WATER POLLUTION ABATEMENT PLAN

For

Georgetown Fire Logistics Building

In

3600 D B Wood Road

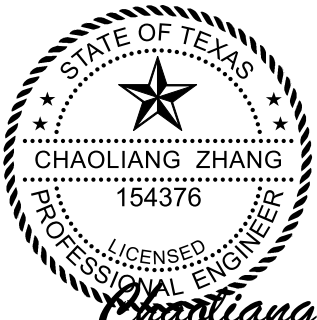
Georgetown, TX 78628

Prepared for:

Georgetown Fire Department

Prepared by:

Chaoliang Zhang



September 8th, 2025

Chaoliang Zhang
09/08/2025

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Sections

1. Edwards Aquifer Application Cover Page (TCEQ-20705)

GESSNER ENGINEERING

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: Fire Station No. 5						**2. Regulated Entity No.: RN106213200**			
3. Customer Name: City of Georgetown						**4. Customer No.:CN600412043**			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**		20.17	
9. Application Fee:	$6,500		**10. Permanent BMP(s):**			Water Quality Pond/Sand Filter Basin			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson		**14. Watershed:**			North Fork San Gabriel River			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	_1_
Region (1 req.)	___	___	_1_
County(ies)	___	___	__1
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. Jennifer Bettiol, CIP Manager for the City of Georgetown
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent — Date: 6/25/2025

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):	

2. General Information Form (TCEQ-0587)

GESSNER
ENGINEERING

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.

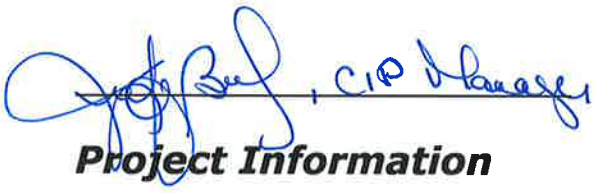
Signature

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: Jennifer Bettiol, CIP Manager of the City of Georgetown

Date: 06/13/2025

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Fire Station No 5
2. County: Williamson
3. Stream Basin: North Fork San Gabriel Watershed/Brazos River Basin
4. Groundwater Conservation District (If applicable): NA
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

Contact Person: Jennifer Bettiol
Entity: Fire Station No 5
Mailing Address: 3600 D B Wood Rd
City, State: Georgetown, TX Zip: 78628
Telephone: (512) 930-3473 FAX: _____
Email Address: _____

8. Agent/Representative (If any):

Contact Person: Chaoliang Zhang, P.E.
Entity: Gessner Engineering
Mailing Address: 401 W 26th St Suite 3
City, State: Bryan, TX Zip: 77803
Telephone: (979) 680-8840 FAX: _____
Email Address: czhang@gessnereng.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.

3600 D B Wood Road, Georgetown, Texas 78628
0.2 miles south of Williams Dr & D B Wood Road intersection

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: Survey date is determined based on the approved plans.

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:

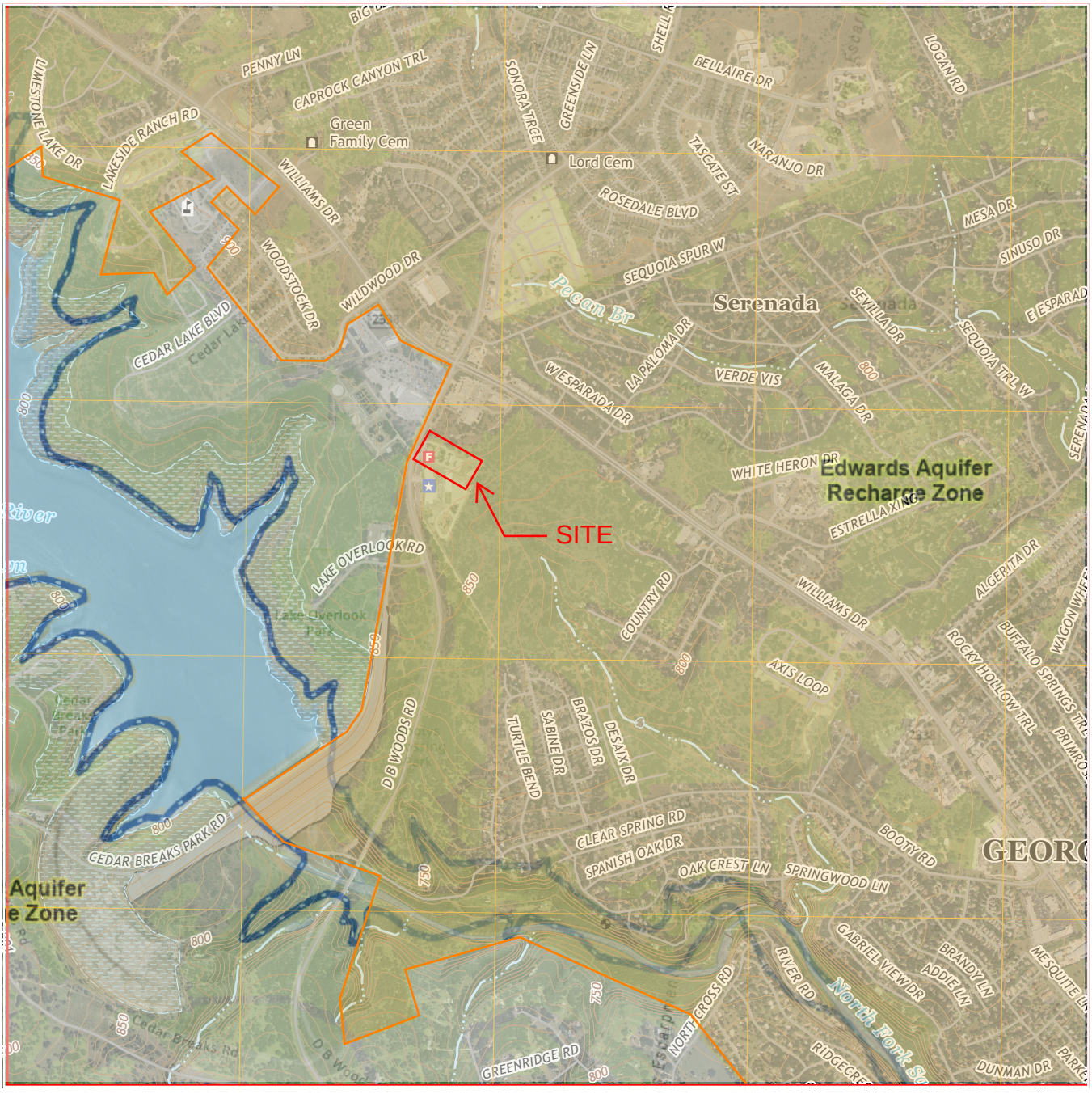
☐ TCEQ cashier
☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

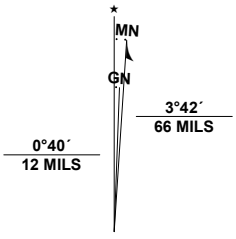
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

Attachment A - Road Map

Attachment B - Edwards Recharge Zone Map





UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
PV
34 00
PU
Grid Zone Designation 14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2

1000 500 0 METERS 1000 2000

1 0.5 0 1

MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

Georgetown, TX Quadrangle

Attachment C – General Information

Surface Water Quality Factors — Georgetown Fire Station 5

Area of the Site

The total project site encompasses approximately 20.17 acres. This area includes the existing fire station facility, associated parking, driveways, and open space. Following the proposed development, the impervious cover will total approximately 9.38 acres, reflecting the increase from new construction and paving.

Offsite Areas

Adjacent properties are primarily composed of municipal and residential land uses, consistent with surrounding city infrastructure. No additional runoff from offsite areas is anticipated to impact this development site. The site is graded and contained such that offsite water does not enter the boundaries of the project.

Impervious Cover

The proposed development will add 4,338.55 square feet of impervious cover to the site. This includes the footprint of the new fire station building, expanded parking areas, and associated pavement. Post-development, the total impervious cover will be 9.48 acres, or approximately 47% of the total parcel area, and 71% of the total drainage area.

Temporary BMP(s)

Temporary Best Management Practices (BMPs) will be implemented during construction to minimize erosion and protect water quality. These will include:

- Silt fencing
- Stabilized construction entrances
- Sediment traps and check dams
- Construction-phase stormwater controls in accordance with the TCEQ Construction General Permit and local ordinances

These BMPs will remain in place until final stabilization is achieved.

Permanent BMP(s)

An existing water quality pond currently serves the site as a Permanent BMP, providing stormwater treatment by capturing and allowing pollutants to settle before discharging runoff. This pond was designed to treat runoff from the site and has sufficient capacity to manage pollutants from the additional impervious cover being introduced. No expansion or modification of the pond is necessary for the proposed development.

Proposed Site Use

The site will continue to function as a municipal fire station, specifically Georgetown Fire Station No. 5. The proposed development includes construction of a new building, updated vehicular circulation, an expanded detention pond, and improved parking infrastructure to support emergency response operations.

Site History

The site has historically been used as a fire station facility and associated infrastructure. Prior to the proposed development, the site contains the existing Fire Station No. 5 building, paved driveways, parking areas, and landscaped zones.
As part of this project, portions of pavement will be demolished and replaced with an updated fire station building and new impervious surfaces. However, the existing water quality pond will remain in place and continue to serve the developed site.

Previous Development

This site has been previously developed and is currently functioning as Fire Station No. 5. The existing water quality pond was constructed as part of prior site improvements to manage water quality and pollutant loading from stormwater runoff. The proposed addition of 4,338.55 sq. ft. of impervious cover has been evaluated, and the pond has sufficient capacity to manage the resulting runoff volume and pollutant load – however, we will be expanding the detention pond to make up for the increase in impervious cover.

3. Geologic Assessment (TCEQ-0585)

GESSNER
ENGINEERING

Geologic Assessment

3500 DB Wood Road
Georgetown, Williamson County, Texas

September 2025

HICKS & COMPANY

ENVIRONMENTAL
ARCHEOLOGICAL
AND PLANNING
CONSULTANTS

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: Robert Huch, P.G., CPESC

Telephone: (512) 478-0858

Fax: N/A

Date: September 8, 2025

Representing: Hicks & Company Environmental/Archeological Consultants, TBPG No. 50498
(Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Gessner Engineering, LLC

3500 DB Wood Road, Georgetown, Williamson County, Texas

Project Information

1. Date(s) Geologic Assessment was performed: August 27, 2025
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)

Soil Name	Group*	Thickness(feet)
EeB, Eckrant stony clay, 0 to 3 percent slopes, stony	D	0.3-1.7

** 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" = 20'
   Site Geologic Map Scale: 1" = 200' and 50'
   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 0 (#) 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.

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: 3500 DB Wood Road, Georgetown, Williamson County, TX

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	MOD	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<16	>16	
No sensitive feature were identified																				

* DATUM: WGS84 in feet

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.

Robert F. Huch, P.G. #4256 Date 9/2/2025

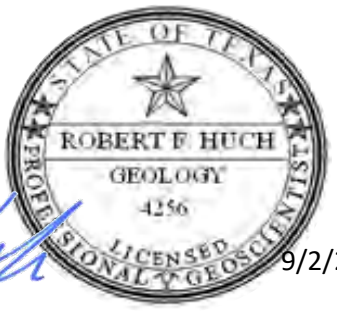
ATTACHMENT A

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

Stratigraphic Unit			Hydrologic Unit	Estimated Maximum Thickness (feet)
Commanche Series	Georgetown Formation **(Kgt)**		Edwards Aquifer	unknown
	Edwards Limestone (**Ked**)			80
	Commanche Peak Limestone (**Kcp**)			40
	Walnut Formation (**Kw**)			180
	Glen Rose **(Kgr)**	Upper Member	Upper Trinity Aquifer	450
		Lower Member	Middle Trinity Aquifer	450

Adapted from:
- Collins, E.W. 2005. Geologic map of the west half of the Taylor, Texas, 30x60 minute quadrangle: central Texas urban corridor, encompassing Round Rock, Georgetown, Salado, Briggs, Liberty Hill, and Leander: University of Texas at Austin, Bureau of Economic Geology, Miscellaneous Map 43, scale 1:100,000.
- Jones, Ian C. 2003. Groundwater Availability Modeling: Northern Segments of the Edwards Aquifer, Texas. Texas Water Development Board Report 358.

Shaded areas represent units that outcrop in the project area.



9/2/2025

Attachment B
Stratigraphic Column
3500 DB Wood Road
Georgetown, Williamson County, Texas

ATTACHMENT C
NARRATIVE OF SITE-SPECIFIC GEOLOGY
Georgetown Fire Logistics Building
3500 DB Wood Road, Georgetown, Williamson County, Texas
September 5, 2025

Project Description

Gessner Engineering (Gessner) is preparing plans for a development project located at the Georgetown Fire Logistics Building located at 3500 DB Wood Road, in Georgetown, Williamson County, Texas (**Attachment D1 – Project Location (Topo**). The 20.17-acre commercial property is the location of Georgetown Fire Station No. 5, fire training classrooms, a fire training tower, the City of Georgetown Public Safety Operations and Training Center, an indoor gun range, outdoor dog training facilities, and a driver training track. We understand that the development is planned for the undeveloped portion of the site located north-northeast of the existing fire station facilities. (**Attachment D4 – Project Site Geology** and **Attachment D5 – Site Geology Detail**).

The property is located on the Edwards Aquifer Recharge Zone (EARZ) (**Attachment D1 – Project Location (Topo)**) and is subject to the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules (Title 30 Texas Administrative Code [TAC] Chapter 213), which requires a site-specific Edwards Aquifer Protection Plan (EAPP) for the project. To satisfy this requirement, Gessner is preparing a Water Pollution Abatement Plan (WPAP). This geologic assessment was prepared for inclusion in the WPAP for the project. Additionally, the project is within the City of Georgetown city limits and must comply with the City of Georgetown's Salamander Ordinance (Ordinance 2013-59).

Site-specific soils are discussed and shown in **Attachment D2 – Project Soils**. General and site-specific geology, as well as features identified within the project area are discussed below.

Physiography

Georgetown is situated within the general area of three distinct physiographic regions: the Edwards Plateau, the Blackland Prairie, and the Balcones Fault Zone. The Balcones Fault Zone bisects the Georgetown area. The Edwards Plateau lies west of the Balcones Fault Zone, with Blackland Prairie extending east from the Balcones Fault Zone. These regions are delineated, for the most part, on the basis of topographic expression.

The site is entirely within the EARZ. The nearest boundary between the EARZ and the Edwards Aquifer Contributing Zone is 0.3 miles west of the project area, near Lake Georgetown. The Edwards Aquifer is a major source of water for Williamson County.

Based on the topographic maps of the area, the elevation varies from approximately 883 feet (ft) mean sea level (MSL) in the northwest portion of the site to 855 ft MSL in the southeast.

Stratigraphy

The major stratigraphic units underlying the site are, from youngest to oldest, the Edwards Limestone (Ked), the Commanche Peak Limestone (Kcp), the Walnut Formation (Kw), and the upper and lower members of the Glen Rose Formation (Kgr) (**Attachment B – Stratigraphic Column**). These Cretaceous-age units generally strike northeast and dip gently southeastward.

The entire project area is underlain by the Cretaceous Age Edwards Limestone Formation (**Attachment D3 – Area Geology** and **Attachment D4 – Site Geology**). The Edwards Limestone consists of limestone, dolomitic limestone, and marl deposited in massive-to-thin beds. The Edwards limestone commonly contains honeycomb textures, solution collapsed features, karst, and caverns. The Edwards Limestone represents most of the Edwards Aquifer strata. The thickness is estimated to be approximately 80 feet below the site.

The Commanche Peak Formation consists of limestone and marl and lies beneath the Edwards Limestone. The Commanche Peak Formation represents the lower strata of the Edward Aquifer and is estimated to be approximately 40 feet thick beneath the site.

The Walnut Formation lies beneath the Commanche Peak and consists of hard and soft limestone, marls, clays, and shell beds. The Walnut formation is considered the confining strata between the Edwards Aquifer above and the Trinity Aquifer below. The thickness is estimated to be approximately 180 feet below the site.

The Glen Rose formation is about 900 feet thick or more and consists of interbedded, fine-grained, hard-to-soft limestone, marly limestone, and dolomite. The upper part of the Glen Rose formation is mainly thin-bedded, fine-grained porous dolomite and dolomitic limestone. The lower member of the Glen Rose formation is generally thick-bedded, massive, fossiliferous limestone and dolomite beds in the lower section and grading upward into thin beds of limestone, shale, marl, anhydrite, and gypsum. The beds of gypsum and anhydrite are often dissolved or partially dissolved, leaving solution channels in the limestone. The upper and lower Glen Rose members are associated with the Trinity Aquifer.

Structure

The Balcones Fault Zone consists of an area of extensive faulting that stretches throughout Central Texas. The majority of the faults in this system strike north 25 to 70 degrees east and are high angle, dip-slip normal faults generally downthrown to the southeast. Joints and fractures are associated with the fault system and contribute to an increase in the

permeability and solutioning of the underlying limestone strata. The Balcones Fault Zone is inactive and shows little tectonic or seismic activity.

No faults were identified within the site. The nearest mapped fault is an inferred normal fault located approximately 2.8 miles east of the site between the surficial Edwards Limestone and the surficial Georgetown Formation. No caves or features were identified in the project area during the literature search.

City of Georgetown EARZ Water Quality Ordinance

The Georgetown Salamander is unique to Texas and entirely aquatic, with individuals living their entire lives in springs and caves fed by the northern segment of the Edwards Aquifer. In February 2014, the U.S. Fish and Wildlife Service (USFWS) listed the Georgetown Salamander as threatened under the Endangered Species Act due to degradation of their habitat and changes in water flow and quality. The USFWS also approved a special rule for the Georgetown Salamander that would allow development activities to continue if they are in compliance with ordinances adopted by Williamson County and the City of Georgetown to protect water quality.

