

# Texas Commission on Environmental Quality

## Edwards Aquifer Application Cover Page

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### 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.

<b>1. Regulated Entity Name: Georgetown Airport Hangars</b>					<b>2. Regulated Entity No.: Not yet assigned</b>				
<b>3. Customer Name: City of Georgetown</b>					<b>4. Customer No.: CN600412043</b>				
<b>5. Project Type:</b> (Please circle/check one)	<input checked="" type="radio"/> New	Modification			Extension		Exception		
<b>6. Plan Type:</b> (Please circle/check one)	<input checked="" type="radio"/> WPAP	<input type="radio"/> CZP	<input type="radio"/> SCS	<input type="radio"/> UST	<input type="radio"/> AST	<input type="radio"/> EXP	<input type="radio"/> EXT	Technical Clarification	Optional Enhanced Measures
<b>7. Land Use:</b> (Please circle/check one)	<input type="radio"/> Residential	<input checked="" type="radio"/> Non-residential			<b>8. Site (acres):</b>			7.566	
<b>9. Application Fee:</b>	5,000		<b>10. Permanent BMP(s):</b>			Batch Detention			
<b>11. SCS (Linear Ft.):</b>	N/A		<b>12. AST/UST (No. Tanks):</b>			N/A			
<b>13. County:</b>	Williamson County		<b>14. Watershed:</b>			Berry Creek			



# Application Distribution

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

[http://www.tceq.texas.gov/assets/public/compliance/field\\_ops/eapp/EAPP%20GWCD%20map.pdf](http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf)

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

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

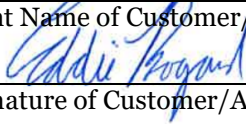
San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	—	—	—	—	—
Region (1 req.)	—	—	—	—	—
County(ies)	—	—	—	—	—
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___ Trinity-Glen Rose	___ Edwards Aquifer Authority	___ Kinney	___ EAA ___ Medina	___ EAA ___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



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

Eddie Bogard P.E.

Print Name of Customer/Authorized Agent



4/18/25

Signature of Customer/Authorized Agent

Date

**\*\*FOR TCEQ INTERNAL USE ONLY\*\***

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



# General Information Form

## Texas Commission on Environmental Quality

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

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

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

## Signature

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

Print Name of Customer/Agent: Eddie Bogard, P.E.

Date: 04/15/2025

Signature of Customer/Agent:



## Project Information

1. Regulated Entity Name: Georgetown Airport Hangars
2. County: Williamson
3. Stream Basin: Graner Lake-Berry Creek
4. Groundwater Conservation District (If applicable): n/a
5. Edwards Aquifer Zone:  
☒ Recharge Zone  
☐ Transition Zone
6. Plan Type:  
☒ WPAP  
☐ SCS  
☐ Modification

- ☐ AST  
☐ UST  
☐ Exception Request



7. Customer (Applicant):

Contact Person: Eric Johnson

Entity: City of Georgetown

Mailing Address: \_\_\_\_\_

City, State: Georgetown, Texas

Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

FAX: n/a

Email Address: eric.johnson@georgetown.org

8. Agent/Representative (If any):

Contact Person: Eddie Bogard, P. E.

Entity: Westwood PS

Mailing Address: 8701 N Mopac Expy Suite 320

City, State: Austin, Texas

Zip: 78759

Telephone: 512-485-0831

FAX: n/a

Email Address: eddie.bogard@westwoodps.com

9. Project Location:

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

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

Located at 600 Service Drive, Georgetown Texas. To the west of Airport Road.

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: 12/29/2024



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

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

15. Existing project site conditions are noted below:

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

### ***Prohibited Activities***

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

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
- (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
- (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
- (4) The use of sewage holding tanks as parts of organized collection systems; and
- (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
- (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

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

- (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
- (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and



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

## ***Administrative Information***

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

- ☒ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
  - ☐ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
  - ☐ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
  - ☐ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
  - ☐ A request for an extension to a previously approved plan.
19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:
- ☐ TCEQ cashier
  - ☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
  - ☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
21. ☒ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.



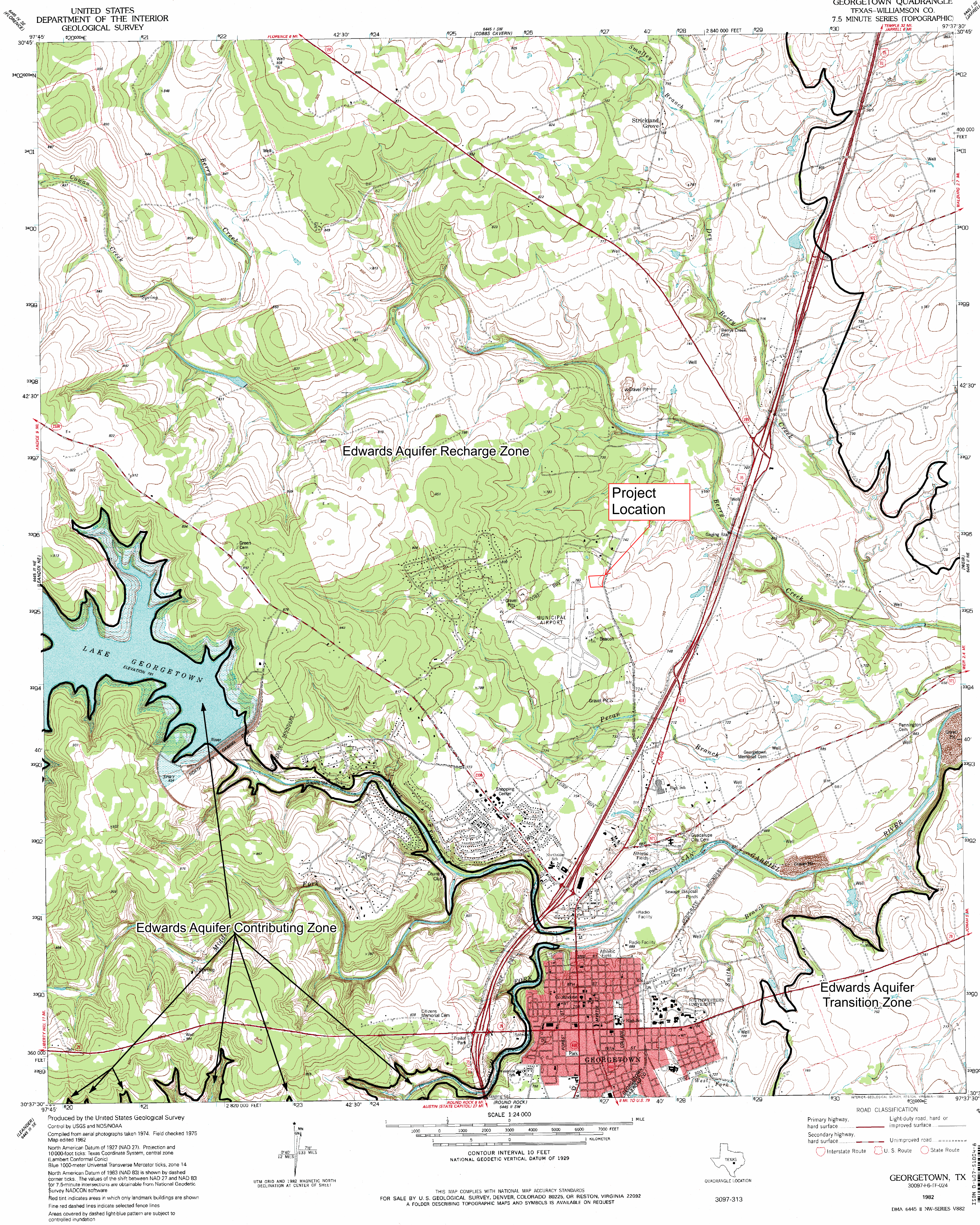
## Attachment A – Road Map





## **Attachment B – USGS / Edwards Recharge Zone Map**







## **Attachment C – Project Description**

The proposed development includes the construction of four airport hangars with all associated grading, drainage, utility, detention, vehicular conveyance, and water quality improvements on 7.566 acres of a combination of primarily undeveloped land with an existing gravel and asphalt path. The proposed site is located 600 Service Drive in Georgetown, Texas 78626 in the Industrial District Jurisdiction per PUD 2005-75. The existing site consists of mostly undeveloped land with Class D soil classification and a 12" CMP pipe on the southwest corner of the property boundary and two 12" Metal pipes on the northeast corner of the boundary. Water line, sanitary sewer lines, and sanitary sewer manholes lie within the site. According to FEMA Map 48491C02921F (Dated 12/20/2019), the subject site does not fall within a regulatory floodplain.

The site generally slopes at  $\pm 1\%$  from the eastern boundary of the site to the western boundary. The project site lies within the Georgetown Municipal Airport and is surrounded by additional airport property along the North, East and South site boundary. The adjacent property to the West is a commercial development.

The project will consist of four hangars with the associated grading, utilities, park, roadways necessary, and tie into an existing water line on Airport Drive. The total impervious cover on the site is 3.18 acres. All proposed impervious cover is to be treated with two proposed batch detention ponds.

As included in our demolition plans, the existing two metal pipes on the northeast corner of the property boundary will be demolished.









