SHALL COORDINATE THE REMOVAL OF THE EXISTING OVERHEAD ELECTRICAL LINE AND POLES WITH THE OWNER AND P.E.C..

THERE MAY BE MORE UTILITIES THAN THOSE SHOWN IN THE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO: VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES, TAKE NECESSARY PRECAUTIONS TO PROTECT ALL FACILITIES ENCOUNTERED, AND SHALL NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE PROPOSED IMPROVEMENTS WITH THE OWNER OF THE FACILITIES THAT WILL BE CONNECTED OR CROSSED OR INSTALLED NEARBY. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, BOTH KNOWN AND UNKNOWN, SHALL BE REPAIRED OR RESTORED AT THE EXPENSE OF THE CONTRACTOR.

NOTES:

1. CONTRACTOR TO ENSURE ALL DEMOLITION WORK IS PERFORMED TO TXDOT AND CITY OF GEORGETOWN SPECIFICATIONS.
2. CONTRACTOR TO ENSURE ALL DEBRIS IS REMOVED FROM SITE AND TO MATCH EXISTING GROUND ELEVATION AND DRAINAGE PATTERN CONDITION.
3. CONTRACTOR TO REVEGETATE ALL DISTURBED AREAS.

NO.	REVISION	BY	DATE

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STATE OF TEXAS
SHERVIN NOOSHIN
96807
LICENSED PROFESSIONAL ENGINEER
08/15/2025

TURN LANE EXISTING CONDITIONS & DEMO PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS
2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 34 OF 52
2025- -SWP

Sheet Location: P:\Athena Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plans\sh250983-EROS TURN.dwg | Date Plotted: August 15, 2025 | Plotted By: mvalenzuela
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EROSION AND SEDIMENTATION CONTROL NOTES:

1. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE IMPLEMENTATION, MAINTENANCE AND EFFECTIVENESS OF ALL EROSION AND SEDIMENTATION CONTROLS.
2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE, MODIFICATION AND REMOVAL DATES OF EACH EROSION AND SEDIMENTATION CONTROLS AND BMP.
3. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD, MODIFY AND REMOVE ANY EROSION AND SEDIMENTATION CONTROL ON THE SITE.
4. CONTRACTOR SHOULD UTILIZE DUST CONTROL MEASURES DURING THE SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME.
6. REFERENCE EROSION AND SEDIMENTATION CONSTRUCTION DETAILS INCLUDED IN THESE PLANS.
7. IF A DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, THE DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION OR MULCH PER CITY STANDARDS.

SEQUENCE OF MAJOR ACTIVITIES:

1. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES TO INCLUDE SILT FENCE, ROCK BERMS, AND STABILIZED CONSTRUCTION ENTRANCES WILL BE INSTALLED ACCORDING TO CONSTRUCTION PLANS AND IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
2. TREE PROTECTION MEASURES WILL ALSO BE INSTALLED FOR ALL TREES WITH CONSTRUCTION ACTIVITIES WITHIN CRITICAL ROOT ZONE.
3. TEMPORARY SPOILS, CONSTRUCTION STAGING AND CONCRETE WASHOUT AREA WILL BE CONSTRUCTED.
4. SEDIMENTATION TRAPS SHALL BE CLEANED OUT AND FILTER MEDIUM INSTALLED CONCURRENT WITH RE-VEGETATION.
5. THE DISTURBED AREA TO REMAIN PERVIOUS WILL BE VEGETATED USING THE PROCEDURES DETAILED IN THE CONSTRUCTION PLANS AND ALL TEMPORARY EROSION CONTROL MEASURES WILL BE REMOVED UPON RE-VEGETATION.
6. ALL AREAS WITHIN THE LIMITS OF CONSTRUCTION ARE EXPECTED TO BE DISTURBED DURING CONSTRUCTION.
7. TEMPORARY ROCK BERM TO BE REMOVED PRIOR TO FINAL INSPECTION.