The ordinances include steps to reduce contamination from spills and establishment of buffer zones around the specie's habitat, and include additional requirements for geologic assessments, which are outlined in the City of Georgetown's Edwards Aquifer Recharge Zone Water Quality Ordinance, or "Salamander Ordinance" (Ordinance Number 2013-59, approved December 20, 2013). The Salamander Ordinance requires that the geologic assessment address the following.

(a) Identify all springs and/or streams on the site or certify that no springs or streams exist on the site.

- No springs or streams are identified with connection to the property.

(b) Describe any spring and/or stream on the site, including determining the location of any spring outlet or stream.

- No springs or streams are identified with connection to the property.

(c) For locations designated as occupied sites for the Georgetown Salamander, delineate the No-Disturbance Zone and Minimal-Distance Zone, as described in the ordinance.

- The property is not located within an "Occupied Site" as defined in the Ordinance **(Attachment E – Georgetown Salamander Critical Habitat Units).**
- The subject property, therefore, is not located within a City of Georgetown mapped No-Disturbance Zone (Red Zone), therefore, the establishment of a City of Georgetown "Minimal-Distance Zone (Orange Zone) is not warranted.

(d) All Red Zones, Orange Zones, and Spring Buffers, as described in the ordinance, shall be shown on all plats, site plans, and infrastructure construction plans.

- Based on the above conditions, no spring and/or stream buffers are required to be shown on the plats, site plan, and infrastructure construction plans

The nearest 100-year flood plain associated with Lake Georgetown is located approximately 0.23 miles west of the site and another located 0.28 miles southeast of the site associated with a tributary to the North Fork of the San Gabriel River (**Attachment D1**).

Previous Geologic Assessment

The City of Georgetown-owned facilities on this property were constructed in 2012 and 2014. Prior to the initial development of the property in 2012, a Water Pollution Abatement Plan (WPAP) for the 2012 development of the 20.17-acre property had been prepared and submitted to the TCEQ. The WPAP included a 2010 geologic assessment. prepared by Terracon Consultants, Inc. The 2010 geologic assessment was reviewed by Hicks & Company as part of this assessment. No sensitive karst features were identified in the 2010 geologic assessment.

Site Description and Survey Activities

Generally, the 20.17-acre property gently slopes to the southeast toward a tributary of the North Fork of the San Gabriel River and is mostly developed. Approximately 17.6 acres of the 21.17-acre property is developed and consist of multiple structures surrounded by landscaped and manicured vegetation, storage building and containers, driveways, parking, outdoor training areas, and stormwater water quality ponds. Only the northernmost portion of the site—a 3.6-acre area north-northeast of the fire station and training facilities where the development is proposed—remains undeveloped and is covered natural vegetation. Photos of the property are included in Photos 1 through 10. **Attachment D5 – Site Geology Detail** provides a detailed view of this area.

The undeveloped portion of the site is generally flat and sloping to the east, is grass covered with stands of live oak trees and tall grasses. Limestone can be found at the surface in a few areas. Sewer utilities are located parallel to the fence along the north side of the property with several access manways at the surface. Limestone appears at the surface at a few locations; however, the limestone was mostly obscured by grass and vegetation. Several animal burrows in the shallow soil were found; however, no faults or features in bedrock were identified.

This geologic survey was conducted in accordance with the TCEQ guidance (TCEQ 2004) to identify all geologic and manmade features that could potentially be affected by project activities. These features include caves, solution cavities, faults, solution-enlarged fractures, sinkholes, swallow holes, non-karst closed depressions, and manmade features in bedrock,

such as water wells, sanitary sewer lines, storm sewer lines, trenches, quarries, or any other cultural features that can potentially increase the rate of recharge to the subsurface.

A field survey was conducted on August 27, 2025, by Robert F. Huch, P.G., CPESC (State of Texas Board of Professional Geoscientist [Geology] License Number 4256) and Pat Frost, P.G. (TBPG License Number 2769). No potential recharge features were identified within the project area during the field survey.

Recommendations

Since the proposed development site is located on the Edwards Aquifer Recharge Zone, sensitive features represent potential sites for hydraulic interconnectedness and/or rapid infiltration into local groundwater systems.

Although there were no sensitive features identified at the site, there remains the potential that surface water entering the site could enter the Edwards Aquifer through unknown features with no surface expression. Temporary stormwater best management practices (BMPs) should be used during construction activities within the drainage area of potential recharge features.

Directing on-site stormwater flow away or around identified or potential features may decrease the likelihood of impacts. Additionally, preventing stormwater flow from entering areas disturbed by construction activities should reduce impacts to potentially sensitive features.

Clearing, grading, trenching, or excavation increases the likelihood of subsurface impacts. During construction activities such as clearing vegetation or utility trenching, geologic features may be discovered in or adjacent to the project area. Any recharge features identified during construction activities are regulated by the TCEQ Edwards Aquifer Rules (Title 30 TAC Chapter 213). These features should be protected from stormwater runoff and evaluated by a qualified geologist.

References

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Terracon Consultants, Inc., 2010. *Geologic Assessment, Mueller Family LP #1, DB Woods Road, Georgetown, TX.* Prepared for Gessner Engineering. Terracon Consultants, Inc., Austin, Texas 78735.

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———. 2005. *Complying with the Edwards Aquifer Rules, Technical Guidance on Best Management Practices*, RG-348, revised, 2005.

United States Department of Agriculture (USDA). 1983. *Soil Survey of Williamson County Texas*, Soil Conservation Service.

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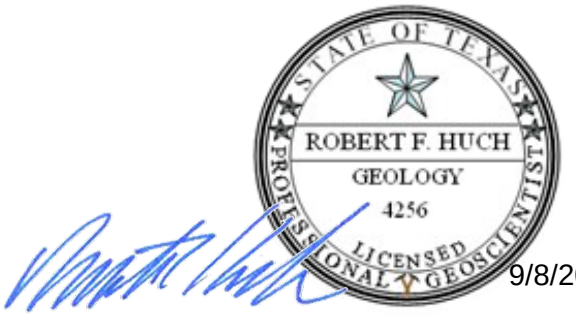
———. 2025. *FEMA Flood Zones, Williamson County, TX,* Visited on August 21, 2025. https://gis.wilco.org/maps/?viewer=floodzone.



9/8/2025

Photo 1 – View of the manicured vegetation in front of Fire Station No. 5 where limestone is exposed at the surface. View to the south.

Photo 2 – View of the manicured landscape in front of the Public Safety Operations Building. View to the north.

Photo 3 – View of a stormwater quality pond located south of the Public Safety Operations Building. View to the north.

Photo 4 – View of a stormwater quality pond located east of the Fire Training Tower. View to the northeast.

Photo 5 – View of the canine training area in the southern portion of the property. View to the south.

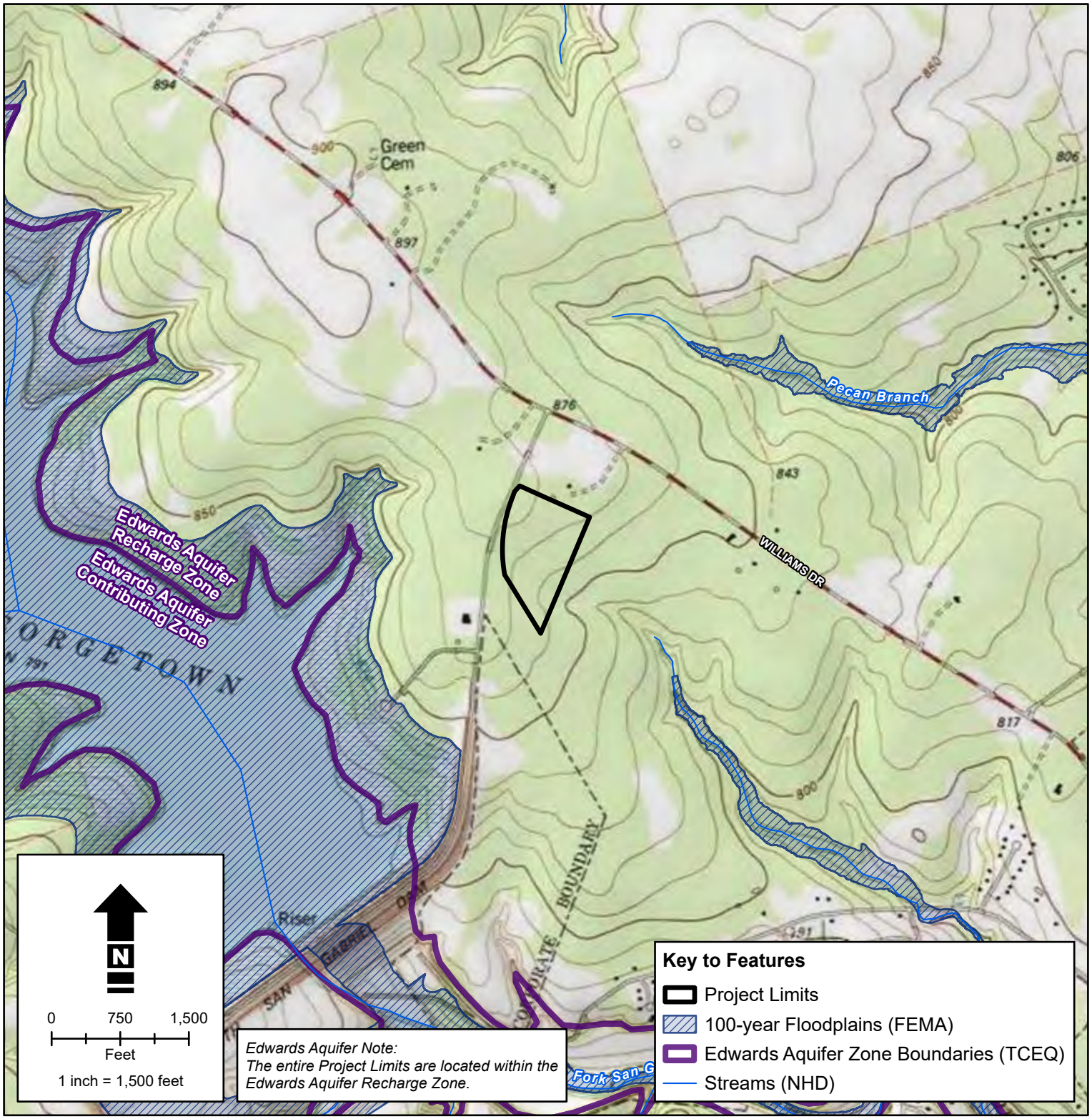
Photo 6 – View of the edge of the undeveloped portion of the site north-northeast of the Fire Training Tower and storage containers. View to the west-northwest.

Photo 7 – View of the undeveloped area near the northeast corner of the property shown exposed rock at the surface. The property boundary fence is on the left side of the photograph. View to the east.

Photo 8 – View of a portion of the undeveloped area near the northeast corner of the property. View to the northwest.

Photo 9 – View of a portion of the undeveloped area of the property. A sewer manway is in the center of the photograph. View to the east.

Photo 10 – View of a stand of trees near the center of the undeveloped portion of the site. View to the northwest.

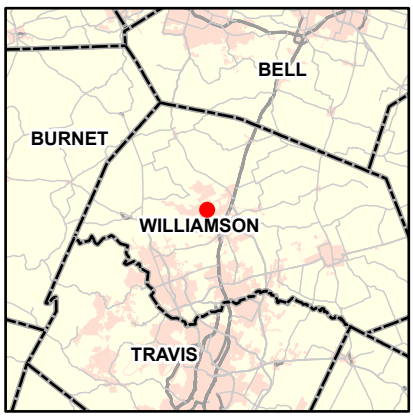


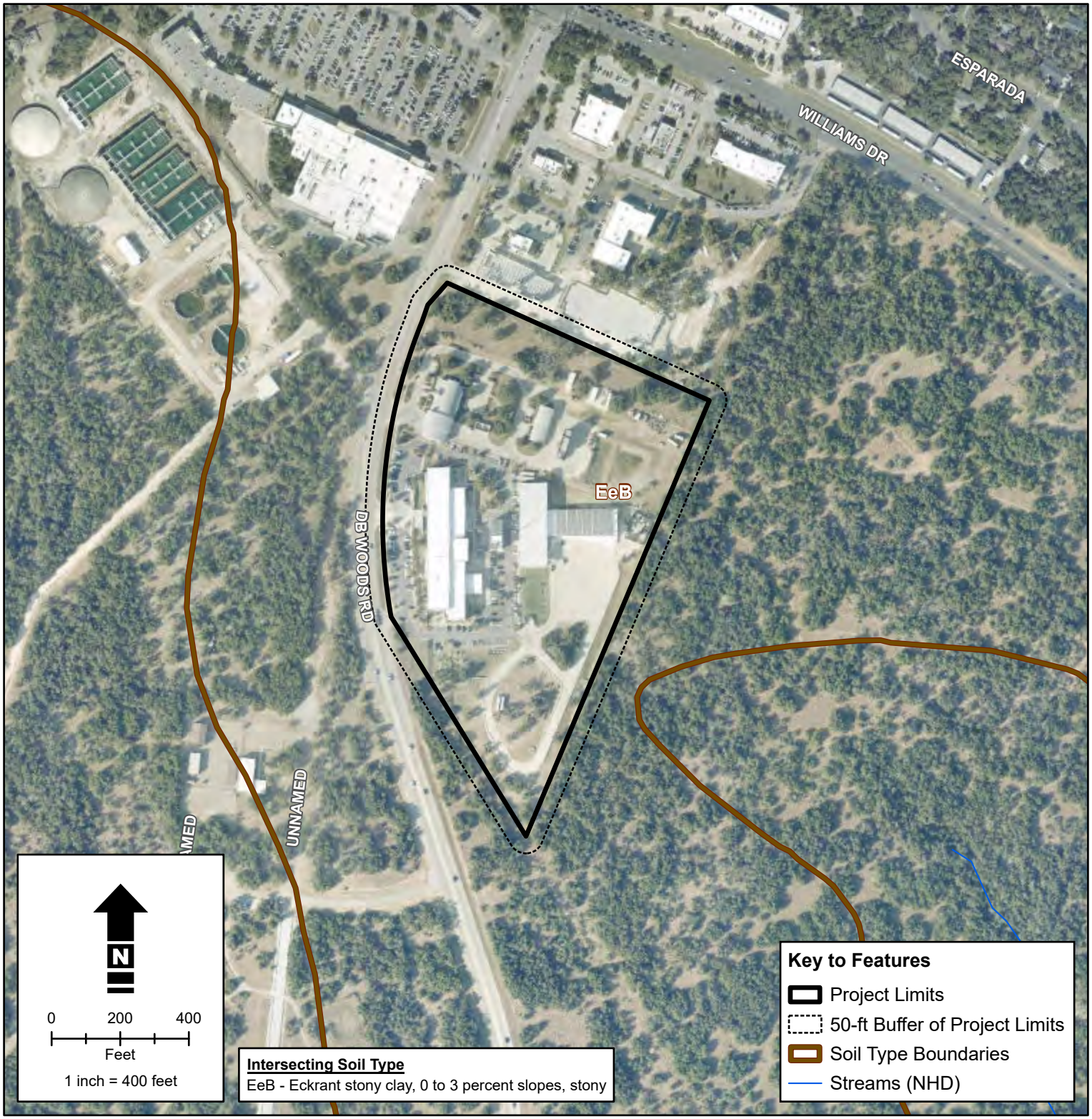
Attachment D1

Project Location (Topo)

3500 DB Wood Road
Geological Assessment
Georgetown, Williamson County, Texas

Texas Commission of Environmental Quality (2025).
FEMA FIRM Panel ID: 48491C0290E
USGS 7.5-minute Topographic Quadrangles, Georgetown, TX (30097-F6).



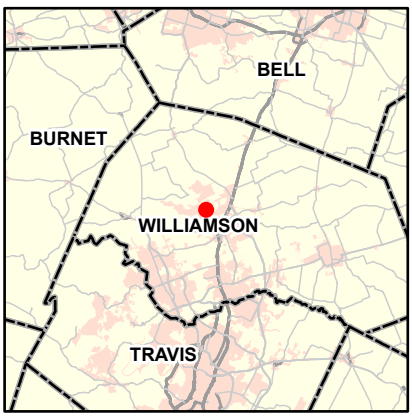


Attachment D2

Project Site Soils

3500 DB Wood Road
Geological Assessment
Georgetown, Williamson County, Texas

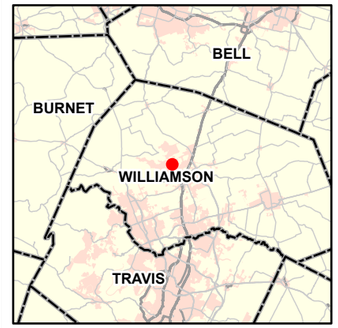
Aerial Source: Williamson County, TX (2024);
Soil Source: Natural Resources Conservation Service (2025).



Attachment D3

Area Geology

3500 DB Wood Road
Geological Assessment
Georgetown,
Williamson County, Texas



Key to Features

- Project Limits
- 50-ft Buffer of Project Limits
- Groundwater Wells (TWDB)
- Streams (NHD)

Geologic Formations (1:24,000)

- Kgt - Georgetown Formation. Limestone, argillaceous limestone, and marl.
- Ked - Edwards Limestone. Limestone, dolomitic limestone, and lesser argillaceous limestone.
- Wa - Water

Aerial Source: Williamson County, TX (2024);

Geology Source: Collins, Edward W., 2002, Geologic Map of the Georgetown, Texas area. Scale 1:24,000. Bureau of Economic Geology, the University of Texas at Austin.

Groundwater Well Source: Texas Water Development Board (2025).