## **GEOLOGIC ASSESSMENT**

For

**GEORGETOWN AIRPORT HANGARS  
4100 AIRPORT RD.  
GEORGETOWN, TEXAS**

Prepared for

**WESTWOOD  
8701 N. MOPAC EXPRESSWAY, SUITE 320  
AUSTIN, TX 7875**

Prepared by

**Professional Service Industries, Inc.  
3 Burwood Lane  
San Antonio, Texas 78216  
Telephone (210) 342-9377**

**PSI PROJECT NO.: 0435- 6609**

**April 10, 2025**





**Professional Service Industries, Inc.**  
3 Burwood Lane, San Antonio, TX 78216  
Phone: (210) 342-9377  
Fax: (512) 491-0221

**Westwood**

8701 N. Mopac Expressway, Suite 320  
Austin, TX 78759

Attn: Eddie Bogard  
email: [eddie.bogard@westwoodps.com](mailto:eddie.bogard@westwoodps.com)

Re: **TCEQ Geologic Assessment**  
Georgetown Airport Hangars-Approximate 7-Acre Tract  
4100 Airport Rd.  
Georgetown, Texas  
PSI Project Number 0435-6609

Dear Mr. Bogard:

Professional Service Industries, Inc. (PSI) has completed a TCEQ Geologic Assessment for the above referenced property. The Geologic Assessment was conducted in general accordance with the application requirements for the TCEQ water pollution abatement plans (WPAP) for regulated developments located on the Edwards Aquifer Recharge or Contributing Zones. The purpose of this report is to describe surficial geologic units and identify the locations and extent of significant recharge features present in the development area.

**AUTHORIZATION**

Authorization to perform this assessment was given by a signed copy of PSI Proposal PSI Proposal No. 0435-448023.

**PROJECT DESCRIPTION**

The subject site is located at 4100 Airport Rd., Georgetown, Texas and consists of approximately 7.3 acres of undeveloped property located on the Georgetown Executive Airport north of the private hangars on Service Drive. The site is generally level and partially covered in medium sized trees Oak trees and native grasses. The parcel is maintained consistent with the surrounding property.



## PHYSIOGRAPHY- GEOLOGY - HYDROGEOLOGY

### Regional Physiography

From west to east, the two physiographic provinces in Williamson County are: the Edwards Plateau and the Blackland Prairie. The Edwards Plateau terrain is rugged and hilly, with elevations ranging from 800 feet to 1,400 feet above sea level. This area is underlain by beds of limestone that dip gently to the southeast. Southeast of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends north south across Williamson County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 400 feet to 800 feet above sea level. The faults are predominantly normal, down thrown-to-the Gulf Coast, with near vertical throws.

### Site Geology and Soils

The subject property lies on the far eastern Edwards Plateau. According to maps published by the University of Texas at Austin Bureau of Economic Geology in cooperation with the United States Geological Survey (USGS), no faults are mapped in the immediate proximity to the subject site.

The surface geologic formations mapped at the site and exposed on the surface are the **Del Rio Clay and Georgetown Formation (undivided)**. The Del Rio Clay consists of a blue green to yellow brown, variably gypsiferous clay containing iron nodules, abundant pecten-type fossil clams, and the fossil oyster *Ilymatogyra arietina* (formerly *Exogyra arietina*). Minor, thin lenticular beds of highly calcareous siltstone may also occur. The unweathered Del Rio Clay is composed of kaolinite, illite, and lesser amounts of montmorillonite. The Del Rio has no recognized cavern development and no significant porosity or permeability.

The Georgetown Formation is the uppermost unit of the Edwards aquifer. Lithology is a reddish-brown and gray to light-tan, marly limestone with biomicritic texture; commonly contains the brachiopod *Waconella wacoensis*, pectins, the mollusks *Kingena wacoensis* and *Gryphaea washitaensis*, as well as other pelecypods. Strata covered by vegetation and soil in some areas. The Georgetown is considered an upper confining unit, has very low porosity and permeability, and has little or no karstification or cavern development. Minor amounts of bedrock float limestone were observed within the site. The site is wholly covered in soil residuum material with grass cover and a few oak trees.

Soils at the subject property are mapped as Eckrant Cobbly clay, (1 to 8 percent slopes) and the Doss Silty Clay (1 to 5 percent slopes):

- The Eckrant series consists of well drained, moderately slowly permeable soils that are very shallow to shallow over indurated limestone bedrock. The soil does not meet hydric criteria.
- The Doss series consist shallow to weakly cemented limestone, well drained, moderately slow permeable soils that formed in calcareous loamy and clayey residuum derived from marls and limestone. The soil does not meet hydric criteria.



### **Edwards Aquifer Hydrogeology**

The Edwards Aquifer Recharge Zone Map (Attachment D), provided by the TCEQ, along with various other references were reviewed for this assessment. These Edwards Aquifer maps are based on official maps containing regulatory boundaries based on previous geologic studies and interpretations of the Edwards Aquifer hydrogeology, including recharge, transition, contributing, artesian and saline zones, as defined in 30 TAC 213. The elevation of the property ranges from approximately 780 feet above mean sea level (AMSL) on the northwestern portion to approximately 777 feet above MSL on the southeastern portion. The topographic contour lines for the property indicate a gentle slope to the southeast. Depths to usable groundwater in this area are approximately 75 -100 feet below grade.

### **SITE INVESTIGATION**

The site investigation was performed by inspecting the subject area, and identifying any drainage features, fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration.

The subject site is currently an undeveloped tract within the Georgetown Executive Airport property. The surrounding area is comprised of airport hangars and maintenance facilities at Georgetown Executive Airport. Surficial soils with bedrock "float" were observed on the surface. There are no indications of recharge features such as fault/fracture zones and/or evidence of springs, ponds, etc. on the site.

A small (25ft x 25ft) closed infilled depression (F-1) was noted on the southwest portion of the property. It appears that the depression may be made-man due to a cement pipe exposed within the depression. This depression is not considered a recharge feature and would have minimal infiltration potential. The depression area is shown on the geologic site map. The results of the site investigation are included in the attached TCEQ 0585 report format and the associated Geologic Assessment Table (Attachment A). Note that older cement pipes often contained asbestos, so appropriate precautions are recommended during construction activities in this area.

### **SUMMARY**

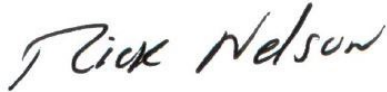
This geologic assessment did not identify any natural sensitive, or potential recharge features on the subject tract. The exposed bedrock feature is identified on the site features map and discussed in the assessment table. Based on review of the geologic maps, other resources, and the site reconnaissance, there does not appear to be evidence of natural recharge features or other geologic structural features. No streams or springs exist on the subject tract.

It is possible that future clearing/construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.

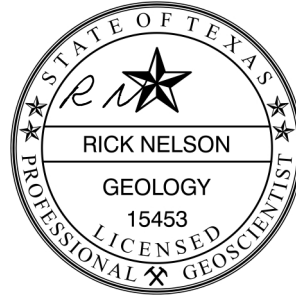
We appreciate this opportunity to be of service to you. If you have any questions, please do not hesitate to contact our office.



Respectfully Submitted,  
PROFESSIONAL SERVICE INDUSTRIES, INC.



Rick Nelson, P.G.  
Senior Scientist, Environmental Services



## WARRANTY

The field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for a general geological recharge assessment of this site. PSI warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted geologic methods, only for the site described in this report. These methods have been developed to provide the client with information regarding apparent indications of existing or potential conditions relating to the subject site and are necessarily limited to the conditions observed at the time of the site visit and research. This report is also limited to the information available at the time it was prepared. In the event additional information is provided to PSI following the report, it will be forwarded to the client in the form received for evaluation by the client. There is a possibility that conditions may exist which could not be identified within the scope of the assessment or which were not apparent during the site visit. PSI believes that the information obtained from others during the review of public information is reliable; however, PSI cannot warrant or guarantee that the information provided by others is complete or accurate.

This report has been prepared for the exclusive use of the client for the site discussed herein. Reproductions of this report cannot be made without the expressed approval the client. The general terms and conditions under which this assessment was prepared apply solely to the client for this site. No other warranties are implied or expressed.



# 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: Rick Nelson

Telephone: 512-636-1647

Date: 4/8/2025

Fax: 210-342-9401

Representing: PSI TBPG No. 50128 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

*Rick Nelson*

Regulated Entity Name: Westwood 8701 N. Mopac Expressway, Suite 320, Austin, TX 78759

## Project Information

1. Date(s) Geologic Assessment was performed: 3/26/25

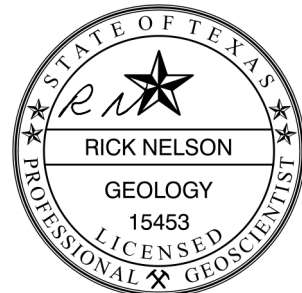
2. Type of Project:

☒ WPAP  
☐ SCS

☐ AST  
☐ UST

3. Location of Project:

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





4. ☒ **Attachment A - Geologic Assessment Table.** Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.
5. ☒ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups\* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

**Table 1 - Soil Units, Infiltration Characteristics and Thickness**

Soil Name	Group*	Thickness(feet)
Doss Sity Clay	D	0 -2
Eckrant Cobbly Clay	D	0-1

*\* 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" = 150'  
 Site Geologic Map Scale: 1" = 100'  
 Site Soils Map Scale (if more than 1 soil type): 1" = 100'
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.