KEY MAP
N.T.S

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- BOUNDARY LINE
- LOT LINE
- EASEMENT
- LOC — LIMITS OF CONSTRUCTION
- LOC/SF — LIMITS OF CONSTRUCTION/SILT FENCE
- SF — SILT FENCE
- TP — TREE PROTECTION
- 100YR — 100 YR FEMA FLOODPLAIN
- FLOW DIRECTION
- EXISTING TREE TO REMAIN
- EXISTING HERITAGE TREE TO REMAIN
- TREE TO BE REMOVED
- HERITAGE TREE TO BE REMOVED
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK BERM
- TEMPORARY SPOILS AREA
- STAGING AREA
- CONCRETE WASHOUT AREA

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08/15/2025

TURN LANE EROSION CONTROL PLAN

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY:	CC/CR
DRAWN BY:	MV
CHECKED BY:	SN
APPROVED BY:	SN

SHEET 35 OF 52

2025- -SWP

NO.	REVISION	BY	DATE

EXISTING DRAINAGE AREA - TxDOT

PROPOSED DRAINAGE AREA - TxDOT

N

0 100' 200'

SCALE: 1" = 100'

LEGEND

- P-1 / 5.00 Ac — DRAINAGE AREA NAME / DRAINAGE AREA (IN ACRES)
- TIME OF CONCENTRATION
- POI-15 — DRAINAGE DESIGN POINT
- DIRECTION OF FLOW
- DRAINAGE AREA
- 8.35 — EXISTING MAJOR CONTOUR
- 8.34 — EXISTING MINOR CONTOUR
- 8.35 — PROPOSED MAJOR CONTOUR
- 8.34 — PROPOSED MINOR CONTOUR
- 100YR — 100 YR FEMA FLOODPLAIN
- OVERALL BOUNDARY LINE
- LOT LINE

BERRY CREEK - TXDOT TURN LANE - EXISTING CONDITIONS
RATIONAL METHOD FLOW CALCULATIONS

BASIN	AREA	AREA	IMPERVIOUS	PERVIOUS	TC	2-YR			5-YR			10-YR			25-YR			50-YR			100-YR		
LABEL	(SQ FT)	(AC)	%	%	(MIN)	C	I	Q	C	I	Q	C	I	Q	C	I	Q	C	I	Q	C	I	Q
E1-TxDOT	80,193	1.84	3%	97%	17.0	0.22	3.58	1.46	0.22	4.82	1.96	0.22	5.78	2.35	0.22	7.11	2.89	0.22	8.16	3.32	0.22	9.27	3.77
E2-TxDOT	48,777	1.12	7%	93%	16.2	0.25	3.67	1.01	0.25	4.93	1.36	0.25	5.91	1.63	0.25	7.26	2.01	0.25	8.33	2.30	0.25	9.46	2.61

BERRY CREEK - TXDOT TURN LANE - PROPOSED CONDITIONS
RATIONAL METHOD FLOW CALCULATIONS

BASIN	AREA	AREA	IMPERVIOUS	PERVIOUS	TC	2-YR			5-YR			10-YR			25-YR			50-YR			100-YR		
LABEL	(SQ FT)	(AC)	%	%	(MIN)	C	I	Q	C	I	Q	C	I	Q	C	I	Q	C	I	Q	C	I	Q
P1-TxDOT	80,193	1.84	0%	100%	17.0	0.20	3.58	1.32	0.20	4.82	1.77	0.20	5.78	2.13	0.20	7.11	2.62	0.20	8.16	3.01	0.20	9.27	3.41
P2-TxDOT	48,777	1.12	14%	86%	10.3	0.30	4.45	1.49	0.30	5.94	1.98	0.30	7.09	2.37	0.30	8.65	2.89	0.30	9.86	3.30	0.30	11.11	3.71