N

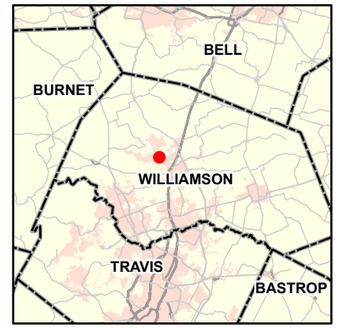
0 400 800
Feet

1 inch = 800 feet

Attachment D4

Site Geology

3500 DB Wood Road
Geological Assessment
Georgetown,
Williamson County, Texas



Key to Features

- Project Limits
- 50-ft Buffer of Project Limits
- Groundwater Wells (TWDB)

Geologic Formation Note:
The entire view of this map is located within the Ked - Edwards Limestone. Limestone, dolomitic limestone, and lesser argillaceous limestone.

Aerial Source: Williamson County, TX (2024);

Geology Source: Collins, Edward W., 2002, Geologic Map of the Georgetown, Texas area. Scale 1:24,000. Bureau of Economic Geology, the University of Texas at Austin.

Groundwater Well Source: Texas Water Development Board (2025).

N

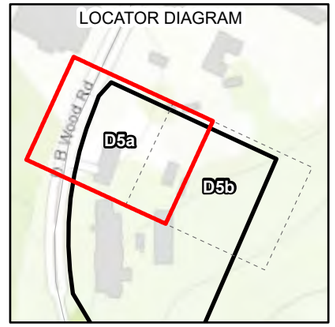
0 100 200
Feet

1 inch = 200 feet

Attachment D5a

Site Geology Detail

3500 DB Wood Road
Geological Assessment
Georgetown,
Williamson County, Texas



Key to Features

- Project Limits
- 50-ft Buffer of Project Limits
- Groundwater Wells (TWDB)

Geologic Formation Note:
The entire view of this map is located within the Ked - Edwards Limestone. Limestone, dolomitic limestone, and lesser argillaceous limestone.

Aerial Source: Williamson County, TX (2024);

Geology Source: Collins, Edward W., 2002, Geologic Map of the Georgetown, Texas area. Scale 1:24,000. Bureau of Economic Geology, the University of Texas at Austin.

N

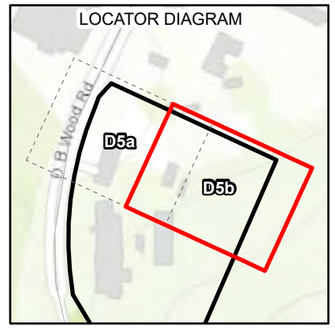
0 25 50
Feet

1 inch = 50 feet

Attachment D5b

Site Geology Detail

3500 DB Wood Road
Geological Assessment
Georgetown,
Williamson County, Texas



Key to Features

- Project Limits
- 50-ft Buffer of Project Limits

Geologic Formation Note:
The entire view of this map is located within the Ked - Edwards Limestone. Limestone, dolomitic limestone, and lesser argillaceous limestone.

Aerial Source: Williamson County, TX (2024);

Geology Source: Collins, Edward W., 2002, Geologic Map of the Georgetown, Texas area. Scale 1:24,000. Bureau of Economic Geology, the University of Texas at Austin.

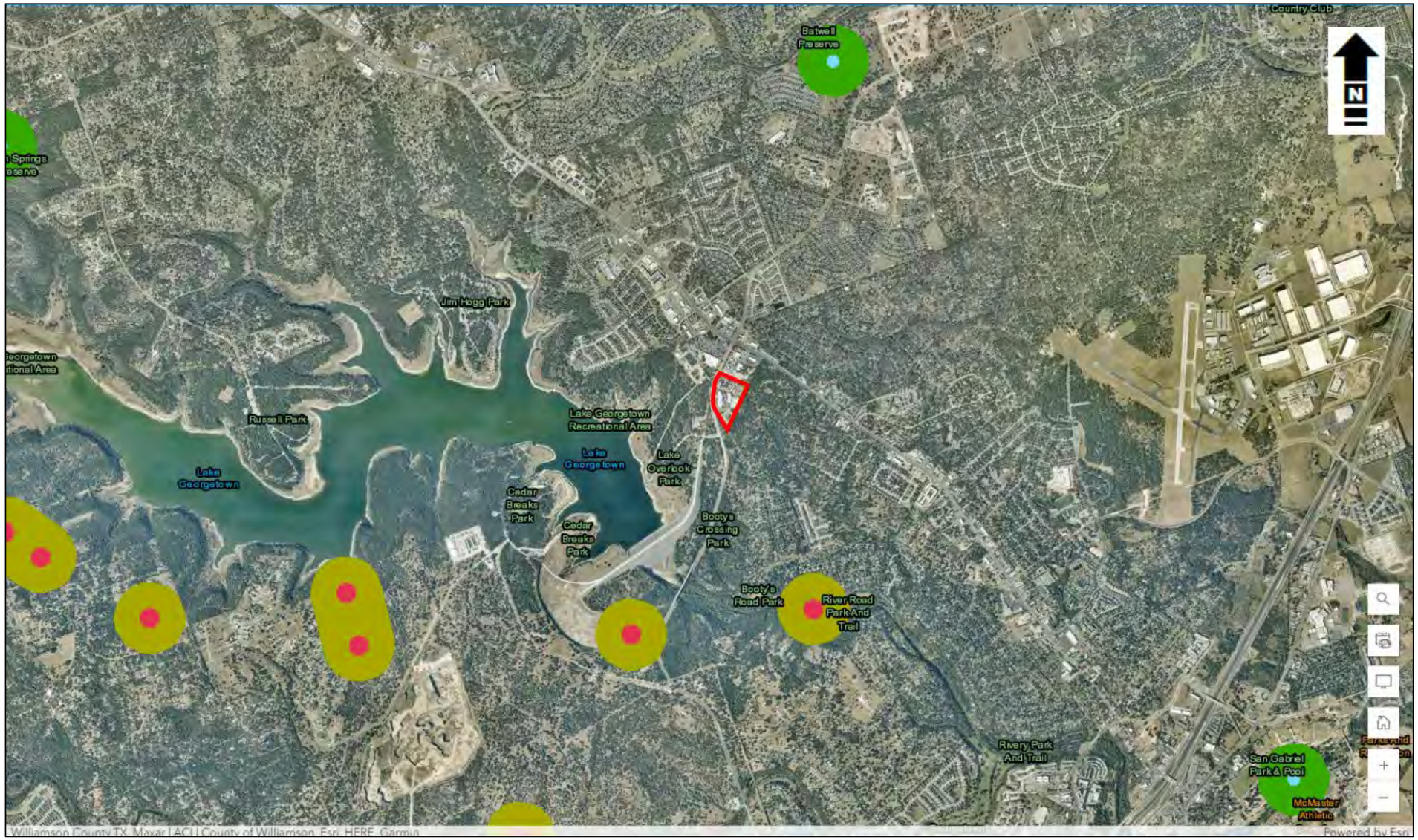
N

0 25 50
Feet

1 inch = 50 feet

Legend

- Georgetown Salamander Surface Potential CHU (September 2020)
- Georgetown Salamander Subsurface Potential CHU (September 2020)
- Georgetown Salamander Potential CHU Surface (January 2013)
- Georgetown Salamander Potential CHU Subsurface (January 2013)
- Project Location



Adapted from the Georgetown & Salado Salamander Potential Critical Habitat Units (CHUs), September 2020 - https://www.arcgis.com/apps/mapviewer/index.html?webmap=4440eaea447b46a3a8abb2ff918868ef

Attachment E

Georgetown Salamander Critical Habitat Units (CHUs)
Georgetown Fire Logistics Building
3500 DB Wood Road, Georgetown, Williamson County, Texas

4. Water Pollution Abatement Plan Application (TCEQ-0584)

GESSNER ENGINEERING

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: Jennifer Bettiol, CIP Manager of the City of Georgetown

Date: 06/25/2025

Signature of Customer/Agent:

Regulated Entity Name: Fire Station No 5

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property): 20.17

3. Estimated projected population: 20

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	96,431.658	÷ 43,560 =	2.21
Parking	110,785.25	÷ 43,560 =	2.54
Other paved surfaces	205,969.55	÷ 43,560 =	4.72
Total Impervious Cover	413,186.45	÷ 43,560 =	9.48

Total Impervious Cover 9.48 **÷ Total Acreage** 20.17 **X 100 =** 47.00% **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:

100 % Domestic	15,000 Gallons/day
0 % Industrial	_____ Gallons/day
0 % Commingled	_____ Gallons/day
TOTAL gallons/day 15,000 MAX	

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 San Gabriel (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" = 20 '.

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): NFHL FIRMETTE 48491C0290E, eff. 09/26/2008

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

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

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

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

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

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

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

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

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

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

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

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

26. ☐ Surface waters (including wetlands).

    ☒ N/A

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

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

28. ☒ Legal boundaries of the site are shown.

Administrative Information

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

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

Attachment A

Surface Water Quality Factors — Georgetown Fire Station 5

A. Potential Sources of Contamination

1. **Vehicle Washing Operations**
   Outdoor washing of fire apparatus and medic units may generate runoff containing detergents, oils, and grease.
2. **Fuel and Oil Spills**
   Minor spills from equipment fueling, hydraulic systems, or vehicle maintenance may occur near paved surfaces and drains.
3. **Firefighting Foam (AFFF) Use**
   Site activities may include training with aqueous film-forming foam, which may contain PFAS compounds known to persist in the environment.
4. **Training Facility Operations (Burn Tower & Props)**
   Controlled burns and simulated emergency response exercises may produce residue containing PAHs, ash, and combustion byproducts.
5. **Chemical and Fuel Storage**
   Storage of flammable liquids, cleaning agents, and compressed gas cylinders on-site poses a risk of accidental release.
6. **Impervious Surface Runoff**
   Large areas of concrete/asphalt driveways and apparatus bays increase the volume and speed of runoff, potentially transporting pollutants.
7. **Proximity to Stormwater Conveyances**
   The site drains into nearby surface features (water quality & detention pond).

B. Pollution Prevention and Mitigation Measures

1. **Wash Water Containment and Disposal**
   Vehicle washing will occur only in designated areas that are plumbed to a sanitary sewer or equipped with a wash-water recovery system.
2. **Spill Prevention and Response**
   The facility follows an SPCC (Spill Prevention, Control, and Countermeasure) plan. Spill kits are in key areas and staff are trained in rapid response.
3. **AFFF Management**
   The station uses PFAS-free firefighting foam or contains training foam runoff in a lined area with proper disposal procedures.

4. **Burn Residue Controls**
   Ash and residue from training burns are collected and disposed of in accordance with municipal solid waste guidelines.

5. **Secondary Containment for Storage**
   Fuel and chemical storage areas are equipped with secondary containment to prevent stormwater exposure.

6. **Stormwater Management Infrastructure**
   On-site stormwater control includes vegetated swales and detention basins to filter runoff before it leaves the property.

7. **Good Housekeeping and Training**
   Personnel follow SOPs for cleaning, fueling, and chemical handling; training is conducted to ensure pollution prevention protocols are followed.

Attachment B – Volume and Character of Stormwater

1. Stormwater Runoff Volume (Quantity)

The proposed development includes an increase in impervious cover for the drainage area, which is expected to result in higher stormwater runoff volumes.

Pre

AREA A						
COVER TYPE	HYDROLOGIC CONDITION	SOIL TYPE	CN	AREA (SF)	AREA (AC)	CN x AREA
Impervious Areas	Paved parking lots, roofs driveways etc.	D	98.00	121022.03	2.78	272.27
Grass Cover	Grass Cover > 75%	D	80.00	63514.88	1.46	116.65
			TOTAL	156912.84	4.24	388.92
					CN	91.80

Post

AREA A						
COVER TYPE	HYDROLOGIC CONDITION	SOIL TYPE	CN	AREA (SF)	AREA (AC)	CN x AREA
Impervious Areas	Paved parking lots, roofs driveways etc.	D	98.00	125360.58	2.88	282.03
Grass Cover	Grass Cover > 75%	D	80.00	51667.89	1.19	94.89
			TOTAL	177028.47	4.06	376.92
					CN	92.75

- **Pre-development runoff Curve Number (CN):** 91.80
- **Post-development runoff Curve Number (CN):** 92.75
- **Net Impervious Cover Increase (sq.ft):** 4338.55

2. Stormwater Runoff Character (Quality)

Stormwater quality is expected to change due to increased impervious surfaces. Potential pollutants include:

- **Sediments** from disturbed soils
- **Nutrients** from landscaped areas
- **Hydrocarbons** from vehicle leaks and spills
- **Pathogens and bacteria** from sanitary sewer leaks
- **Trash and Floatable** from litter from dumpster area, streets, sidewalks, and parking areas.

Proposed mitigation includes:

- Water quality ponds

The calculation for required water quality pond volume:

Water Quality Pond Calculation for Prop. Building Addition	
BMP Efficiency	0.89
Precipitation (Williamson County) (inches)	32.00
Impervious Cover Area (ac)	2.88
Pervious Cover Area (ac)	1.18
Total Area (ac)	4.06
Required Load Reduction (lb)	2854.07
Net Increase in Impervious (ac) from original	2.88
Precipitation (Williamson County) (inches)	32.00
Required TTS Removal	2504.91
Fraction of annual rainfall treated	0.88
Rainfall Depth (inch)	1.44
Fraction of Impervious Cover	0.71
Runoff Coefficient	0.51
Water Quality Volume (cu.ft)	10921.72
Water Quality Volume (ac.ft)	0.25

The existing water quality pond storage curve is shown below:

Ex. Warer Quality Pond Storage Curve				
Elevation (ft)	Area (sq.ft)	Area (ac)	Volume (cu.ft)	Volume (ac.ft)
869	3540	0.081	0	0
870	4464	0.102	3993.08	0.092
871	5460	0.125	8946.73	0.205
872	6528	0.15	14932.79	0.343
873	7668	0.176	22023.14	0.506

The required water quality volume for the proposed development is **0.25 acre-feet**. The existing water quality pond storage curve, provided below, demonstrates that the pond has adequate capacity to accommodate this volume **without overtopping**.

3. Summary

Stormwater runoff quantity will increase due to the addition of impervious surfaces. The quality of runoff will also be affected. However, the existing water quality pond has sufficient capacity to treat the increased volume and maintain compliance with applicable water quality requirements.

5. Temporary Stormwater Section (TCEQ-0602)

GESSNER
ENGINEERING

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: Jennifer Bettiol, CIP Manager

Date: 06/25/2025

Signature of Customer/Agent:

, CIP Manager

Regulated Entity Name: City of Georgetown

Project Information

Potential Sources of Contamination

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

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

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

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: NORTH FORK SAN GABRIEL WATERSHED/BRAZOS RIVER BASIN

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

This site does not involve routine handling or storage of hydrocarbons or hazardous substances. However, in the event of an accidental spill during construction activities (e.g., fuel, lubricants, or cleaning agents), the following spill response measures will be implemented:

Spill Response Measures:

1. **Immediate Containment**
    - Stop the source of the spill if safe to do so.
    - Deploy absorbent materials (e.g., pads, booms) to contain the spill and prevent it from entering storm drains, inlets, or nearby water bodies.
2. **Notification**
    - Notify the site supervisor immediately.
    - If the spill is significant (reportable quantity), notify local emergency response services and the appropriate environmental authority (e.g., TCEQ).
3. **Clean-Up**
    - Absorb and remove spilled material using appropriate tools and PPE.
    - Dispose of contaminated materials in accordance with state and federal regulations.
4. **Documentation**
    - Complete an incident report noting the time, location, quantity, response actions taken, and personnel involved.
    - Maintain documentation on-site and submit to regulatory agencies as required.
5. **Prevention**
    - All construction personnel will be trained on spill prevention and response procedures.
    - Equipment and vehicles will be regularly maintained to minimize the risk of leaks.
    - Spill kits will be available on-site at all times.

Attachment B – Potential Sources of Contamination

No industrial activities that are typically associated with significant sources of contamination are proposed as part of this development. However, potential sources of surface water contamination may include:

- **Sediment runoff** during construction activities
- **Fertilizers and pesticides** from landscaped areas
- **Oil, grease, and heavy metals** from vehicular traffic and paved surfaces
- **Sanitary sewer overflows or leaks**, if applicable

To mitigate these potential sources of contamination, the following best management practices (BMPs) will be implemented:

- **Temporary erosion and sediment control measures** during construction, such as silt fences, inlet protection, and stabilized construction entrances
- **Permanent stormwater controls**, including vegetated areas and a water quality pond
- **Proper maintenance of on-site stormwater infrastructure**

No high-risk pollutant-generating activities or materials will be stored outdoors or exposed to rainfall on the site.

Attachment C – Sequence of Major Activities

The following outlines the sequence of major construction activities that will disturb soils on the project site. Each activity includes the estimated disturbed area (in acres), as well as the corresponding temporary erosion and sediment control measures to be implemented.

Activity	Estimated Disturbed Area (acres)	Description & Timing of Control Measures
1. Clearing Site & Grubbing	1.16	Install perimeter controls (e.g., silt fence, stabilized construction entrance) prior to land disturbance. Remove vegetation and debris.
2. Excavation and Grading	1.16	Maintain perimeter controls; install sediment traps as needed. Temporary seeding or mulching on inactive areas >14 days.
3. Utility Installation	0.50	Trench backfill to be stabilized daily. Inlet protection installed before utility tie-ins.
4. Building Construction	0.20	Maintain existing controls. Stabilize staging areas and install construction fence and inlet protection.
5. Paving and Sidewalks	0.16	Sweep paved surfaces regularly; protect inlets from debris. Temporary stabilization of exposed areas.
6. Final Grading Landscaping	0.70	Permanent stabilization with seed, sod, or other vegetation. Remove temporary BMPs once site is stabilized.
7. Final Stabilization	Entire site	Ensure all areas are permanently stabilized. Remove all temporary controls and perform final inspection.

Note: The above acreages are to be filled in based on estimates.

Temporary control measures such as silt fences, stabilized construction entrances, sediment traps, inlet protection, and temporary seeding will be implemented in accordance with local and TCEQ standards throughout the duration of the project.