## ATTACHMENT A -GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE										PSI 0435-6609										PROJECT NAME: Georgetown Airport Hangars, 4100 Airport Blvd., Georgetown, Tx									
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING											
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12									
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY									
	Decimal Degrees					X	Y	Z		10						<40	>40	<1.6	>1.6										
F-1	30.685689	-97.675137	Non-karst closed depression	5	Kdg	25	25	0.5						F	5	5	X		X		Hilltop								

\* DATUM:

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	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 (Pump in well)

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

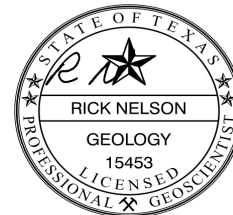
I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

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

Date 4/8/2025

Sheet 1 of 1

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





**ATTACHMENT B**  
**STRATIGRAPHIC COLUMN**

**Georgetown Airport Hangars**

4100 Airport Rd.

Georgetown, TX 78628

PSI Project No. 0435-6609

FORMATION	THICKNESS	LITHOLOGIC DESCRIPTION
<b>Del Rio Clay and Georgetown Formation</b> (undivided) (Kdg) <i>(out cropped onsite)</i>	Del Rio Clay (40-70 ft) Georgetown Formation (40-70 ft)	<b>Del Rio Clay:</b> calcareous and gypsiferous, blocky, medium gray. <b>Georgetown Formation:</b> mostly limestone with some marl, fine grained, nodular, light gray, hard, brittle.
<b>Edwards Limestone</b> (Ked) <i>(sub cropped onsite)</i>	(60-350 ft)	Limestone, dolomite, and chert: aphanitic to fine grained, massive to thin bedded, hard, brittle, medium gray to grayish brown, with solution zones.



# **ATTACHMENT C**

## **SITE GEOLOGIC NARRATIVE**

### **Regional Physiography**

From west to east, the two physiographic provinces in Williamson County are: the Edwards Plateau and the Blackland Prairie. The Edwards Plateau terrain is rugged and hilly, with elevations ranging from 800 feet to 1,400 feet above sea level. This area is underlain by beds of limestone that dip gently to the southeast. Southeast of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends north south across Williamson County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 400 feet to 800 feet above sea level. The faults are predominantly normal, down thrown-to-the Gulf Coast, with near vertical throws.

### **Site Geology and Soils**

The subject property lies on the far eastern Edwards Plateau. According to maps published by the University of Texas at Austin Bureau of Economic Geology in cooperation with the United States Geological Survey (USGS), no faults are mapped in the immediate proximity to the subject site.

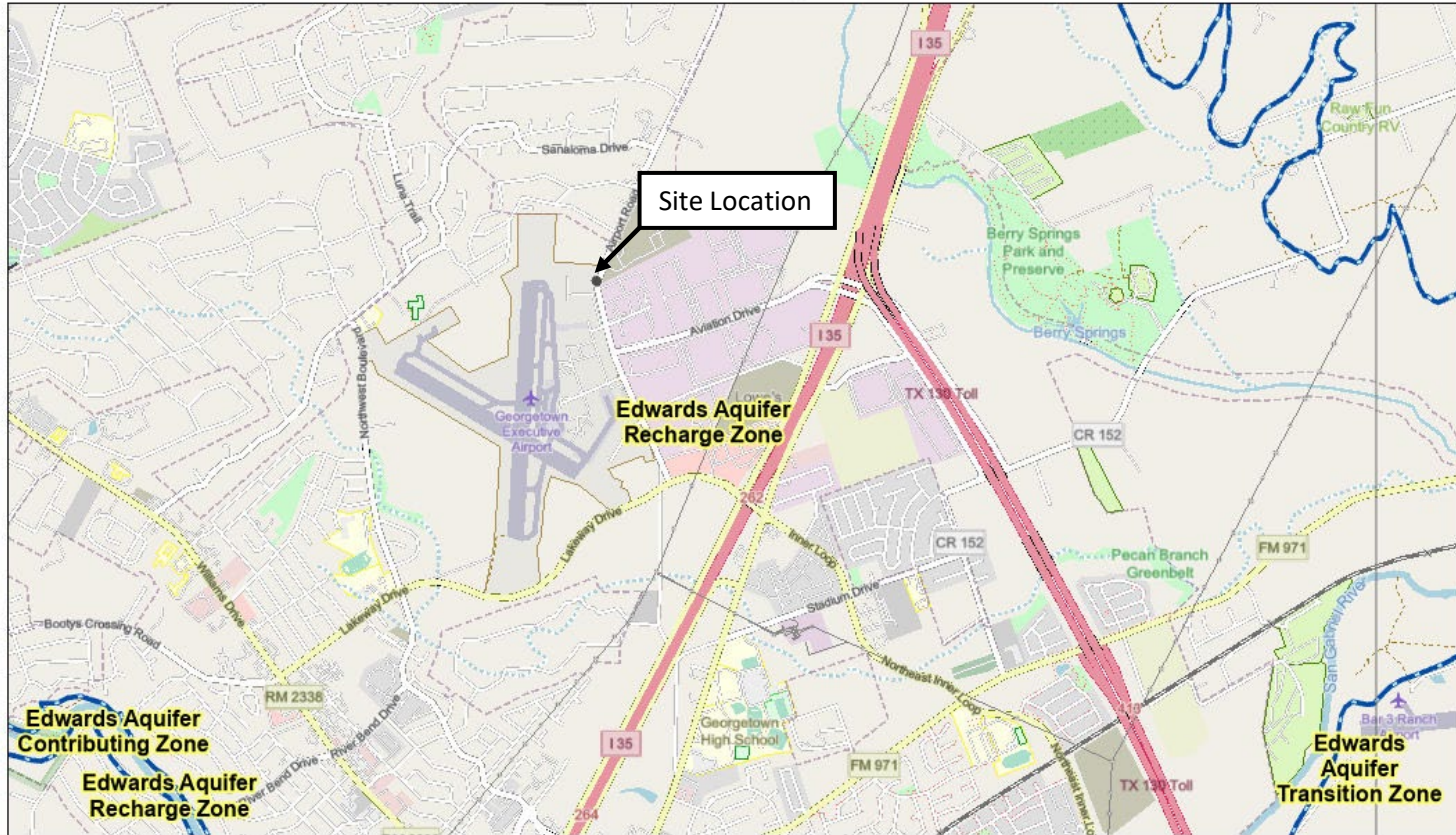
The surface geologic formations mapped at the site and exposed on the surface are the **Del Rio Clay and Georgetown Formation (undivided)**. The Del Rio Clay consists of a calcareous and gypsiferous, blocky, medium gray clay with beds of calcareous siltstone. The Georgetown Formation consists of mostly limestone with some marl, the limestone is fine grained and nodular, light gray in color, hard and brittle. The subject site is wholly mapped as located within the Edwards Aquifer recharge zone. Minor amounts of bedrock float limestone were observed within the site. The site is wholly covered in soil residuum material with grass cover and a few oak trees.

Soils at the subject property are mapped as Eckrant Cobbly clay, (1 to 8 percent slopes) and the Doss Silty Clay (1 to 5 percent slopes):

- The Eckrant series consists of well drained, moderately slowly permeable soils that are very shallow to shallow over indurated limestone bedrock. The soil does not meet hydric criteria.
- The Doss series consist shallow to weakly cemented limestone, well drained, moderately slow permeable soils that formed in calcareous loamy and clayey residuum derived from marls and limestone. The soil does not meet hydric criteria.

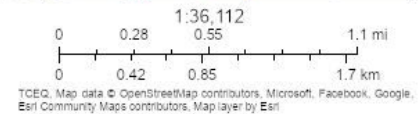


# 4100 Airport Rd., Georgetown, Texas



4/8/2025, 9:48:11 AM

Edwards Aquifer Label Edwards Aquifer Boundary central line  
 Edwards Aquifer Boundary TCEQ\_EDWARDS\_OFFICIAL\_MAPS



Web AppBuilder for ArcGIS  
 TCEQ | Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri



3 Burwood Lane  
 San Antonio, Texas 78216

Georgetown Airport Hangars  
 4100 Airport Rd.  
 Georgetown, TX 78628  
 PSI Project No. 0435-6609

ATTACHMENT D  
 Edwards Aquifer  
 Map





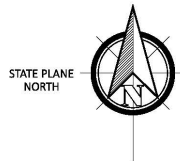
**AS-BUILT SURVEY OF APPROXIMATELY 7.3 ACRES OF LAND, MORE OR LESS, OUT OF THE  
DAVID WRIGHT SURVEY, ABSTRACT NO. 13, SITUATED IN WILLIAMSON COUNTY, TEXAS,  
BEING A PORTION OF THE TRACT DESCRIBED IN THE AFFIDAVIT IN VOLUME 2220, PAGE 227,  
OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS.**