Time of Concentration

Drainage Area	Sheet Flow				Shallow Concentrated Flow (Unpaved)				Gutter Flow		
	Length	Slope	Roughness Coefficient	T_{sheet}	Length	Slope	Roughness Coefficient	$T_{unpaved}$	Length	Velocity	T_{paved}
	ft	ft/ft		min	ft	ft/ft		min	ft	ft/s	min
E1-TxDOT	30	0.015	0.24	1.40	390	0.01	0.24	15.60		6.0	0.00
E2-TxDOT	30	0.015	0.24	1.40	370	0.01	0.24	14.80		6.0	0.00
P1-TxDOT	30	0.015	0.24	1.40	390	0.01	0.24	15.60		6.0	0.00
P2-TxDOT	30	0.015	0.24	1.40	207	0.01	0.24	8.28	238	6.0	0.66

NET CHANGE IN FLOW (cfs)		
	POI-01	POI-02
2 YR	-0.14	0.47
5 YR	-0.19	0.62
10 YR	-0.22	0.74
25 YR	-0.28	0.88
50 YR	-0.32	0.99
100 YR	-0.36	1.10

Rainfall Intensity-Duration-Frequency Coefficients for Texas

Based on "National Oceanic and Atmospheric Administration's (NOAA) Atlas 14
Precipitation-Frequency Atlas of the United States, Volume 11 Version 2.0: Texas" (Perica et al. 2018)

Parameter Selection
1. Select Units: English
2. Select Methodology: Annual Maximum Series (AMS)
3. Select County: WILLIAMSON
4. Select County Zone: San Gabriel River
5. Select Time of Concentration (t_C): 5 Minute

Coefficient	Design Annual Exceedance Probability (Design Annual Recurrence Interval)						
	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)	0.2% (500-year)
e	0.8119	0.8046	0.8016	0.7994	0.7991	0.7992	0.7991
b	54.2839	72.4906	87.6084	109.8397	128.9278	150.9468	213.8342
d (min)	11.4257	12.0761	12.7018	13.7038	14.6108	15.8200	19.6722
Intensity (inches/hour)	5.59	7.39	8.75	10.57	11.95	13.34	16.50

Note: Williamson County has 4 rainfall zones. Williamson County uses customized IDF zones derived by the county. Since Williamson County county has more than 1 rainfall zone, consider using the accompanying Google Earth file to accurately locate a project.

NO.	REVISION	BY	DATE

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TXDOT DRAINAGE AREA MAPS

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 36 OF 52

2025- -SWP

Sheet Location: P:\Allhena Dumain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Planset\250825-DRAIN-TxDOT.dwg | Data Plotted: August 15, 2025 | Plotted By: mwiesner
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CULVERT - TXDOT

CULVERT D		
Q_2 (cfs)	=	1.49
HGL_2 (ft)	=	0.72
HW_2 (ft)	=	0.62
Q_5 (cfs)	=	1.98
HGL_5 (ft)	=	0.77
HW_5 (ft)	=	0.73
Q_{10} (cfs)	=	2.37
HGL_{10} (ft)	=	0.81
HW_{10} (ft)	=	0.81
Q_{25} (cfs)	=	2.69
HGL_{25} (ft)	=	0.84
HW_{25} (ft)	=	0.87
Q_{50} (cfs)	=	3.3
HGL_{50} (ft)	=	0.89
HW_{50} (ft)	=	0.99
Q_{100} (cfs)	=	3.71
HGL_{100} (ft)	=	0.93
HW_{100} (ft)	=	1.06

GRADING NOTES:

1. ALL CONSTRUCTION WITH IN INTERSTATE HIGHWAY 35 (IH 35) TO BE IN ACCORDANCE WITH THESE PLANS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION SPECIFICATIONS.
2. REFER TO THE GEOTECNICAL REPORT "SUBSURFACE EXPLORATION AND FOUNDATION ANALYSIS PROPOSED NEW BERRY CREEK APARTMENTS, GEORGETOWN, TEXAS" BY INTEC, PROJECT NO. S221751, FROM SEPTEMBER 16, 2020 INCLUDING ALL REVISIONS AND ADDENDA THAT MAY HAVE BEEN RELEASED AFTER THE NOTED DATE.
3. TOPOGRAPHIC DATA SHOWN HEREON BASED ON SURVEY PROVIDED BY FOREST SURVEYING & MAPPING ON JULY 2021.
4. IF CONTRACTOR FINDS A DISCREPANCY WITH THE TOPOGRAPHIC INFORMATION ON THESE PLANS, HE/SHE SHOULD CONTACT THE CONSTRUCTION MANAGER / SUPERVISOR IMMEDIATELY.
5. ALL PROPOSED ELEVATIONS ARE TO FINISH GRADE OR NATURAL GROUND UNLESS OTHERWISE NOTED.
6. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED AND GRADED TO DRAIN.
7. ANY TEMPORARY SPOILS STOCKPILE MUST BE LOCATED OUTSIDE OF ANY TREE DRIPLINES AND IN THE TEMPORARY SPOILS AREA DESIGNATED ON THE APPROVED PLANS. ALL SURPLUS MATERIAL WILL BE DISPOSED OF OFF SITE.
8. THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE CITY ENVIRONMENTAL INSPECTOR AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO THE REMOVAL. THIS NOTIFICATION SHALL INCLUDE THE DISPOSAL LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.
9. ALL DEBRIS AND EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE IN A MANNER NOT TO DAMAGE THE OWNER PRIOR ACCEPTANCE OF THE PROJECT.
10. THE GEOTECHNICAL ENGINEER SHALL APPROVE ALL FILL MATERIAL PROVIDED PRIOR TO PLACING AND COMPACTING. THE PLASTICITY INDEX MUST BE LESS THAN 15.
11. UNLESS NOTED OTHERWISE, SPREAD FILL MATERIAL IN 8-INCH LIFTS AND COMPACT EACH LIFT TO 95% TO 105% OF THE MAXIMUM DENSITY, AS DETERMINED BY THE SDHPT TEST METHOD TEX 113-E, WITHIN +/- 3% OF THE OPTIMUM MOISTURE CONTENT FOR ALL PLACEMENT OF FILL MATERIAL.
12. ALL SLOPES GREATER THAN 3 TO 1 SHALL BE STABILIZED BY RIP RAP OR OTHER APPROVED METHODS. A STRUCTURAL ENGINEER MUST PROVIDE DETAILS FOR CONCRETE OR ROCK RIP RAP. EARTH SLOPES GREATER THAN 3 TO 1 WILL REQUIRE RECOMMENDATIONS FROM A GEOTECHNICAL ENGINEER.
13. GRADING WITHIN THE 1/2 CRITICAL ROOT ZONE OF ALL HERITAGE AND PROTECTED TREES, IDENTIFIED BY A HATCH PATTERN ON THESE PLANS, SHALL BE LIMITED TO LESS THAN 6 INCHES OF DISTURBANCE. NO GRADING ACTIVITY WITH DISTURBANCE OF MORE THAN 4 INCHES IS ALLOWED IN THE 1/4 CRITICAL ROOT ZONE.
14. GRADING WORK WITHIN THE 1/2 CRITICAL ROOT ZONE OF ALL HERITAGE TREES SHALL BE DONE BY HAND OR WITH RUBBER TIRED EQUIPMENT.
15. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TOWARD INLETS / CULVERTS.

DRAINAGE NOTES:

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
2. ALL PUBLIC STORM SEWER LINES SHALL BE CLASS III RCP.

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08/15/2025

TURN LANE GRADING

BERRY CREEK CROSSING SHARED IMPROVEMENTS

2800 N IH 35,
GEORGETOWN, TEXAS 78626

DESIGNED BY: CC/CR
DRAWN BY: MV
CHECKED BY: SN
APPROVED BY: SN

SHEET 37 OF 52

2025- -SWP

Sheet Location: P:\Athens Domain\Berry Creek Crossing\Commercial Lot 1 & Shared Improvements\03_ACAD\Plansets\20250903-TxDOT.GBPL - by | Date Plotted: August 15, 2025 | Plotted By: mwilliams
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