Attachment D – Temporary Best Management Practices and Measures

The following Temporary Best Management Practices (TBMPs) will be implemented during construction to minimize the risk of stormwater pollution, erosion, and sediment transport, and to protect sensitive environmental features to the maximum extent practicable:

1. Prevention of Pollution from Upgradient Flow

BMPs will be installed to intercept and divert surface water or stormwater flowing onto the site from upgradient areas. This includes:

- Perimeter silt fences
- Diversion swales or berms
- Stabilized construction entrances

These measures will prevent uncontrolled flow from contributing to on-site erosion or pollutant transport.

2. On-Site and Off-Site Pollution Prevention

To control pollution originating on-site or potentially discharging off-site, the following practices will be employed:

- Sediment traps and basins at low points
- Inlet protection around storm drain intakes
- Daily inspection and maintenance of erosion controls
- Spill prevention and response protocols for fuel and materials handling

These measures will minimize contaminated runoff from construction activities.

3. Protection of Surface Streams, Sensitive Features, and Aquifer

Sensitive environmental features, including any known surface streams or potential recharge features, will be protected by:

- Establishing vegetated buffer zones where feasible
- Installing fencing to restrict access to protected areas
- Avoiding soil stockpiling or equipment staging near these areas

BMPs will prevent sediment and pollutants from entering sensitive environmental features or the underlying aquifer.

Attachment F – Structural Practices

The following structural best management practices (BMPs) will be implemented on-site to manage stormwater runoff and minimize the discharge of pollutants from exposed soil areas during construction:

Structural Practices Implemented:

- **Diversion Swales and Berms:**
  Used to divert surface water away from exposed soils and direct flow toward designated sediment controls.
- **Check Dams:**
  Placed within drainage swales or channels to reduce flow velocity and encourage sediment deposition.
- **Inlet Protection:**
  Installed around storm drain inlets to filter sediment-laden runoff and prevent clogging of the stormwater system.
- **Stabilized Construction Entrance:**
  Limits tracking of sediment onto adjacent roadways and reduces off-site transport of pollutants.
- **Temporary Mulch Berms and Silt Fences:**
  Installed around the perimeter of disturbed areas to reduce erosion and retain sediment on-site.

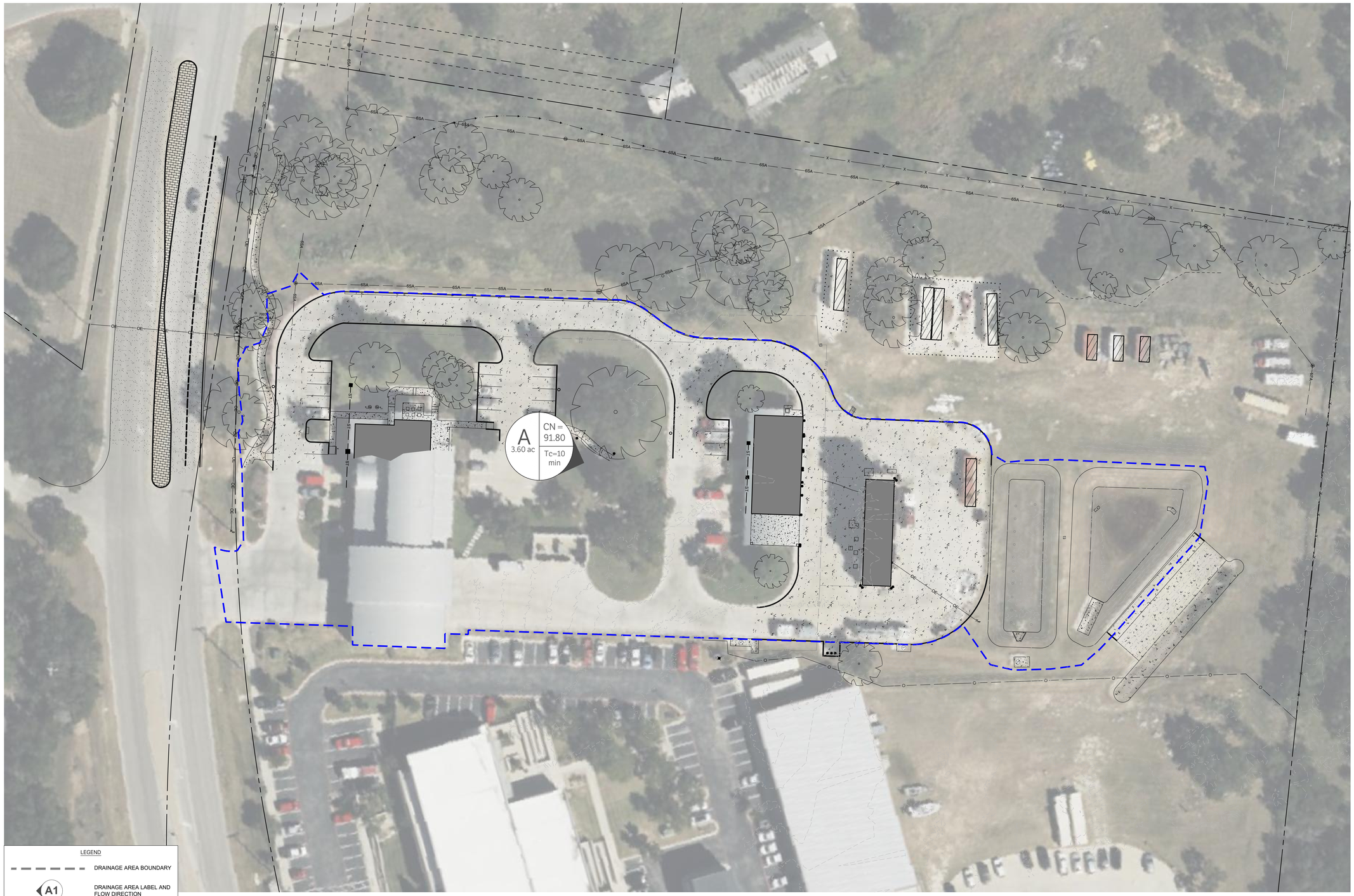
Additional Notes:

- All structural practices have been sited **outside of floodplain areas** to avoid disruption of natural flood conveyance and storage.
- Practices are sized and located in accordance with the TCEQ Construction General Permit (CGP) and local regulatory standards.
- BMPs will be maintained throughout the construction phase and removed upon final site stabilization.

ATTACHEMENT G - DRAINAGE AREA MAPS

Pre

AREA A						
COVER TYPE	**HYDROLOGIC CONDITION**	**SOIL TYPE**	**CN**	**AREA (SF)**	**AREA (AC)**	**CN x AREA**
Impervious Areas	Paved parking lots, roofs driveways etc.	D	98.00	121022.03	2.78	272.27
Grass Cover	Grass Cover > 75%	D	80.00	63514.88	1.46	116.65
			TOTAL	**156912.84**	**4.24**	**388.92**
					CN	**91.80**



LEGEND

- DRAINAGE AREA BOUNDARY
- A1 — DRAINAGE AREA LABEL AND FLOW DIRECTION
- PROPERTY LINE
- 340 — EXISTING CONTOURS
- 340 — PROPOSED CONTOURS
- FLOW PATH

N

0 20 40 60

SCALE: 1"= 20'

BROWN REYNOLDS WATFORD ARCHITECTS
175 CENTURY SQUARE DRIVE
SUITE 350
COLLEGE STATION, TEXAS 77840
979.694.1791
WWW.BRWARCH.COM

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www.gessnerengineering.com
FIRM REGISTRATION NUMBERS:
TBPE F-7451, TBPLS F-10193910

GESSNER ENGINEERING

DATE	MAY 23, 2025
DRAWN BY	NF
CHECKED BY	JP
BRW PROJECT NUMBER	22-1308

GEORGETOWN FIRE
FIRE LOGISTICS
BUILDING
3600 D.B. WOOD ROAD
GEORGETOWN TEXAS

NO.	REVISION	DATE

C6.0

PRE DRAINAGE AREA MAP

Post

AREA A

COVER TYPE	HYDROLOGIC CONDITION	SOIL TYPE	CN	AREA (SF)	AREA (AC)	CN x AREA
Impervious Areas	Paved parking lots, roofs driveways etc.	D	98.00	125360.58	2.88	282.03
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			TOTAL	**177028.47**	**4.06**	**376.92**
					CN	**92.75**

Water Quality Pond Calculation for Prop. Building Addition	
BMP Efficiency	0.89
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Ex. Warer Quality Pond Storage Curve				
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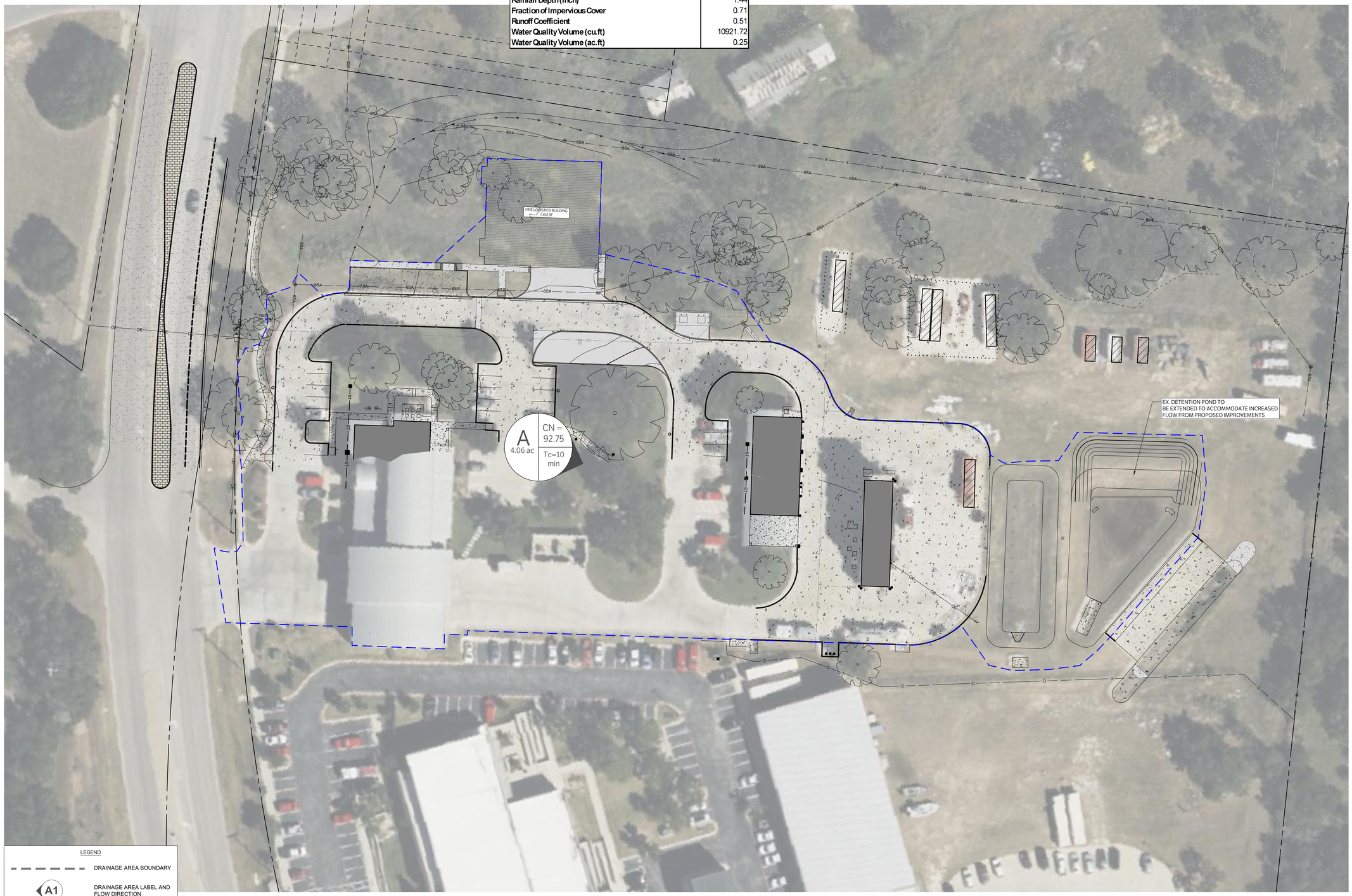
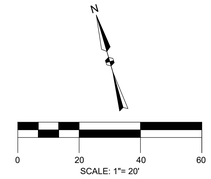
871	5460	0.125	8946.73	0.205
872	6528	0.15	14932.79	0.343
873	7668	0.176	22023.14	0.506

Formula Used for Calculating Volume: Conic Method for Reservoir Volumes

$$Volume = (1.3)*(Elevation_2 - Elevation_1)*(Area_1 + Area_2 + (A_1*A_2)^{0.5})$$





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GESSNER ENGINEERING

DATE	MAY 23, 2025
DRAWN BY	NF
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BRW PROJECT NUMBER	22-1308

GEORGETOWN FIRE
FIRE LOGISTICS BUILDING
3600 D.B. WOOD ROAD
GEORGETOWN TEXAS

NO.	REVISION	DATE

Attachment I – Inspection and Maintenance for BMPs

A site-specific plan has been developed to ensure the effective inspection, maintenance, and repair of all temporary Best Management Practices (BMPs) throughout the duration of construction.

Inspection Plan

- **Frequency of Inspections:**
    - At least **once every 7 calendar days**,
    - **Within 24 hours** after a rainfall event of **0.5 inches or more**, and
    - **Before expected storm events** when possible.
- **Inspectors:**
  A qualified person knowledgeable in stormwater management and BMP function will perform inspections.

Maintenance and Repair Procedures

- Damaged or ineffective BMPs will be **repaired or replaced within 24–48 hours** of discovery.
- Accumulated sediment in traps, silt fences, or inlets will be **removed once it reaches 50% of capacity**.
- Temporary erosion controls will be **reinstalled** or **adjusted** if displaced or ineffective.
- Structural BMPs will be routinely maintained to ensure continued function throughout construction.

Documentation and Recordkeeping

- Inspection reports will include:
    - Date/time of inspection
    - Name and qualifications of inspector
    - Observations of BMP performance
    - Any deficiencies noted
    - Actions taken and date of correction

- Records will be kept **on-site or in the SWPPP binder** and made available upon request by TCEQ or municipal officials.

Site-Specific Measures

BMPs will be evaluated in relation to the site's slope, drainage patterns, and rainfall patterns. Modifications to BMPs or the inspection plan will be made if site conditions change significantly or if BMPs are found ineffective.

Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

A schedule of soil stabilization practices has been developed to reduce erosion and sediment transport from disturbed areas during and after construction. The following measures will be implemented:

Interim Stabilization Practices

Applied to disturbed areas that will not be worked for **14 or more consecutive days**, but are not yet ready for final stabilization.

Stabilization Method	Timing	Applicable Areas
Temporary seeding	Within 14 days of work stoppage	Graded slopes, staging areas, stockpiles
Hydromulch/mulch cover	Within 14 days of inactivity	Steep slopes or areas with erosion concerns
Erosion control blankets	Immediately after grading	Swales and areas with concentrated flow
Dust suppression	As needed during dry conditions	Unpaved travel routes, exposed flat areas

Permanent Stabilization Practices

Implemented after final grading and prior to project completion to provide long-term erosion control.

Stabilization Method	Timing	Applicable Areas
Permanent seeding/sodding	Immediately after final grading	Lawns, vegetated buffers, and swales
Pavement and hardscape	Per construction schedule	Parking lots, sidewalks, and driveways
Landscaping (mulch/planting)	As per landscape plan	Ornamental areas, bioretention, and buffer zones

All stabilization practices will be maintained to ensure vegetation establishment and erosion control effectiveness. Inspection and reseeding will be conducted as needed.

6. Permanent Stormwater Section (TCEQ-0600)

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ENGINEERING

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: Jennifer Bettiol, CIP Manager

Date: 06/25/2025

Signature of Customer/Agent

Regulated Entity Name: FIRE STATION NO 5, Georgetown, TX

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

Construction plans will be provided during submission.

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 – BMPs for Upgradient Stormwater

There is **no surface water, groundwater, or stormwater originating upgradient** from the site that flows across the project area. The site is either:

- Topographically situated such that it is the uppermost point in the drainage area, or
- Surrounded by developed areas with independent stormwater collection and conveyance systems that do not discharge onto the subject site.

As such, **no additional BMPs** are necessary to address upgradient flows, and **no risk of cross-contamination from off-site runoff** is anticipated.

Attachment C – BMPs for On-Site Stormwater

The proposed development will result in a **4,339 square foot increase in impervious cover**, primarily due to new concrete paving and the construction of a fire station building. This increase in impervious surface is expected to raise stormwater runoff rates, which in turn can carry pollutants from the site.

The **existing water quality pond** will remain in operation and is designed to allow for **sedimentation and pollutant removal** prior to discharge. Based on guidance from **TCEQ RG-348**, specifically Chapter 3 (Permanent Structural Best Management Practices) and Chapter 6 (Example Calculation), the required water quality volume was calculated using the **Sand Filter System method**. The total required volume for water quality treatment is **0.25 acre-feet**. The existing pond provides **0.506 acre-feet of storage**, which is more than sufficient to accommodate the required volume and effectively treat on-site stormwater pollutants.

Attachment G – Inspection, Maintenance, Repair, and Retrofit Plan

This plan outlines the procedures for inspection, maintenance, repair, and retrofit of the permanent Best Management Practices (BMPs) associated with the project. The goal is to ensure long-term functionality and compliance with applicable water quality standards.

1. Certification by Engineer

This plan has been **prepared and certified by the licensed professional engineer** responsible for the design of the permanent BMPs. All components are consistent with the approved construction documents and applicable TCEQ guidelines.

2. Owner/Operator Responsibility

This plan will be signed by the property owner or responsible party who will assume operational responsibility for the BMPs. The party responsible acknowledges their obligation to maintain the BMPs in accordance with this plan and applicable regulations.