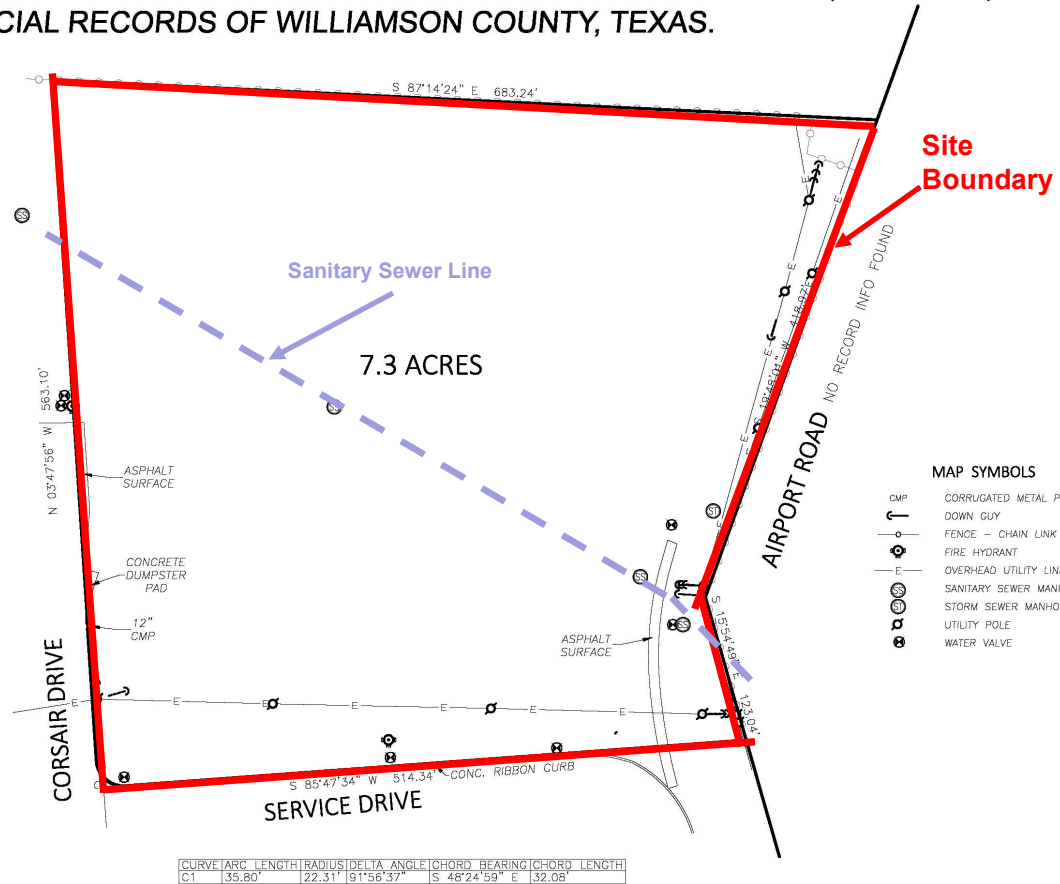
*Fred L. Dodd, Jr.*  
FRED L. DODD, JR. RPLS NO. 6392  
DATE: 09/29/2023 JOB NO. W023065

**NOTES:**

- 1) BEARING BASIS IS THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83, TEXAS CENTRAL ZONE, HAVING A COMBINED SCALE FACTOR OF 0.99985987.
- 2) MAPPING SYMBOLS MAY BE EXAGGERATED FOR CLARITY.
- 3) SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT. THERE MAY BE EASEMENTS, SETBACKS, OR OTHER MATTERS OF RECORD THAT EXIST NOT SHOWN HEREON.



0 80 160 240  
SCALE: 1 Inch = 80 Feet



3 Burwood Lane  
San Antonio, Texas 782156

**Georgetown Airport Hangars**  
4100 Airport Rd.  
Georgetown, TX 78628  
PSI Project No. 0435-6609

**ATTACHMENT D**  
**Site Plan**





Del Rio Clay and  
Georgetown Limestone  
(undivided)

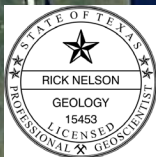
**Kdg**

**Kdg**

**Kdg**

**F-1**

Non-Karst Closed Depression



Site Boundary

0 50 100 ft  
Graphic Scale

**intertek**  
**psi**

3 Burwood Lane  
San Antonio, Texas 782156

**Georgetown Airport Hangars**  
4100 Airport Rd.  
Georgetown, TX 78628  
PSI Project No. 0435-6609

## **ATTACHMENT D** **Site Geologic Map**

*Source: Geologic Atlas of Texas  
Bureau of Economic Geology  
University of Texas, 1995*

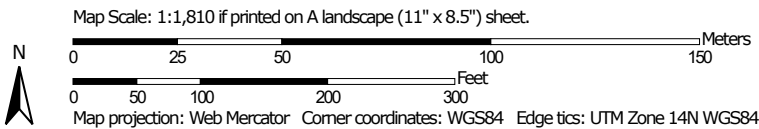
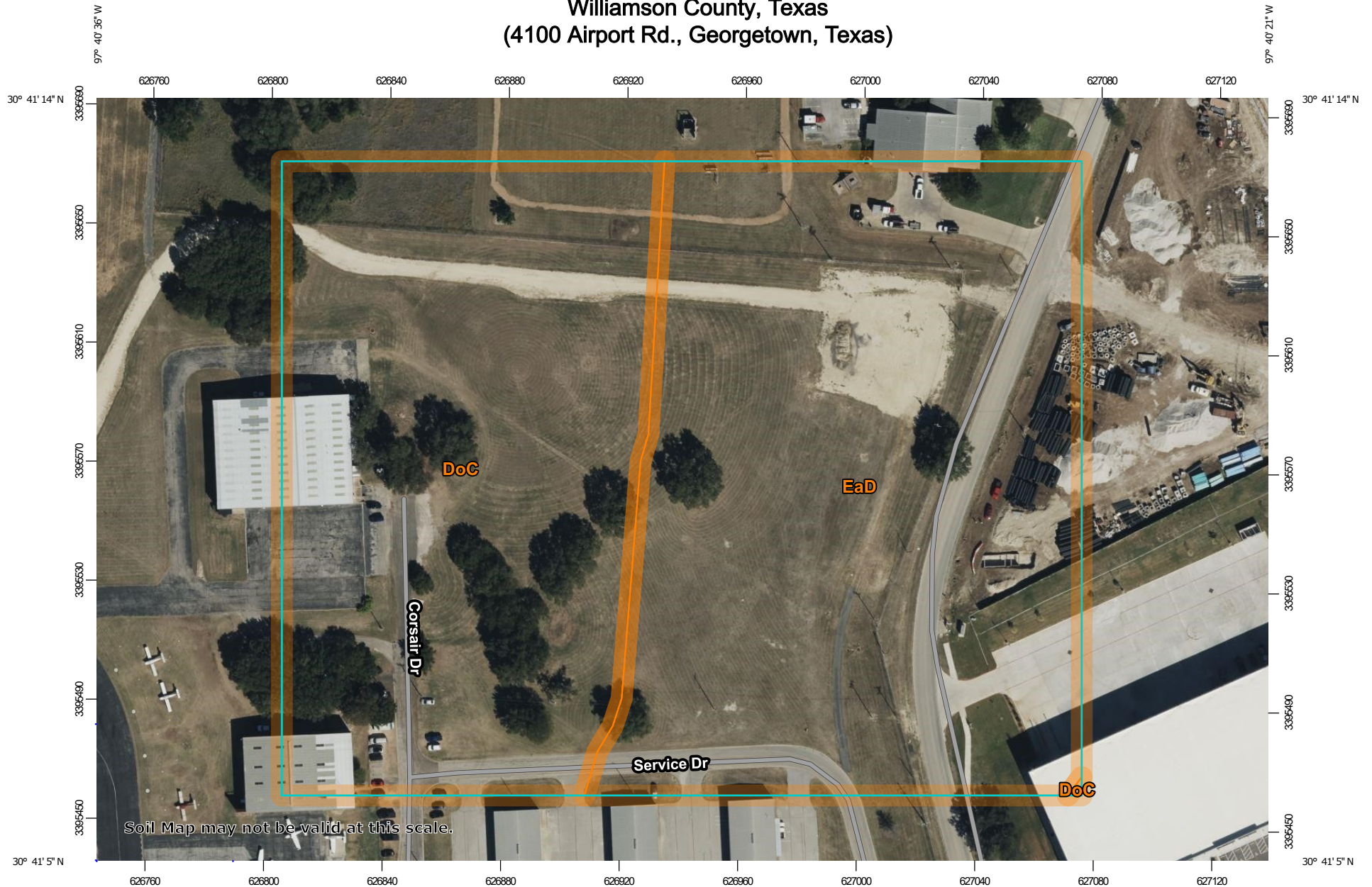




# Attachment D - Soil Type Map

## Williamson County, Texas

### (4100 Airport Rd., Georgetown, Texas)



**Natural Resources  
Conservation Service**


Web Soil Survey  
National Cooperative Soil Survey

4/8/2025  
Page 1 of 3




## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Williamson County, Texas

Survey Area Data: Version 25, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DoC	Doss silty clay, moist, 1 to 5 percent slopes	6.4	44.6%
EaD	Eckrant cobbly clay, 1 to 8 percent slopes	7.9	55.4%
<b>Totals for Area of Interest</b>		<b>14.3</b>	<b>100.0%</b>



**ATTACHMENT E**

**PHOTOGRAPHS**





1. View of property from the southeast property line



2. View of property from the northwest property line





3. View of property from the northeast property line



4. View of sanitary sewer line manhole on northwest corner





5. View of F-1 closed depression to the northwest



6. Closeup View of F-1 closed depression to the northwest





7. Cement pipe exposed in closed depression



8. Central portion view to the southeast



# 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.*

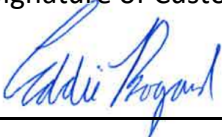
## Signature

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: Eddie Bogard, P. E.