3. Inspection and Maintenance Procedures

- **Inspection Frequency:**
    - At least **once per quarter**
    - After **significant rainfall events** (≥0.5 inches in 24 hours)
- **Inspection Tasks:**
    - Check for sediment accumulation, vegetation condition, inlet/outlet obstructions, erosion, and structural integrity.
- **Maintenance/Repair Tasks:**
    - Remove sediment when accumulation reaches 50% of design volume
    - Reseed or repair eroded or bare areas
    - Repair damaged components (e.g., concrete structures, outfalls)
    - Clear debris from inlets and outflows
- **Retrofit Procedures:**
    - If BMP performance degrades or fails to meet design objectives, a qualified engineer will evaluate and recommend appropriate retrofits.

4. Recordkeeping

All inspections, maintenance activities, and repairs will be **documented in a BMP maintenance log** kept on-site or available electronically. Records will include:

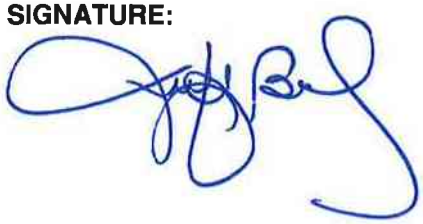
- Date of inspection/maintenance
- Inspector name
- Observations and corrective actions
- Date of completed repairs

Records will be retained for **at least 3 years** and made available to regulatory authorities upon request.

PRINTED NAME: Jennifer Bettiol

DATE: 7/30/2025

SIGNATURE:



7. Agent Authorization Form (TCEQ-0599)

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

I Jennifer Bettiol,
Print Name

CIP Manager,
Title - Owner/President/Other

of City of Georgetown,
Corporation/Partnership/Entity Name

have authorized Chaoliang Zhang, P.E.
Print Name of Agent/Engineer

of Gessner Engineering
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

6/25/25
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Jennifer Bethel 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 25 day of June, 2025

DANIELLE DUTRA
Notary Public, State of Texas
Comm. Expires 09-28-2025
Notary ID 133358560

NOTARY PUBLIC

Danielle Dutra
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 9/28/25

8. Application Fee Form (TCEQ-0574)

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Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: FIRE STATION NO 5
Regulated Entity Location: Williamson, Georgetown
Name of Customer: City of Georgetown
Contact Person: _ Jennifer Bettiol, CIP Manager Phone: __ 512-930-6681
Customer Reference Number (if issued):CN 600412043
Regulated Entity Reference Number (if issued):RN 106213200
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	20.17 Acres	$ 6,500
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature:

Date: 7/2/25

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

9. Core Data Form (TCEQ-10400)

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TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing 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 **Modify existing permit due to site improvement**

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 600412043		**RN 106213200**

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:*
City of Georgetown	

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
		74-6000974	

11. Type of Customer:	☐ Corporation	☐ Individual	Partnership: ☐ General ☐ Limited
Government: ☒ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other		☐ Sole Proprietorship	☐ Other:

12. Number of Employees	**13. Independently Owned and Operated?**
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☒ 501 and higher	☐ **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 ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	Jennifer Bettiol, CIP Manager						
	300 Industrial Ave, #1, PO Box 409						
	City	Georgetown	**State**	TX	**ZIP**	78627	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 930-6681		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ 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 Core 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.)*

FIRE STATION NO 5

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	3600 D B Wood Road							
	City	Georgetown	**State**	TX	**ZIP**	78628	**ZIP + 4**	
24. County	Willamson							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			**State**		**Nearest ZIP Code**

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	30.67963		**28. Longitude (W) In Decimal:**	-97.71891	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	40	47	97	43	8

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)
9224		922160	

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

Commercial/Fire Station

34. Mailing Address:								
	3600 D B Wood Rd							
	City	Georgetown	**State**	TX	**ZIP**	78628	**ZIP + 4**	
35. E-Mail Address:	fire@georgetowntexas.org							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(512) 930 - 3473		(512) 930 - 3613

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	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Chaoliang Zhang, P.E.	**41. Title:**	Professional Engineer

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(979) 431 - 0961		( ) -	czhang@gessnereng.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:	City of Georgetown	**Job Title:**	CIP Manager
Name *(In Print):*	Jennifer Bettiol	**Phone:**	(512) 930- **6681**
Signature:		**Date:**	06/25/2025

10. Modification of a Previously Approved Plan (TCEQ-0590)

GESSNER ENGINEERING

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Jennifer Bettiol, CIP Manager of the City of Georgetown

Date: 07/28/2025

Signature of Customer/Agent:

Project Information

1. Current Regulated Entity Name: Fire Station No 5
   Original Regulated Entity Name: Fire Station No 5
   Regulated Entity Number(s) (RN): RN106213200
   Edwards Aquifer Protection Program ID Number(s): 11-11081701
   ☒ The applicant has not changed and the Customer Number (CN) is: CN600412043
   ☐ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

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

3. A modification of a previously approved plan is requested for (check all that apply):
   - ☐ Physical or operational modification of any water pollution abatement structure(s) including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
   - ☐ Change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
   - ☒ Development of land previously identified as undeveloped in the original water pollution abatement plan;
   - ☐ Physical modification of the approved organized sewage collection system;
   - ☐ Physical modification of the approved underground storage tank system;
   - ☐ Physical modification of the approved aboveground storage tank system.

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

WPAP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	20.17	20.17
Type of Development	COMMERICAL	COMMERICAL
Number of Residential Lots	0	0
Impervious Cover (acres)	9.38	9.48
Impervious Cover (%	46.5	47
Permanent BMPs	SAND FILTER BASIN	SAND FILTER BASIN
Other	____	____

SCS Modification Summary	***Approved Project***	***Proposed Modification***
Linear Feet	____	____
Pipe Diameter	____	____
Other	____	____

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

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

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

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

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

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

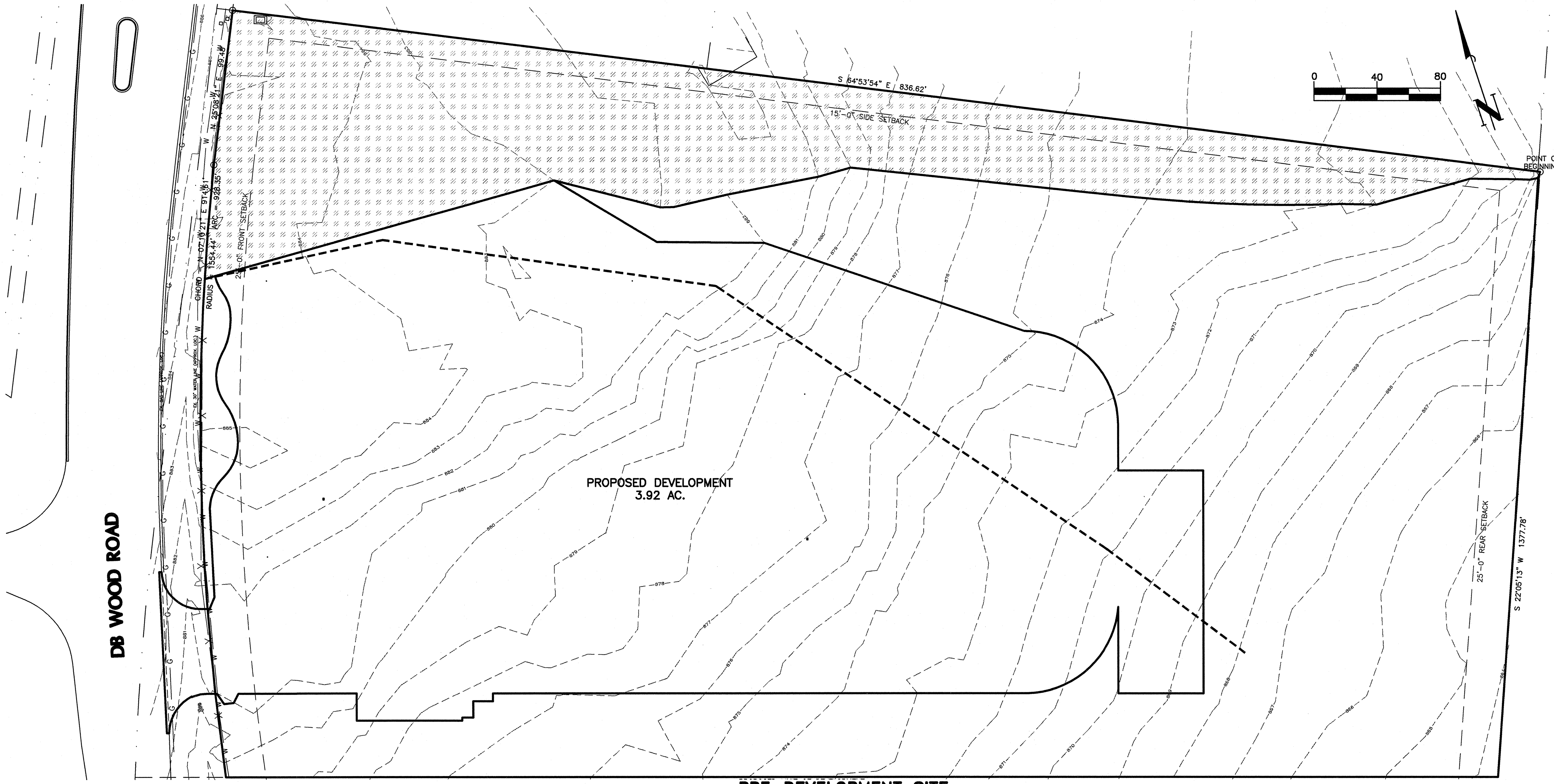
Attachment A: Original Approval Letter

Attachment B: Narrative of Proposed Modification

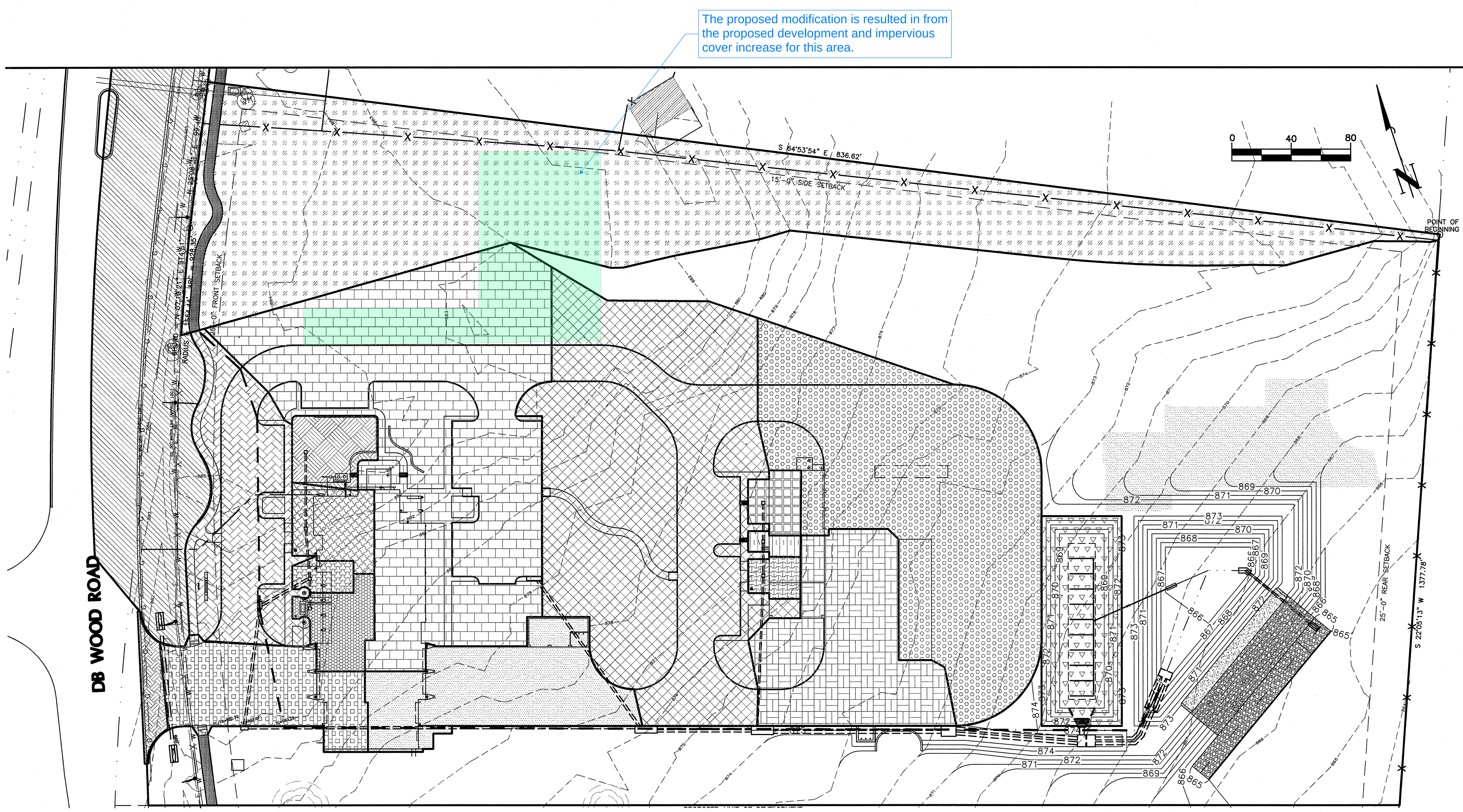
The proposed modification is associated with a development project that includes the construction of a new building, additional parking, and new pavement north of the existing Georgetown Fire Station No. 5. The project site encompasses a 20.17-acre land parcel. The proposed improvements will result in an increase of 4,338.55 square feet of impervious cover, raising the total impervious area from 9.38 acres to 9.48 acres.

An analysis of the existing, approved sand filter basin indicates that the current water quality pond has sufficient capacity to accommodate the additional runoff generated by the proposed development.

Attachment C: Current Site Plan of the Approved Project



PRE-DEVELOPMENT SITE



POST-DEVELOPMENT SITE

DRAINAGE TABLE FOR EXISTING HYDROLOGIC CONDITION

DRAINAGE AREA

TYPE	AREA (SF)	AREA (ACRES)
PERVIOUS	170688.05	3.92
IMPERVIOUS	0.00	0.00
TOTAL	170688.05	3.92

TIME OF CONCENTRATION

SEGMENT	TYPE OF FLOW	T_C (HOURS)
SEGMENT #1	TR-55 SHEET FLOW	0.4750
SEGMENT #2	TR-55 SHEET FLOW	0.0972
SEGMENT #3	TR-55 SHEET FLOW	0.1167
TOTAL TIME OF CONCENTRATION		0.6889

RUNOFF CURVE NUMBERS

TYPE OF AREA	CN	DESCRIPTION
PERVIOUS	83	WOODS-GRASS COMBINATION (POOR)
IMPERVIOUS	-	-
WEIGHTED CN		83

PEAK FLOW RATES

DESIGN STORM	FLOW (CFS)
2-YEAR	5.39
10-YEAR	10.41
25-YEAR	13.25
100-YEAR	18.70

DRAINAGE TABLE FOR PROPOSED HYDROLOGIC CONDITION

DRAINAGE AREA

TYPE	AREA (SF)	AREA (ACRES)
PERVIOUS	54,449.38	1.25
IMPERVIOUS	116,238.67	2.67
TOTAL	170688.05	3.92

TIME OF CONCENTRATION

SEGMENT	TYPE OF FLOW	T_C (HOURS)
SEGMENT #1	TR-55 SHEET FLOW	0.0954
SEGMENT #2	TR-55 SHEET FLOW	0.0059
SEGMENT #3	TR-55 SHALLOW CONC	0.0251
SEGMENT #4	TR-55 CHANNEL	0.0320
TOTAL TIME OF CONCENTRATION		0.1584

RUNOFF CURVE NUMBERS

TYPE OF AREA	CN	DESCRIPTION
PERVIOUS	83	WOODS-GRASS COMBINATION (POOR)
IMPERVIOUS	98	IMPERVIOUS AREAS - PAVED PARKING LOTS
WEIGHTED CN		93

PEAK FLOW RATES

DESIGN STORM	FLOW (CFS)
2-YEAR	11.71
10-YEAR	19.65
25-YEAR	24.05
100-YEAR	32.46

DRAINAGE AREA LEGEND

- - - - - - - - - EXISTING TIME OF CONCENTRATION PATH

— · — · — PROPOSED TIME OF CONCENTRATION PATH

DRAINAGE AREA LEGEND

- A-1
- A-2
- A-3
- A-4
- A-5
- A-6
- A-7
- A-8
- A-9
- A-10
- A-11
- A-12
- A-13
- A-14
- SAND FILTER
- DRIVEWAY CULVERT
- SIDEWALK
- DRIVEWAY
- NORTHEAST CORNER
- SOUTHEAST CORNER

100% CONSTRUCTION DOCUMENTS - FOR CITY PLAN REVIEW PURPOSES ONLY

STORMWATER DETENTION CALCULATIONS

BRW BROWN REYNOLDS WATFORD ARCHITECTS

STATE OF TEXAS ROBERT C. SCHMIDT 50465 REGISTERED PROFESSIONAL ENGINEER

O'MALLEY ENGINEERS, L.L.P.
203 SOUTH JACKSON STREET
BRENHAM, TEXAS 77833

OE JOB. # 816.010 PA

GEORGETOWN FIRE STATION NO. 5
3600 D.B. WOOD ROAD
GEORGETOWN, TEXAS 78626

No. 5

REVISIONS

DATE JULY 2011

DRAWN BY

CHECKED BY

PROJECT NO. 211001.11

C5.0

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES

1. WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN 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 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. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
4. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM IS INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.
5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.
6. 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).
7. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.
8. 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).
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. STABILIZATION MEASURES 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 CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARY OR PERMANENTLY CEASE IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
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
2800 S. IH 35, SUITE 100
AUSTIN, TEXAS 78704-5712
PHONE (512) 339-2929
FAX (512) 339-3795

STORM DRAIN LEGEND

INLETS

A-1 AREA INLET (18"X18" IN SAG) 2/C9.1
TOP OF INLET=882.40
FL 12" OUT S=879.29

A-2 AREA INLET (24"X24" IN SAG) 2/C9.1
TOP OF INLET=882.65
FL 12" IN N=879.04
FL 12" OUT S=878.94

A-3 AREA INLET (18"x18" IN SAG) 2/C9.1
TOP OF INLET=882.58
FL 12" IN N=878.78
FL 12" IN S=878.78
FL 18" OUT W=878.18

A-4 AREA INLET (18"x18" IN SAG) 2/C9.1
TOP OF INLET=882.48
FL 12" OUT N=878.87

A-5 5' CURB INLET (IN SAG) SD09/C9.0
TC=882.48
FL 18" IN E=878.00
FL 18" OUT S=877.90

A-6 5' CURB INLET (IN SAG) SD09/C9.0
TC=882.53'
FL 18" IN N=877.50
FL 18" OUT E=874.66

A-7 10' CURB INLET (IN SAG) SD09/C9.0
TC=879.10
FL 18" OUT S=873.91

A-8 15' CURB INLET (ON GRADE) SD09/C9.0
TC=876.51
FL 18" IN N=873.35
FL 18" IN W=873.35
FL TWO (2)18" OUT E=873.25

A-9 AREA INLET (18"x18" IN SAG) 2/C9.1
TOP OF INLET=877.00
FL 12" OUT S=874.29

A-10 AREA INLET (18"x18" IN SAG) 2/C9.1
TOP OF INLET=877.00
FL 12" IN N=874.17
FL 12" OUT S=874.07

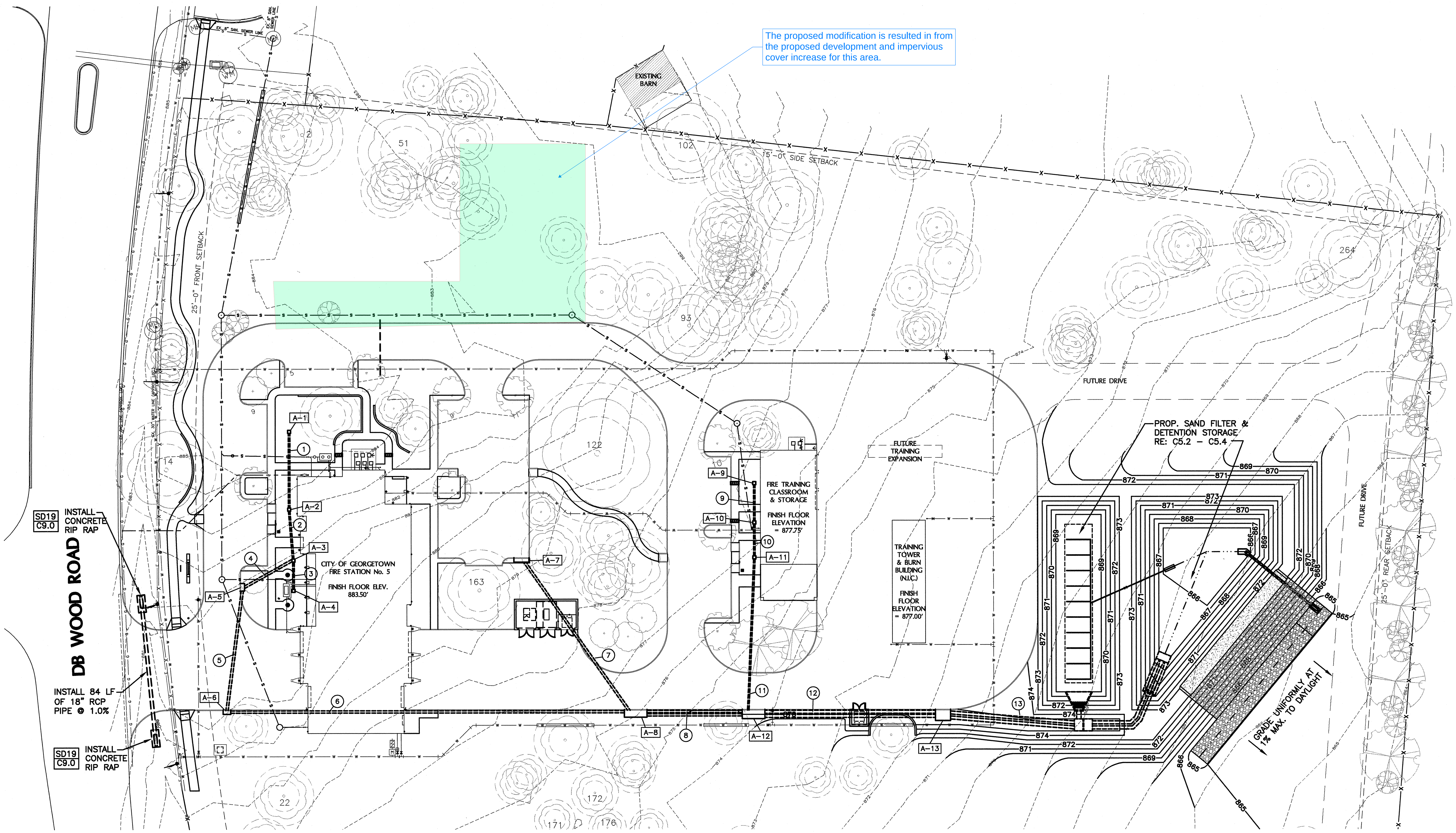
A-11 AREA INLET (18"x18" IN SAG) 2/C9.1
TOP OF INLET=877.00
FL 12" IN N=873.96
FL 12" OUT S=873.86

A-12 15' CURB INLET (ON GRADE) SD09/C9.0
TC=875.87
FL 12" IN N=873.35
FL TWO (2)18" IN W=872.85
FL TWO (2)24" OUT E=872.25

A-13 10' CURB INLET (ON GRADE) SD09/C9.0
TC=875.11
FL TWO (2)24" IN W=871.95
FL TWO (2)24" OUT E=871.85

PIPES

1. 50 LF OF 12" HDPE PIPE @ 0.50%
2. 32 LF OF 12" HDPE PIPE @ 0.50%
3. 18 LF OF 12" HDPE PIPE @ 0.50%
4. 36 LF OF 18" HDPE PIPE @ 0.50%
5. 80 LF OF 18" HDPE PIPE @ 0.50%
6. 261 LF OF 18" HDPE PIPE @ 0.50%
7. 120 LF OF 18" HDPE PIPE @ 0.47%
8. 73 LF OF 18" HDPE PIPE @ 0.55% (TWO PIPES)
9. 24 LF OF 12" HDPE PIPE @ 0.50%
10. 21 LF OF 12" HDPE PIPE @ 0.52%
11. 101 LF OF 12" HDPE PIPE @ 0.50%
12. 113 LF OF 24" HDPE PIPE @ 0.27% (TWO PIPES)
13. 82 LF OF 24" HDPE PIPE @ 0.24% (TWO PIPES)



THE TOPOGRAPHIC INFORMATION SHOWN ON THESE PLAN SHEETS WAS PROVIDED BY CASTLEBERRY SURVEYING, LTD., 3613 WILLIAMS DR., SUITE 903. GEORGETOWN, TEXAS 78628, (512)-930-1600.

TBM #1 ELEV.=876.12
LOCATION: BRASS DISK IN CONCRETE ON THE WEST SIDE OF DB WOOD RD. APPROX. 360' SOUTH OF PROPOSED SITE.

TBM #2 ELEV.=869.10
LOCATION: 1/2" IRON PIN WITH A YELLOW CAP IN CONCRETE LOCATED IN THE EAST CORNER OF THE SITE AT THE FENCE CORNER.

100% CONSTRUCTION DOCUMENTS - FOR CITY PLAN REVIEW PURPOSES ONLY

SITE DRAINAGE PLAN

BROWN REYNOLDS WATFORD ARCHITECTS

ROBERT C. SCHMIDT 50463 LICENSED PROFESSIONAL ENGINEER
8/12/11

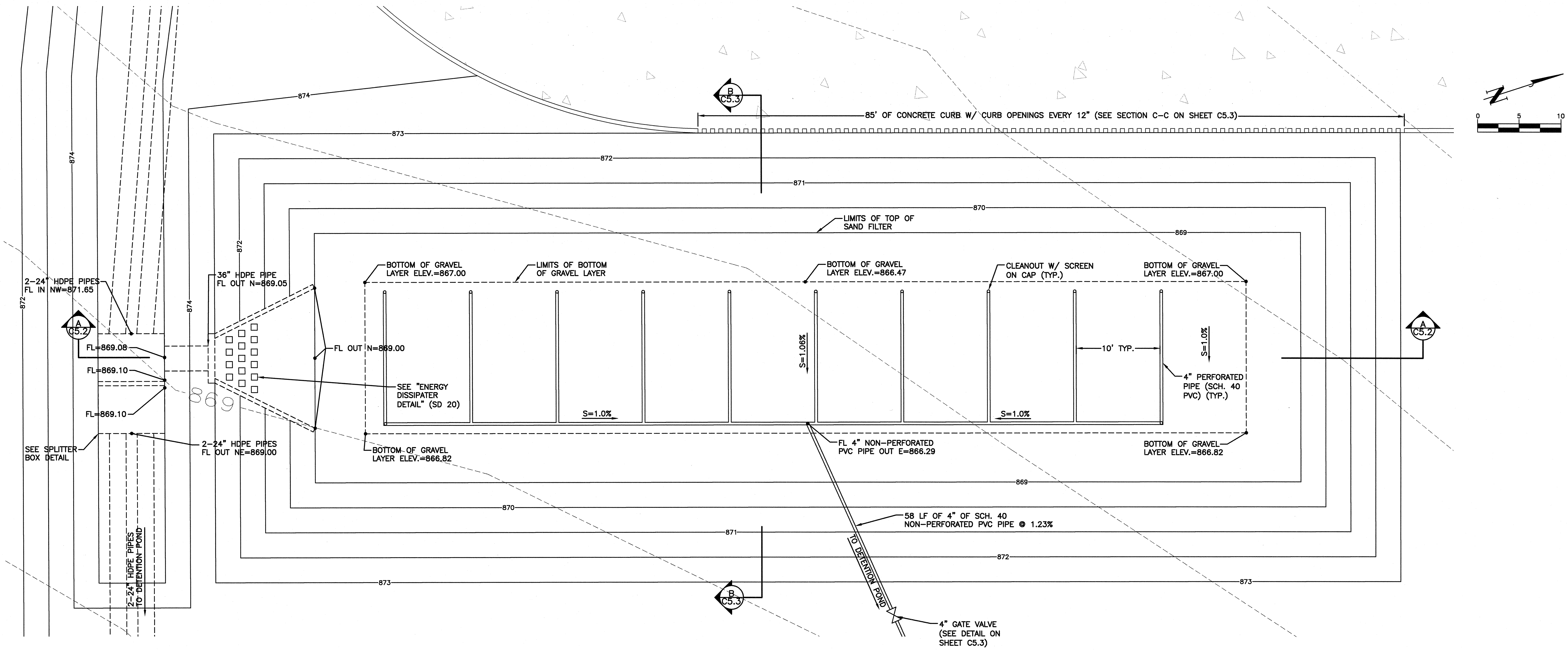
O'MALLEY ENGINEERS, L.L.P.
203 SOUTH JACKSON STREET
BRENHAM, TEXAS 77833
OE JOB. # 816.010 PA

GEORGETOWN FIRE STATION NO. 5
3600 D.B. WOOD ROAD
GEORGETOWN, TEXAS 78626

REVISIONS

DATE JULY 2011
DRAWN BY
CHECKED BY
PROJECT NO. 21100.11

C5.1



SAND FILTER CALCULATION SUMMARY

Maximum TSS Removed

L_R	2650	lbs

Required TSS Load Removal for Entire Site

L_M	2324	lbs

Fraction of Annual Runoff to Treat the Drainage Basin

F	0.88	
Rainfall Depth	1.50	inches

Total Required Water Quality Volume (with Sedimentation)

WQV	12483	ft^3
WQV	0.287	ac-ft

Minimum Sand Filter Area

1040	ft^2

Sand Filter Area Provided

3540	ft^2

Elevation	Area (ft^2)	Area (ac)	Volume (ft^3)	Volume (ac-ft)	
869	3540.00	0.081	0.00	0.000	
870	4464.00	0.102	3993.08	0.092	
871	5460.00	0.125	8946.73	0.205	
871.65	**6146.00**	**0.141**	**12716.48**	**0.292**	*Provided Water Quality
872	6528.00	0.150	14932.79	0.343	
873	7668.00	0.176	22023.14	0.506	

Formula Used for Calculating Volume: Conic Method for Reservoir Volumes

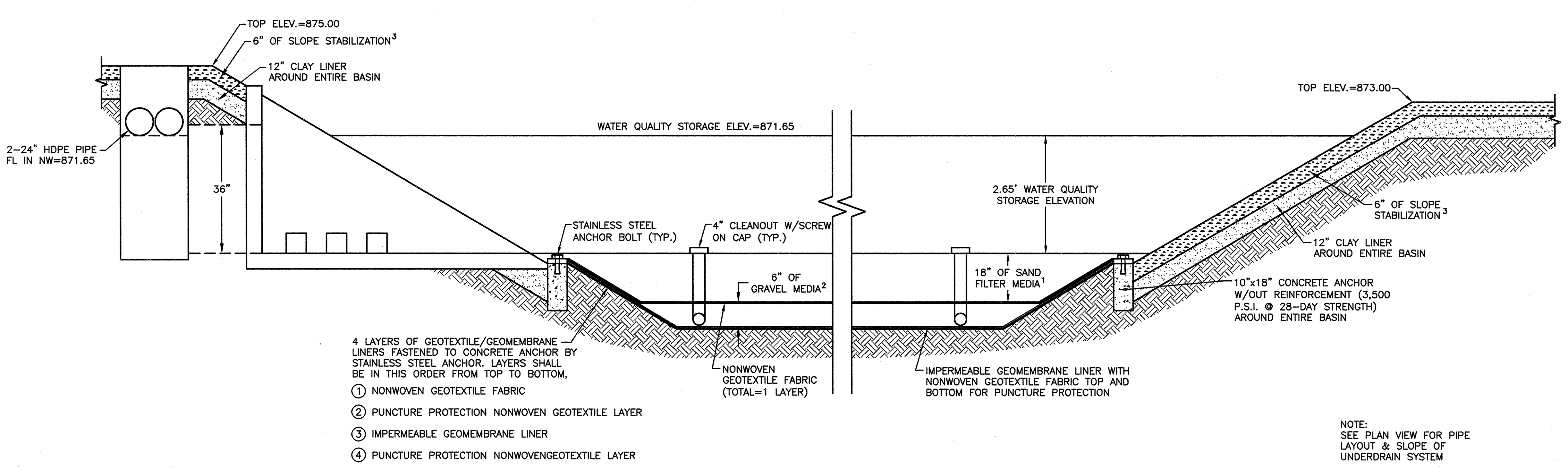
$$Volume = (1/3)*(Elevation_2 - Elevation_1)*(Area_1 + Area_2 + (A_1*A_2)^{0.5})$$

Overflow Weir in Splitter Box

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

Length	7.00	ft
Height	2.85	ft
Weir Coeff	2.70	ft/s
Flow	90.93	cfs

100-Year Flow	32.46	cfs



SECTION A-A
N.T.S.

NOTES

1. SAND FILTER MEDIA SHALL BE "WASHED" FINE SAND THAT CONFORMS TO ASTM C-33.
2. GRAVEL MEDIA SHALL CONSIST OF ½" TO 1" WASHED COARSE AGGREGATE. THERE SHALL BE A MINIMUM OF 2" OF COARSE AGGREGATE COVERING THE TOP OF THE PIPES.
3. SLOPE STABILIZATION SHALL CONSIST OF 6" OF TOPSOIL THAT SHALL BE SEEDED AND FERTILIZED. AFTER SEEDING AND FERTILIZING, SOIL RETENTION BLANKETS SHALL BE INSTALLED. SOIL RETENTION BLANKETS SHALL MEET TXDOT STANDARD SPECIFICATION ITEM 169 SOIL RETENTION BLANKETS, CLASS 2, TYPE F (CURLEX III STITCHED OR APPROVED ALTERNATE), AND BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION. CONTRACTOR SHALL PROVIDE ADEQUATE WATERING TO PROMOTE THE GROWTH OF VEGETATIVE COVER.