Date: 04/15/2025

Signature of Customer/Agent:



Regulated Entity Name: Georgetown Airport Hangars

## Regulated Entity Information

1. The type of project is:

- ☐ Residential: Number of Lots: \_\_\_\_\_
- ☐ Residential: Number of Living Unit Equivalents: \_\_\_\_\_
- ☐ Commercial
- ☐ Industrial
- ☒ Other: Airport Hangars.

2. Total site acreage (size of property): 7.566

3. Estimated projected population: N/A

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



**Table 1 - Impervious Cover Table**

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	61,640	÷ 43,560 =	1.415
Parking	0	÷ 43,560 =	0
Other paved surfaces	77,044	÷ 43,560 =	1.768
Total Impervious Cover	138,687	÷ 43,560 =	3.183

**Total Impervious Cover 3.183 ÷ Total Acreage 7.566 X 100 = 42.08% 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<sup>2</sup> ÷ 43,560 Ft<sup>2</sup>/Acre = \_\_\_\_\_ acres.

10. Length of pavement area: \_\_\_\_\_ feet.

Width of pavement area: \_\_\_\_\_ feet.

L x W = \_\_\_\_\_ Ft<sup>2</sup> ÷ 43,560 Ft<sup>2</sup>/Acre = \_\_\_\_\_ acres.

Pavement area \_\_\_\_\_ acres ÷ R.O.W. area \_\_\_\_\_ acres x 100 = \_\_\_\_\_% impervious cover.

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

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



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

### ***Stormwater to be generated by the Proposed Project***

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

### ***Wastewater to be generated by the Proposed Project***

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

_____ % Domestic	_____ Gallons/day
_____ % Industrial	_____ Gallons/day
_____ % Commingled	_____ Gallons/day
TOTAL gallons/day <u>0</u>	

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 \_\_\_\_\_ (name) Treatment Plant. The treatment facility is:

☐ Existing.

☐ Proposed.

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

## **Site Plan Requirements**

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

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

Site Plan Scale: 1" = 40'.

18. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

☒ No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA Maps 48491C0291F (dated 12/20/2019)

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

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

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

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

☐ The wells are not in use and have been properly abandoned.

☐ The wells are not in use and will be properly abandoned.

☐ The wells are in use and comply with 16 TAC §76.

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

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

☐ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.

☒ No sensitive geologic or manmade features were identified in the Geologic Assessment.

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



- 22. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.
- 23. ☒ Areas of soil disturbance and areas which will not be disturbed.
- 24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
- 25. ☒ Locations where soil stabilization practices are expected to occur.
- 26. ☐ Surface waters (including wetlands).  
☒ N/A
- 27. ☐ Locations where stormwater discharges to surface water or sensitive features are to occur.  
☒ There will be no discharges to surface water or sensitive features.
- 28. ☒ Legal boundaries of the site are shown.

### ***Administrative Information***

- 29. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
- 30. ☒ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.



## **Attachment A – Factors Affecting Surface Water Quality**

The following are potential sources of surface and groundwater contamination from construction activities:

- Clearing and grubbing
- Grading and site excavation
- Vehicle tracking
- Topsoil stripping and stockpiling
- Landscaping operations
- Staging and storage area
- Paving
- Building Construction
- Concrete washout area



## **Attachment B – Volume and Character of Stormwater**

The existing site generates approximately 78.7 cfs flowing over 11.41 acres to a point of analysis northeast over 76% grass cover at roughly 1%. The runoff coefficient utilized for the existing site is 0.51.

The proposed development generates an approximate 78.10 cfs and has a required TSS removal of 85%. The runoff from the site is generated from the streets, building roofs, driveways, and other paved and impervious surfaces. The runoff coefficient utilized for the proposed site is 0.73. Flow is directed from the previously listed impervious structures and sent into catch basins to then be piped into the proposed batch detention pond. Afterwards, the flow will outfall into an existing ditch along Airport Road.



## **Site Plan**







# 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: Eddie Bogard, P. E.

Date: 04/16/2025

Signature of Customer/Agent:



Regulated Entity Name: Georgetown Airport Hangars

## 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: Granger Lake-Berry Creek

### ***Temporary Best Management Practices (TBMPs)***

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

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



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



- ☒ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.
11. ☒ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
- ☐ N/A
12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

## ***Soil Stabilization Practices***

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

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



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

### ***Administrative Information***

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



## Attachment A – Spill Response Actions

In accordance with the Edwards Aquifer Technical Guidance on Best Management Practices Operators, the following actions will be followed to ensure appropriate measures are taken in the case of a spill:

### Education

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

### General Measures

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



#### Cleanup

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

#### Minor Spills

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

#### Semi-Significant Spills

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

#### Significant/Hazardous Spills

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



Spills, Discharges, and Releases

- Report an environmental emergency, discharge, spill, or air release. Links to rules, law, technical assistance, waste management, State Emergency Response Commission.
- Please contact TCEQ emergencies for reportable quantities using the link below:  
[https://www.tceq.texas.gov/response/spills/spill\\_rq.html](https://www.tceq.texas.gov/response/spills/spill_rq.html)

To report an environmental emergency, discharge, spill, or air release, control:

State

- State of Texas Spill-Reporting Hotline and the SERC: 1-800-832-8224 --- 24 hours a day
- TCEQ Regional Office, Monday-Friday, 8 a.m. – 5 p.m.

Federal

- National Response Center: 1-800-424-8802 (notifying the NRC does not constitute to the state)



## **Attachment B – Potential Sources of Contamination**

The following are potential sources of surface and groundwater contamination from construction activities:

- Clearing and grubbing
- Grading and site excavation
- Vehicle tracking
- Topsoil stripping and stockpiling
- Landscaping operations
- Staging and storage area
- Paving
- Building Construction
- Concrete washout area



## Attachment C – Sequence of Major Activities

The following sequence of construction is included in the construction plans:

1. Temporary erosion controls, silt fencing and tree protection fencing to be installed.  
Estimated area disturbed = 7.57 ac  
Estimated timing = 1 week
2. Pre-construction meeting to be held on-site.  
Estimated area disturbed = n/a ac  
Estimated timing = 1 day
3. Demolition of existing materials.  
Estimated area disturbed = 7.57 ac  
Estimated timing = 6 weeks
4. Site staking and rough grading.  
Estimated area disturbed = 7.57 ac  
Estimated timing = 6 weeks
5. Storm sewers to be installed.  
Estimated area disturbed = 7.57 ac  
Estimated timing = 8 weeks
6. Water, wastewater and paving improvements to begin.  
Estimated area disturbed = 7.57 ac  
Estimated timing = 8 weeks
7. Temporary erosion control measures to be inspected on a regular basis; any sediment buildup to be removed.  
Estimated area disturbed = n/a  
Estimated timing = 1 week
8. Site to be cleaned up and revegetated.  
Estimated area disturbed = 7.57 ac  
Estimated timing = 6 weeks
9. Temporary erosion controls to be removed after permanent restoration of site is established.  
Estimated area disturbed = n/a  
Estimated timing = 1 week



## **Attachment D – Temporary Best Management Practices and Measures**

The following temporary best management practices will be conducted to prevent pollution of surface water, groundwater, and stormwater in accordance with the Edwards Aquifer Technical Guidance on Best Management Practices.

### Temporary Vegetation

Vegetation will be used as a temporary stabilization technique for areas disturbed by construction, but not covered by pavement, buildings, or other structures. As a temporary control, vegetation will be used to stabilize stockpiles and barren areas that are inactive for long periods of time.

### Dust Control

Dust control will prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards and improve traffic safety. This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

### Temporary Construction Entrance/Exit

The temporary gravel construction entrance will provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk, or parking area. The stabilized construction entrance will reduce or eliminate the tracking or flowing of sediment onto public rights of-way. This practice should be used at all points of construction ingress and egress.

### Silt Fence

A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. Proposed silt fences will be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out.

### Inlet Protection

All proposed inlets that may receive storm runoff from disturbed areas should be protected. Temporary inlet protection is a series of different measures that provide protection against silt transport or accumulation in storm sewer systems. This clogging can greatly reduce or completely stop the flow in the pipes. The different measures are used for different site conditions and inlet types. Filter barrier protection using silt fence is appropriate when the drainage area is less than one acre, and the basin slope is less than five percent. This type of protection is not applicable in paved areas. Block and gravel protection is used when flows exceed 0.5 cubic feet per second, and it is necessary to allow for overtopping to prevent flooding. This form of protection is also useful for curb type inlets as it works well in paved areas. Wire mesh and gravel protection is used when flows exceed 0.5 cubic feet per second and construction traffic may occur over the inlet. This form of protection may be used with both curb and drop inlets.



### Concrete Washout Area

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes: • Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.

- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

For onsite washout:

- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.



## **Attachment F – Structural Practices**

Stormwater will be routed through the proposed silt fence and inlet protection for pollutant removal. The proposed permanent BMPs are to be constructed to intercept stormwater flowing from the streets, building roofs, and other impervious areas. The silt fence will provide temporary sedimentation control during construction prior to the permanent BMPs being finalized. No part of the site or placement of the structural practices will be encumbered by floodplain as shown on FEMA #48491C0291F.