BROWN REYNOLDS WATFORD ARCHITECTS

O'MALLEY ENGINEERS, L.L.P.
203 SOUTH JACKSON STREET
BRENHAM, TEXAS 77833
OE JOB. # 816.010 PA

GEORGETOWN FIRE STATION NO. 5
3600 D.B. WOOD ROAD
GEORGETOWN, TEXAS 78626

DATE	JULY 2011
DRAWN BY	
CHECKED BY	
PROJECT NO.	21100111

REVISIONS

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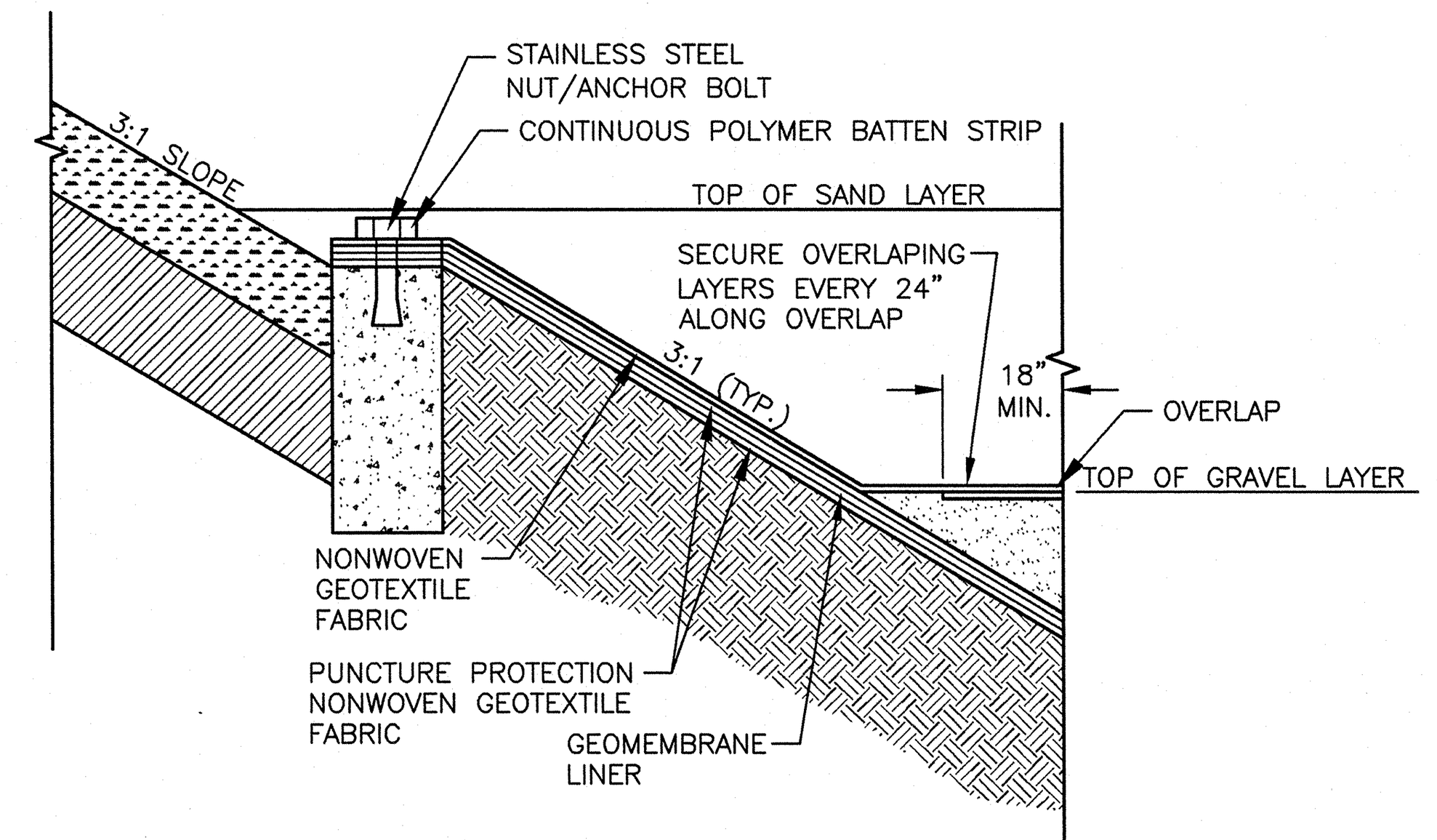
SAND FILTER LAYOUT

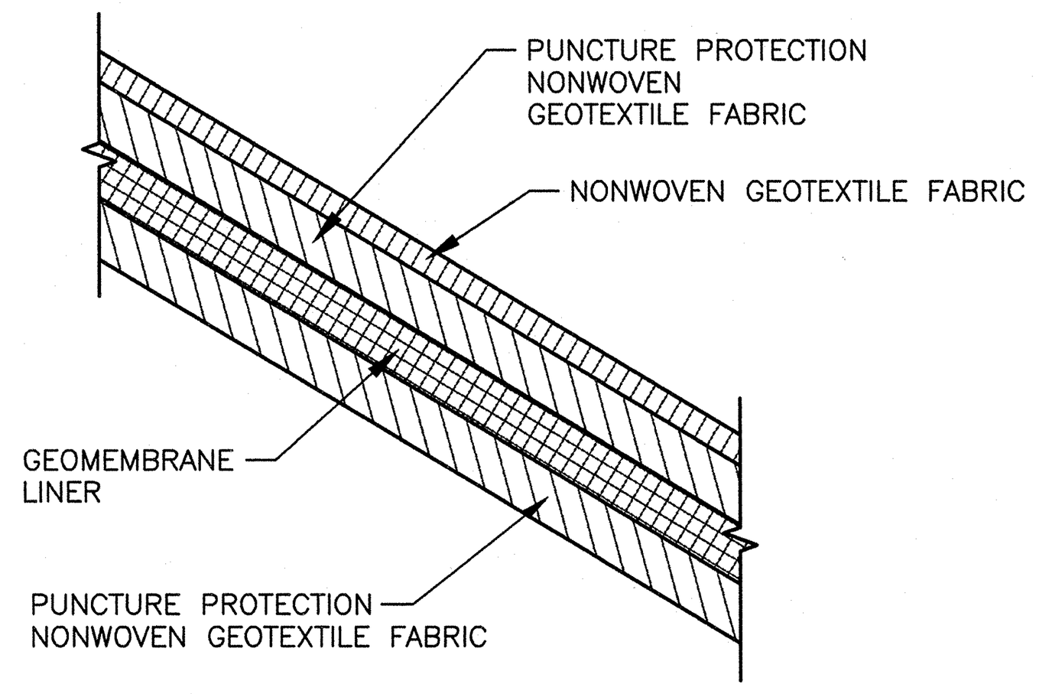


(1) GEOTEXTILE FABRIC & GEOMEMBRANE LINER OVERLAP ANCHORING DETAIL

N.T.S.

NOTE:

CONTRACTOR TO PLACE ANCHOR BOLTS AT 2'-0" O.C.



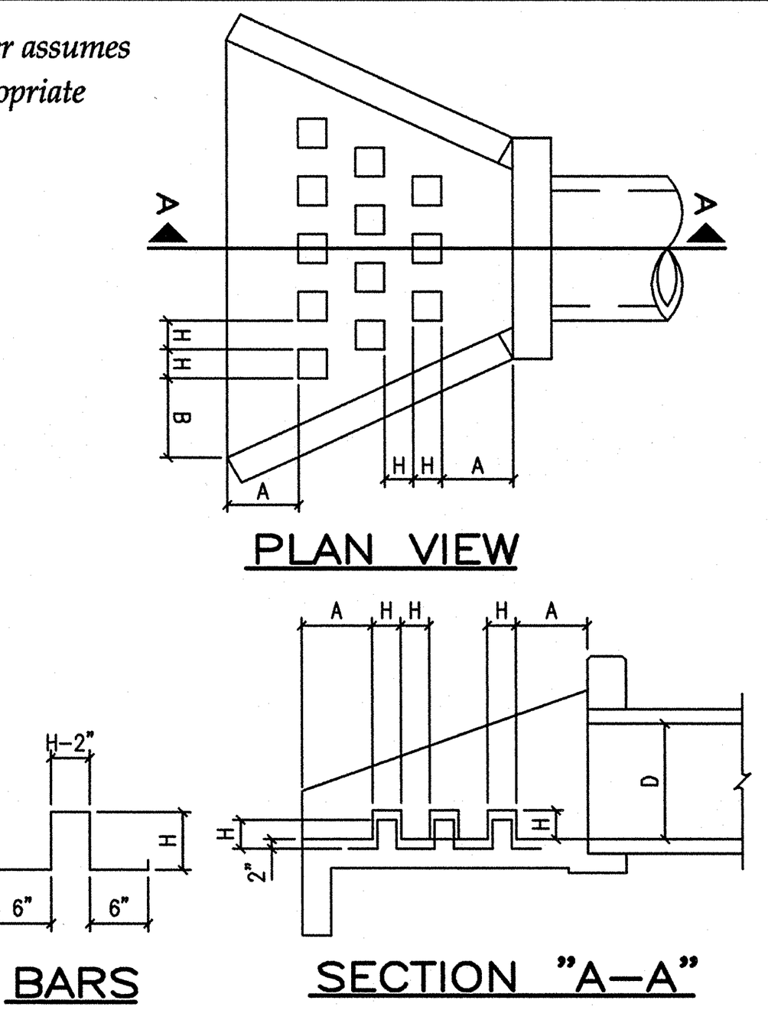
(2) LINER DETAIL

N.T.S.

NOTE:

GEOMEMBRANE LINER AND PUNCTURE PROTECTION NONWOVEN GEOTEXTILE FABRIC, TO BE INSTALLED PER MANUFACTURE'S SPECIFICATION.

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



NOTES:

1. USE CLASS "A" CONCRETE, 3,000 PSI AT 28 DAYS, UNLESS NOTED.
2. REINFORCING STEEL – ASTM A615, GRADE 40, UNLESS NOTED.
3. LAP REINFORCING 30 BAR DIAMETERS MIN. AT SPLICES, UNLESS NOTED.
4. CHAMFER EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED.
5. PLACE REINFORCING WITH THE CENTER OF THE OUTSIDE BARS 2 INCHES FROM THE SURFACE OF THE CONCRETE.

TABLE OF DIMENSIONS FOR ENERGY DISSIPATOR DETAIL

D PIPE DIAMETER (INCHES)	NUMBER OF ROWS OF DISSIPATORS	NUMBER OF DISSIPATORS IN FRONT ROW	H (INCHES)	A (INCHES)	B (INCHES)
12	1	3	4	4	9.1875
18	2	4	4 1/2	9 1/2	15.5625
24	2	5	6	14 3/4	16 1/2
30	3	6	7 1/2	12 1/2	14 3/8
36	3	6	9	16 1/4	18 5/16
42	3	6	10 1/2	20	22 1/4
48	3	6	12	23 3/4	26 1/4
54	3	6	13 1/2	27 1/2	27 3/4
60	3	6	15	31 1/4	31 5/8

REVISION NOTE: ADOPTED 6/21/2006

GEORGETOWN TEXAS EST. 1848 — Georgetown Utility Systems, Your Community Owned Utility

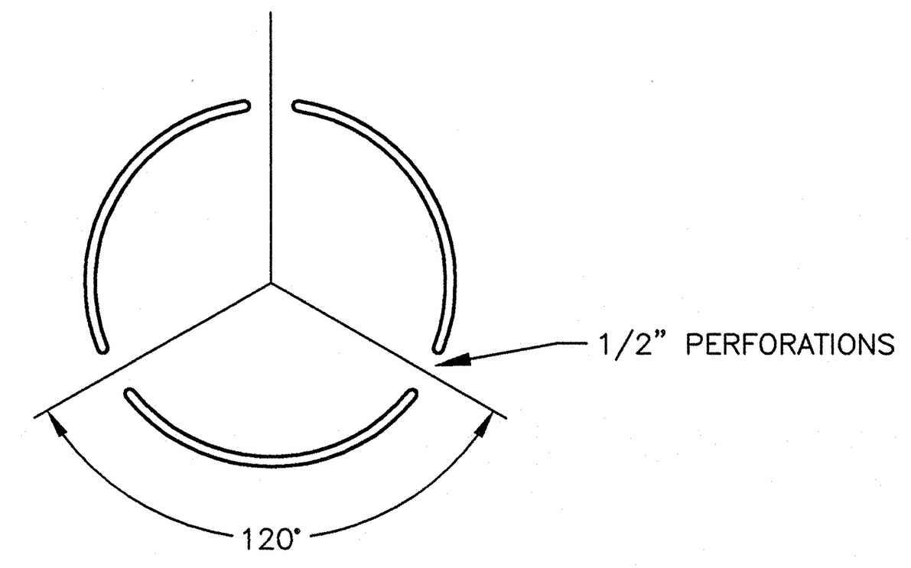
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
ENERGY DISSIPATER DETAIL

DRAWING NAME: SD20 — SCALE: NTS — DATE: 1/2003 — DRAWN BY: MRS — APPROVED BY: TRB

CLAY LINER		
PROPERTY	TEST METHOD	SPECIFICATION
PERMEABILITY	ASTM D-2434	1×10^{-6} CM/SEC
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

NONWOVEN GEOTEXTILE FABRIC (PERMEABLE)		
PROPERTY	TEST METHOD	SPECIFICATION (MIN)
UNIT WEIGHT		8 OZ/SY
FILTRATION RATE		0.08 IN/SEC
PUNCTURE STRENGTH	ASTM D-751	125 LB
MULLEN BURST	ASTM D-751	400 PSI
TENSILE STRENGTH	ASTM D-1682	200 LB
APPARENT OPENING SIZE	US STANDARD SIEVE	NO. 80

GEOMEMBRANE LINER (IMPERMEABLE)		
PROPERTY	TEST METHOD	SPECIFICATION (MIN)
THICKNESS	ASTM D-5199	30 MIL
UV RESISTANCE		YES

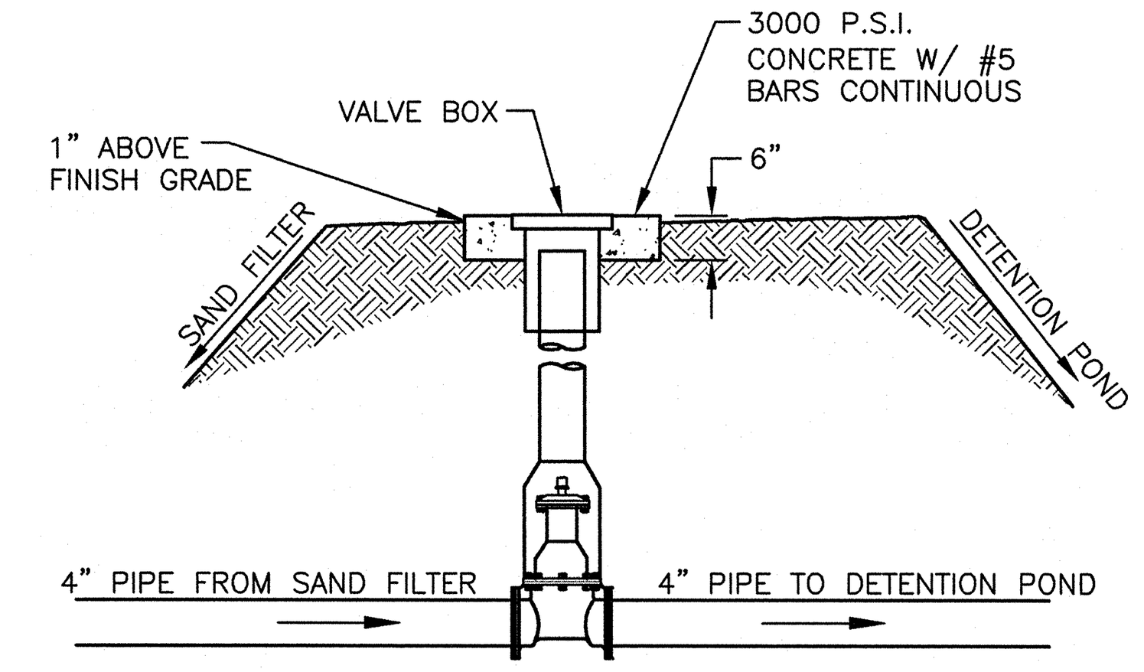


(6) 4" PERFORATED SCHEDULE 40 PVC PIPE

N.T.S.

NOTES:

1. THE MAXIMUM SPACING BETWEEN ROWS OF PERFORATIONS SHALL NOT EXCEED 6 INCH.
2. ORIENT PIPE SO PERFORATIONS ARE DOWN.
3. PERFORATIONS SHOULD BE LESS THAN 1/2".
4. PIPES SHALL LAY FLAT ON IMPERMEABLE LINER ON GRADES SHOWN ON PLANS.
5. ALL CLEAN OUTS SHALL BE SOLID PIPE WITH A CLEAN OUT AT THE END OF EACH LINE. (AS SHOWN ON PLANS)

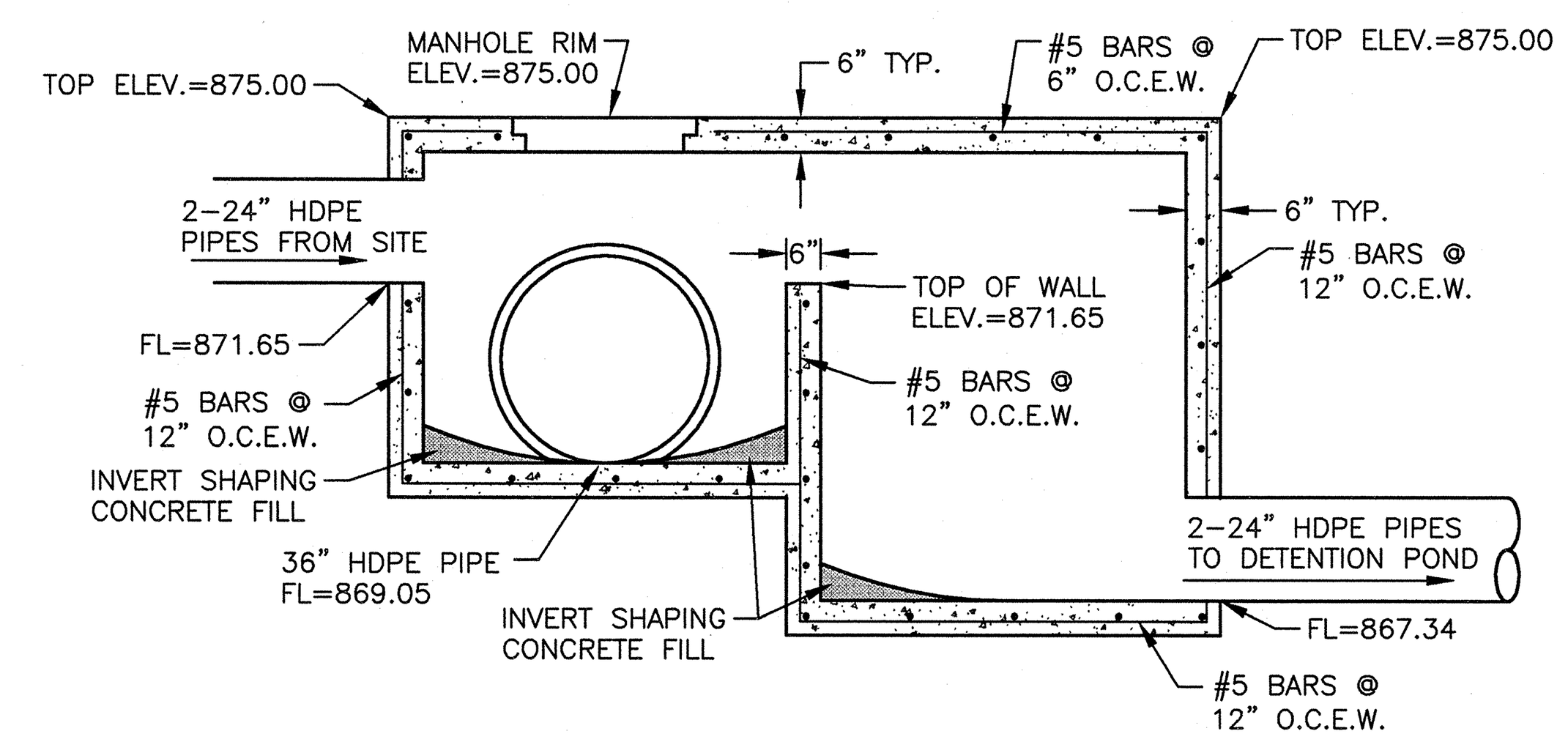


(7) 4" GATE VALVE DETAIL

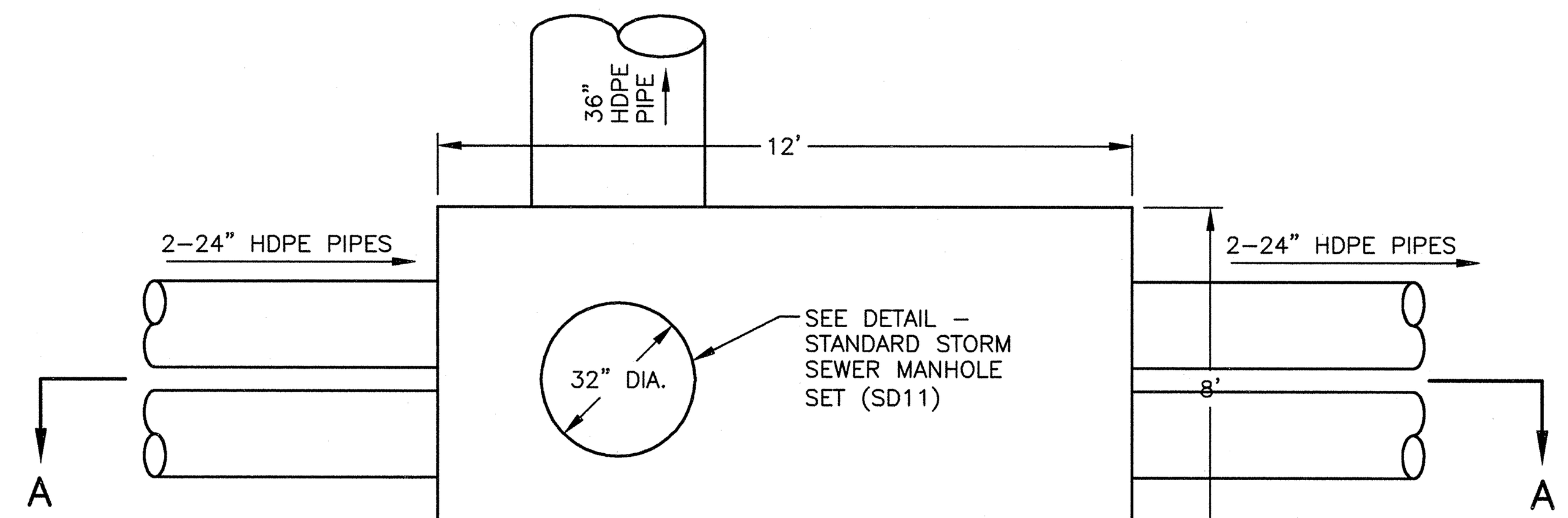
N.T.S.

NOTES:

1. VALVE SHALL BE SET PARTIALLY OPEN SO THAT IT PROVIDES A MINIMUM DRAWDOWN TIME OF 24 HOURS.
2. CONTRACTOR SHALL PROVIDE OWNER WITH VALVE OPENING TOOL AT THE COMPLETION OF THE PROJECT
3. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL – SERIES 2500
   B. MUELLER – 2360 SERIES
   C. CLOW

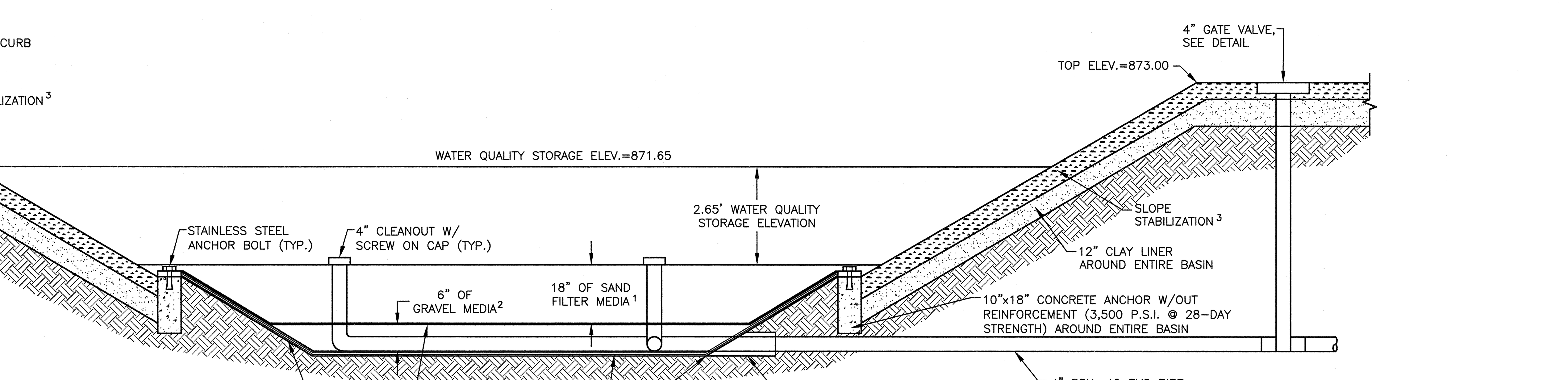


SECTION A–A



(8) SPLITTER BOX DETAIL

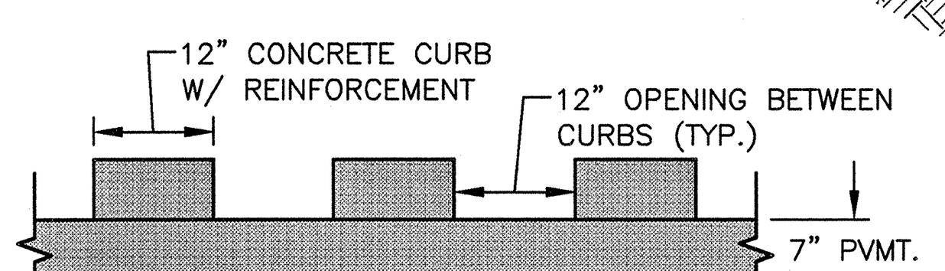
NTS



NOTE:
SEE PLAN VIEW FOR PIPE LAYOUT & SLOPE OF UNDERDRAIN SYSTEM ON SHEET C5.2

SECTION B–B

N.T.S.



SECTION C–C

N.T.S.

(CONCRETE CURB W/ CURB OPENINGS)

NOTES

1. SAND FILTER MEDIA SHALL BE "WASHED" FINE SAND THAT CONFORMS TO ASTM C–33.
2. GRAVEL MEDIA SHALL CONSIST OF ½" TO 1" WASHED COARSE AGGREGATE. THERE SHALL BE A MINIMUM OF 2" OF COARSE AGGREGATE COVERING THE TOP OF THE PIPES.
3. SLOPE STABILIZATION SHALL CONSIST OF 6" OF TOPSOIL THAT SHALL BE SEEDED WITH BERMUDA SEED (CYNODON DACTYLON) AND FERTILIZED PER ARCHITECTURAL SEEDING SPECIFICATIONS. AFTER SEEDING AND FERTILIZING, SOIL RETENTION BLANKETS SHALL BE INSTALLED. SOIL RETENTION BLANKETS SHALL MEET TXDOT STANDARD SPECIFICATION ITEM 169 SOIL RETENTION BLANKETS, CLASS 2, TYPE F (CURLEX III STITCHED OR APPROVED ALTERNATE), AND BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION. CONTRACTOR SHALL PROVIDE ADEQUATE WATERING TO PROMOTE THE GROWTH OF VEGETATIVE COVER.

BROWN REYNOLDS WATFORD ARCHITECTS

ROBERT C. SCHMIDT 50465 — STATE OF TEXAS — REGISTERED PROFESSIONAL ENGINEER — 8/12/11

O'MALLEY ENGINEERS, L.L.P.
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OE JOB. # 816.010 PA

GEORGETOWN FIRE STATION NO. 5
3600 D.B. WOOD ROAD
GEORGETOWN, TEXAS 78626

REVISIONS

DATE: JULY 2011
DRAWN BY:
CHECKED BY:
PROJECT NO. 21100111

C5.3

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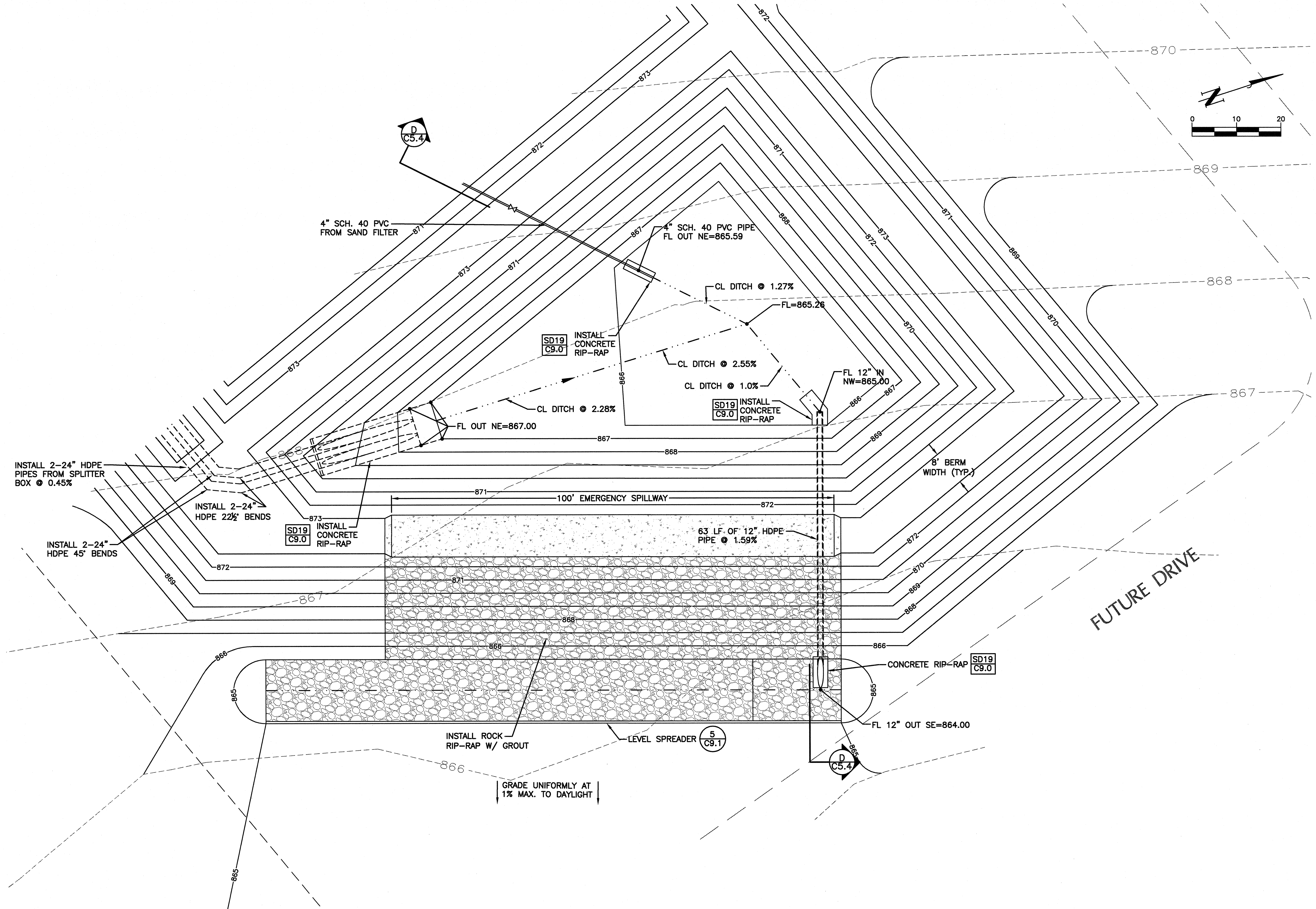
SAND FILTER DETAILS



DETENTION POND
STAGE-STORAGE-DISCHARGE TABLE

ELEVATION (FT)	STORAGE (AC-FT)	DISCHARGE (CFS)
865.00	0.000	0.000
865.25	0.000	0.000
865.50	0.000	0.000
865.75	0.002	0.000
866.00	0.004	0.000
866.25	0.008	1.730
866.50	0.016	2.450
866.75	0.029	3.000
867.00	0.047	3.470
867.25	0.070	3.880
867.50	0.094	4.250
867.75	0.118	4.590
868.00	0.145	4.910
868.25	0.172	5.200
868.50	0.201	5.480
868.75	0.232	5.750
869.00	0.264	6.010
869.25	0.297	6.250
869.50	0.332	6.490
869.75	0.368	6.720
870.00	0.406	6.940
870.25	0.445	7.150
870.50	0.486	7.360
870.75	0.529	7.560
871.00	0.573	7.760
871.25	0.619	7.950
871.50	0.667	8.130
871.75	0.716	8.320
872.00	0.767	8.500
872.25	0.820	8.670
872.50	0.875	8.840
872.75	0.931	9.010
873.00	0.990	9.180

LEVEL SPREADER CALCULATION SUMMARY

It is assumed that a Level Spreader functions as a long weir. Flow over a weir is described by the following formulas:

$$Q = C_w \times L \times H^{3/2}$$
$$Q = V \times A = V \times L \times 2/3H$$

Allowable Velocities for Downstream Covers

Ground Cover	Allowable Velocity
Grass	4 fps
Gravel	5 fps
Mulch	2 fps

Design Velocity for Level Spreader

Ground Cover	Design Velocity
Grass	1.33 fps
Gravel	1.67 fps
Mulch	0.67 fps

Design velocities are one-third (1/3) of the allowable velocities. This is to ensure that the velocities distributed by the level spreader are non-erosive for a perticular type of ground cover..

Determine Height above Weir

Height	H	0.09 ft
Velocity	V	1.67 ft/s
Weir Coefficeient	C_w	2.6

Determine the Length of Level Spreader

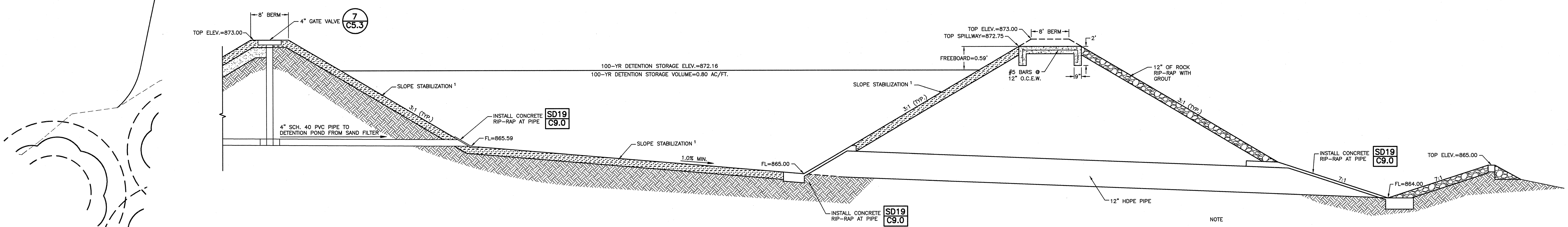
Flow	Q	9.16 cfs
Length (Minimum)	L	130 ft

EMERGENCY SPILLWAY CALCULATION SUMMARY

Flow over a weir is described by the following formulas:

$$Q = C_w \times L \times H^{3/2}$$

Flow	Q	32.46 cfs
Height	H	0.25 ft
Weir Coefficeient	C_w	2.6
Length (Minimum)	L	100 ft



SECTION D-D
N.T.S.

NOTE

1. SLOPE STABILIZATION SHALL CONSIST OF 6" OF TOPSOIL THAT SHALL BE SEEDED WITH BERMUDA SEED (CYNODON DACTYLON) AND FERTILIZED PER ARCHITECTURAL SEEDING SPECIFICATIONS. AFTER SEEDING AND FERTILIZING, SOIL RETENTION BLANKETS SHALL BE INSTALLED. SOIL RETENTION BLANKETS SHALL MEET TXDOT STANDARD SPECIFICATION ITEM 169 SOIL RETENTION BLANKETS, CLASS 2, TYPE F (CURLEX III STITCHED OR APPROVED ALTERNATE), AND BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE'S SPECIFICATION. CONTRACTOR SHALL PROVIDE ADEQUATE WATERING TO PROMOTE THE GROWTH OF VEGETATIVE COVER.

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DETENTION POND LAYOUT

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DATE JULY 2011
DRAWN BY
CHECKED BY
PROJECT NO. 211001.11
REVISIONS

C5.4