## **Attachment G – Drainage Area Map**











## **Attachment H – Temporary Sediment Pond Plans and Calculations**

Two rough-cut water quality batch detention ponds will be utilized for the temporary sedimentation removal on-site and is to be graded in accordance with the following plan sheet provided. Revegetation or placement of underdrain piping shall not be carried out until the site construction phase is complete.



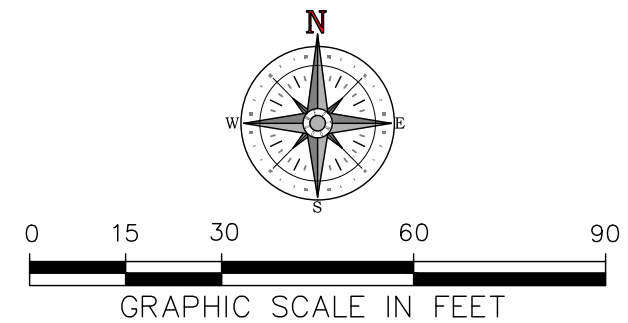




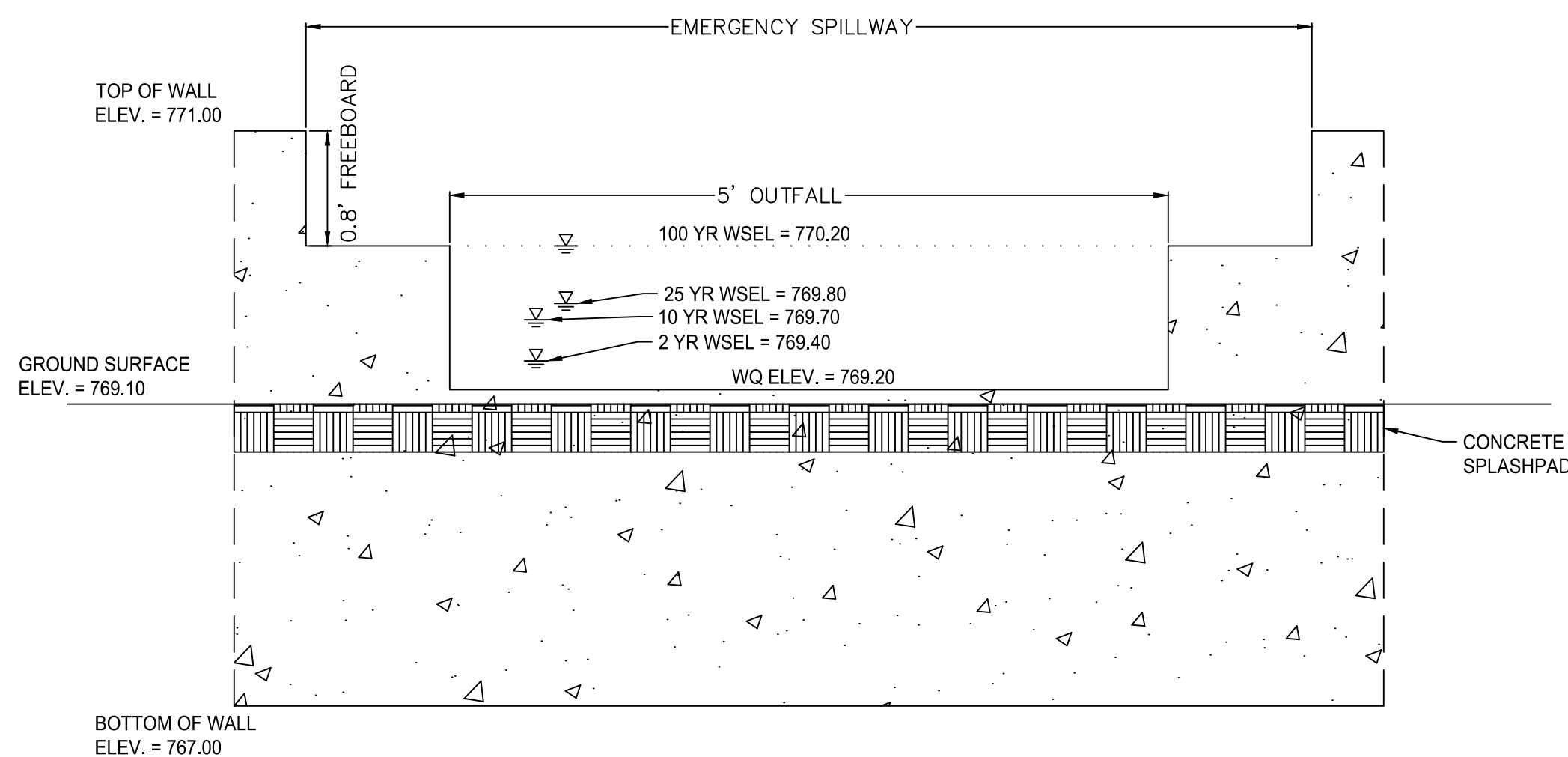
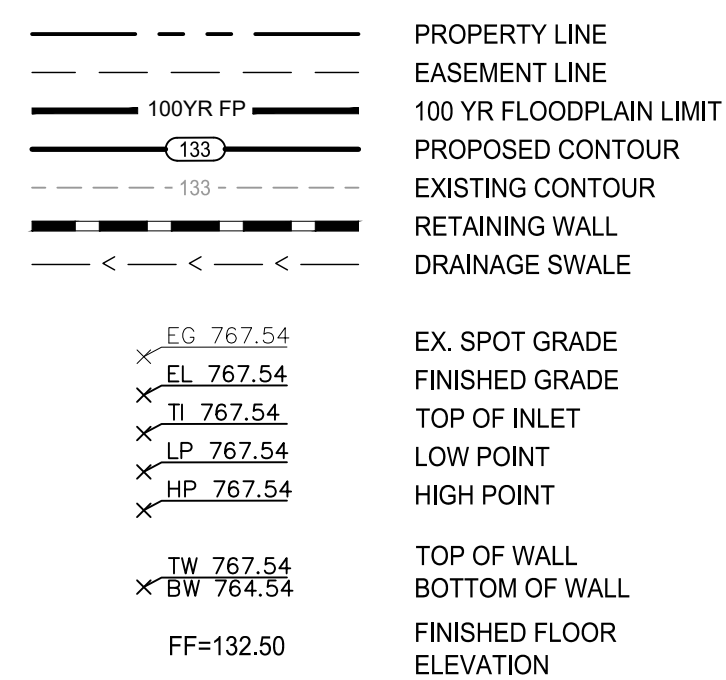
PROFILE: POND 2 A-A

PROFILE: POND 2 B-B

Water Surface Elevations	Peak Discharge (cfs)	Stage (ft msl)*	Area (sf)	Incremental Volume (cf)	Storage (cf)
		766.50		0.00	0.00
		767.00	4,662.40	424.00	1,279.95
		768.00	4,662.40	466.24	5,942.35
		768.50	4,662.40	466.24	8,273.54
		769.00	4,662.40	466.24	10,604.74
		769.10	4,662.40	466.24	11,070.98
WQE		769.20	4,662.40	466.24	11,537.22
		769.30	4,662.40	466.24	12,003.46
2 YR - WSE CFS	10.5	769.40	4,662.40	466.24	12,469.70
		769.50	4,662.40	466.24	12,935.94
		769.60	4,662.40	466.24	13,402.18
10 YR - WSE CFS	15.4	769.70	4,662.40	466.24	13,868.42
25 YR - WSE CFS	18.5	769.80	4,662.40	466.24	14,334.66
		769.90	4,662.40	466.24	14,800.90
		770.00	4,662.40	466.24	15,267.14
		770.10	4,662.40	466.24	15,733.38
100 YR - WSE CFS	23.6	770.20	4,662.40	466.24	16,199.62
		770.30	4,662.40	466.24	16,665.86
		770.40	4,662.40	466.24	17,132.10
		770.50	4,662.40	466.24	17,598.34
		771.00	4,662.40	466.24	19,929.54



## LEGEND



- NOTES:**
1. ALL PROPOSED AND EXISTING GRADES IN NON-PAVED AREAS ARE "FINISHED GRADE" (i.e. IN LANDSCAPE BEDS, TOP OF MULCH-BEDDING MATERIAL).
  2. CONTRACTOR SHALL FORM SIDEWALK AND VERIFY SLOPES PRIOR TO POURING CONCRETE. CONTRACTOR SHALL ENSURE THAT CROSS SLOPES AREA NO GREATER THAN 2% ALONG THE ACCESSIBLE ROUTE AND RUNNING SLOPE IS NOT GREATER THAN 5%, UNLESS THE RUNNING SLOPE MATCHES THE EXISTING STRIGHT SLOPE. IF ANY DISCREPANCY ARISES, CONTRACTOR SHALL CONTACT THE ENGINEER FOR SOLUTION.
  3. AREAS AROUND THE PERIMETER OF THE BUILDING(S) SHALL BE AT A POSITIVE SLOPE AWAY FROM THE BUILDING TO ENSURE PROPER DRAINAGE AWAY FROM THE FOUNDATION.
  4. THE CONTRACTOR MUST REFER TO THE GEOTECHNICAL REPORT, FOUNDATION PLANS, AND LANDSCAPE PLANS FOR 1) ALL BACKFILL AND COMPACTION REQUIREMENTS, 2) FOUNDATION WATER PROOFING AND 3) UNDERDRAINS AND LANDSCAPE DRAINS AROUND THE PERIMETER OF THE BUILDING(S).

## WEIR OUTFALL DETAIL POND 2

NOT TO SCALE



## **Attachment I – Inspection and Maintenance for BMPs**

The following inspection and maintenance guidelines for the temporary best management practices will be followed in accordance with the Edwards Aquifer Technical Guidance on Best Management Practices. Inspections of the Temporary BMPs will be documented in an inspection report. Inspection reports will document maintenance activities, sediment removal and modifications to the sediment and erosion controls.

### Temporary Vegetation

1. Temporary vegetation should be inspected weekly and after each rain event to locate and repair any erosion.
2. Erosion from storms or other damage should be repaired as soon as practical by regrading the area and applying new seed.
3. If the vegetated cover is less than 80%, the area should be reseeded.

### Dust Control

1. When dust is evident during dry weather, reapply dust control BMPs.

### Temporary Construction Entrance/Exit

1. Inspect all fencing weekly, and after any rainfall.
2. Remove sediment when buildup reaches 6 inches.
3. Replace any torn fabric or install a second line of fencing parallel to the torn section. (4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
4. When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

### Silt Fence

1. Inspect all fencing weekly, and after any rainfall.
2. Remove sediment when buildup reaches 6 inches.
3. Replace any torn fabric or install a second line of fencing parallel to the torn section.
4. Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
5. When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

### Inlet Protection

1. Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
2. Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
3. Check placement of device to prevent gaps between device and curb.
4. Inspect filter fabric and patch or replace if torn or missing.
5. Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.



Concrete Washout Area

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions, or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.



Inspection / Maintenance Completion - Summary

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Engineer: \_\_\_\_\_

Engineers Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Property Owner: \_\_\_\_\_

Batch Detention Pond

Monitoring / Maintenance Table

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Structural Repairs and Replacement												
Seasonal Mowing and Lawn Care (in)												
Debris and Litter Removal												
Sediment Removal												
Logic Controller												
Erosion Control												
Nuisance Control												
Completed By												
Date												

I hereby certify that the monitoring and maintenance of the Batch Detention Pond unit was completed in accordance with the directions of Batch Detention Pond inspection and maintenance plan.

\_\_\_\_\_  
(Signed by property owner or designee)



## **Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices**

Seeding of the disturbed areas will be on-going after completion of the rough grading process. Temporary seeding will be utilized until permanent landscaping is installed. Seeding will occur on any areas that are undisturbed for a period of 14 days. If construction progress is stopped for a period of 14 days, soil stabilization practices must be initiated by the contractor. Permanent landscaping will be provided as soon as final grades are achieved and the final paving and building operations are completed. Bare soils should be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days.



# 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)(li), (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: Eddie Borgard, P. E.

Date: 04/15/2025

Signature of Customer/Agent



Regulated Entity Name: Georgetown Airport Hangars

## Permanent Best Management Practices (BMPs)

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

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.  
☐ N/A
2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.  
☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.



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

☐ N/A

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

☐ N/A

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

☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.

☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.

☒ The site will not be used for low density single-family residential development.

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

☐ **Attachment A - 20% or Less Impervious Cover Waiver.** The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.

☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

☒ The site will not be used for multi-family residential developments, schools, or small business sites.

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



- ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.
- ☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.
- ☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.
7. ☒ **Attachment C - BMPs for On-site Stormwater.**
- ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.
- ☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.
8. ☒ **Attachment D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.
- ☐ N/A
9. ☐ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.
- ☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.
- ☐ **Attachment E - Request to Seal Features.** A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.
10. ☒ **Attachment F - Construction Plans.** All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:
- ☒ Design calculations (TSS removal calculations)
- ☒ TCEQ construction notes
- ☒ All geologic features
- ☒ All proposed structural BMP(s) plans and specifications
- ☐ N/A



11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:
- ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
  - ☒ Signed by the owner or responsible party
  - ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
  - ☐ A discussion of record keeping procedures
- ☐ N/A
12. ☐ **Attachment H - Pilot-Scale Field Testing Plan.** Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.
- ☒ N/A
13. ☐ **Attachment I - Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.
- ☒ N/A

### ***Responsibility for Maintenance of Permanent BMP(s)***

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

14. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.
- ☐ N/A
15. ☐ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.
- ☒ N/A



## **Attachment B – BMPs for Upgradient Stormwater**

There will be upstream surface waters running onto the site from the west. That flow will be split and will be conveyed along the northern boundary of the site and the southern boundary of the site. The offsite flow that will be conveyed along the southern boundary will not be detained nor treated with the proposed pond but will instead be diverted around the site via culverts and into the existing ditch along Airport Road. The offsite area that will be conveyed along the northern boundary will be detained and treated by a batch detention pond, then will outflow to the existing ditch along Airport Road. The proposed batch detention basins and all associated ESC practices are designed for the subject site. The proposed batch detention WQ Ponds will also be used to receive and treat onsite flows from stormwater coming from the proposed site.



## **Attachment C – BMPs for On-site Stormwater**

The Georgetown Airport Hangars Entity is proposing two batch detention basins based on 7.566 acres of contributing area, as well as the additional offsite flow, encompassing 42.08% of impervious cover across the site. The stormwater is diverted through impervious structures and piped into a batch detention basin and after that into an existing ditch along Airport Road. The batch detention basins have adequate water quality storage to account for the proposed development and acts as the primary treatment for TSS removal.



## **Attachment D – BMPs for Surface Streams**

The Georgetown Airport Hangars Entity is proposing two batch detention basins based on 7.566 acres of contributing area, as well as the additional offsite flow, encompassing 42.08% of impervious cover across the site. The stormwater is diverted through impervious structures and piped into a batch detention basin and after that into an existing ditch along Airport Road. The batch detention basins have adequate water quality storage to account for the proposed development and acts as the primary treatment for TSS removal. The aforementioned BMP will provide adequate measure to prevent pollutant removal from entering the aquifer. No surface streams or sensitive features are located on the site.

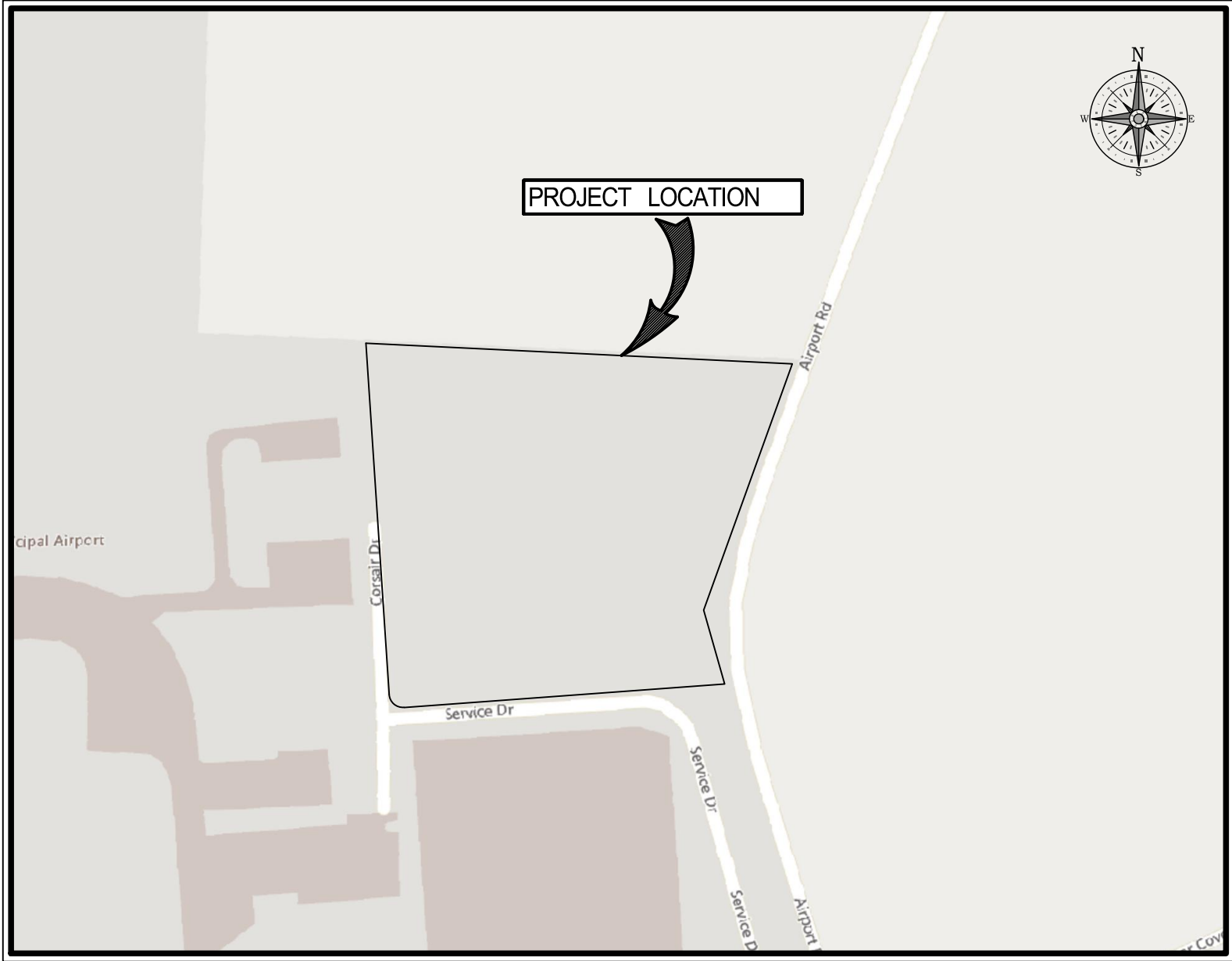


## **Attachment F – Construction Plans**



SITE DEVELOPMENT PLAN FOR  
GEORGETOWN AIRPORT HANGARS

600 SERVICE DRIVE  
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78626



LOCATION MAP  
SCALE : N.T.S.

REVISIONS/CORRECTIONS

NO.	DESCRIPTION	REVISE (R) ADD (A) VOID (V) SHEET NO.S	TOTAL # SHEETS IN PLAN SET	NET CHANGE TO IMP. COVER (sq. ft.)	TOTAL SITE IMP. COVER (sq. ft.) (%)	CITY OF GEORGETOWN APPROVAL/DATE	DATE IMAGED

DRAWING SHEET INDEX

SHEET	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	EXISTING CONDITIONS AND DEMOLITION PLAN
4	EROSION CONTROL PLAN
5	EROSION CONTROL DETAILS 1 OF 2
6	EROSION CONTROL DETAILS 2 OF 2
7	EXISTING DRAINAGE AREA MAP
8	PROPOSED DRAINAGE AREA MAP
9	ULTIMATE DRAINAGE AREA MAP
10	HYDRAULIC CALCULATIONS
11	DIMENSIONAL CONTROL AND STRIPING PLAN
12	GRADING PLAN
13	STORM SEWER PLAN
14	STORM SEWER DETAILS
15	POND 1 PLAN & PROFILE
16	POND 1 DETAIL 1 OF 3
17	POND 1 DETAIL 2 OF 3
18	POND 1 DETAIL 3 OF 3
19	POND 2 PLAN & PROFILE
20	POND 2 DETAIL
21	UTILITY PLAN
22	UTILITY DETAILS
23	PAVING PLAN
24	PAVING DETAILS
25	PLANTING NOTES & SCHEDULES
26	PLANTING PLAN
27	ARCHITECTURAL PLAN 1 OF 2
28	ARCHITECTURAL PLAN 2 OF 2
29	PHOTOMETRICS 1 OF 3
30	PHOTOMETRICS 2 OF 3
31	PHOTOMETRICS 3 OF 3
32	PHOTOMETRICS DETAILS

GENERAL NOTES:

1. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER, AND SUCCESSORS TO THE CURRENT PROPERTY OWNER, TO ENSURE THE SUBJECT PROPERTY AND ANY IMPROVEMENTS ARE MAINTAINED IN CONFORMANCE WITH THIS SITE DEVELOPMENT PLAN.
2. THIS DEVELOPMENT SHALL COMPLY WITH ALL STANDARDS OF THE UNIFIED DEVELOPMENT CODE (UDC), THE CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL, THE DEVELOPMENT MANUAL AND ALL OTHER APPLICABLE CITY STANDARDS.
3. THIS SITE DEVELOPMENT PLAN SHALL MEET THE UDC STORMWATER REQUIREMENTS.
4. ALL SIGNAGE REQUIRES A SEPARATE APPLICATION AND APPROVAL FROM THE INSPECTION SERVICES DEPARTMENT. NO SIGNAGE IS APPROVED WITH THE SITE DEVELOPMENT PLAN.
5. SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH THE UDC.
6. DRIVEWAYS WILL REQUIRE APPROVAL BY THE DEVELOPMENT ENGINEER OF THE CITY OF GEORGETOWN.
7. OUTDOOR LIGHTING SHALL COMPLY WITH SECTION 7.04 OF THE UDC.
8. SCREENING OF MECHANICAL EQUIPMENT, DUMPSTERS AND PARKING SHALL COMPLY WITH CHAPTER 8 OF THE UDC. THE SCREENING IS SHOWN ON THE LANDSCAPE AND ARCHITECTURAL PLANS, AS APPLICABLE.
9. THE COMPANION LANDSCAPE PLAN HAS BEEN DESIGNED AND PLANT MATERIALS SHALL BE INSTALLED TO MEET ALL REQUIREMENTS OF THE UDC.
10. ALL MAINTENANCE OF REQUIRED LANDSCAPE SHALL COMPLY WITH THE MAINTENANCE STANDARDS OF CHAPTER 8 OF THE UDC.
11. A SEPARATE IRRIGATION PLAN SHALL BE REQUIRED AT THE TIME OF BUILDING PERMIT APPLICATION.
12. FIRE FLOW REQUIREMENTS OF 3,750 GALLONS PER MINUTE ARE BEING MET BY THIS PLAN.
13. ANY HERITAGE TREE NOTED ON THIS SITE DEVELOPMENT PLAN IS SUBJECT, IN PERPETUITY, TO THE MAINTENANCE, CARE, PRUNING AND REMOVAL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE.
14. THE CONSTRUCTION PORTION OF THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
15. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
16. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE. WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER.
17. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.
18. THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.
19. A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON APRIL 10, 2025. NO SPRINGS AND STREAMS WERE IDENTIFIED IN THE GEOLOGIC ASSESSMENT.
20. PER UDC 12.09.030.A.1 TRAFFIC IMPACT ANALYSIS (TIA) SHALL BE PROVIDED FOR ANY SUBDIVISIONS OR SITE DEVELOPMENTS GENERATING TRAFFIC IN EXCESS OF OR CLOSE TO 2,000 AVERAGE DAILY TRIPS. THE AVERAGE DAILY TRIPS FOR THIS SITE PER ITE CODE 154 IS 154 DAILY TRIPS AND A (TIA) IS NOT REQUIRED.

TOTAL IMPERVIOUS COVER:  
EXISTING: 0.812 ACRES (10.73%)  
PROPOSED: 3.183 ACRES (42.08%)  
FUTURE: 0.000 ACRES (0.00%)  
TOTAL: 3.183 ACRES (42.08%)

FIRE DEPARTMENT:  
GEORGETOWN FIRE DEPARTMENT  
3500 DB WOOD RD.  
GEORGETOWN, TEXAS 78628  
(512) 930-3473

ELECTRICITY, WATER & WASTEWATER:  
GEORGETOWN UTILITY SYSTEMS  
300-1 INDUSTRIAL AVENUE  
GEORGETOWN, TX 78626  
(512) 930-3555  
HTTPS://GEORGETOWNTEXAS.GOV/UTILITIES/

LEGAL DESCRIPTION:  
AW0013 WRIGHT, D. SUR., ACRES 400.53, (AIRPORT)  
CITY OF GEORGETOWN

FLOODPLAIN INFORMATION:  
NO PORTION OF THIS SITE IS WITHIN THE BOUNDARIES OF THE 100 YEAR FLOODPLAIN AS THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 48491C0291F PROVIDED 12/20/2019. THERE ARE NO SPRINGS, STREAMS OR BUFFER ZONES LOCATED ON THE SUBJECT SITE.

PROPOSED USE:  
HANGARS

ZONING:  
IN (INDUSTRIAL DISTRICT)  
PUD ORDINANCE NO. 2005-75

ACREAGE:  
7.566 AC (329,580 SF)

OWNER

ERIC JOHNSON  
CITY OF GEORGETOWN  
ERIC.JOHNSON@GEORGETOWN.ORG

DEVELOPER

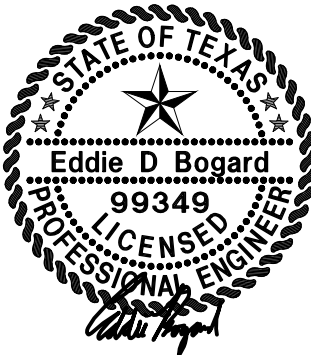
MIKE MARSH  
BOLIN STEGER HOMES, LLC  
PO BOX 767  
JARRELL, TEXAS 76537

ENGINEER

EDDIE BOGARD P.E.  
WESTWOOD PS  
8701 N MOPAC EXPY SUITE 320  
AUSTIN, TEXAS 78759

LANDSCAPE ARCHITECT

ELLEN ORCHARD  
WESTWOOD PS  
8701 N MOPAC EXPY SUITE 320  
AUSTIN, TEXAS 78759



PREPARED BY

Westwood  
Westwood Professional Services, Inc.

8701 NORTH MOPAC EXPY, SUITE 320 T: 512.485.0831  
AUSTIN, TX 78759 F: 888.937.5150

TBPELS ENGINEERING FIRM NO. 11756  
TBPELS SURVEYING FIRM NO. 10074301 westwoodps.com

STOP!  
CALL BEFORE YOU DIG  
TEXAS ONE CALL SYSTEM  
1-800-245-4545  
(@ least 48 hours prior to digging)

ISSUED FOR PRELIMINARY PRICING PURPOSES ONLY  
(SUBJECT TO REVISION PRIOR TO CONSTRUCTION)

THESE DOCUMENTS HAVE BEEN PREPARED BY THE ENGINEER WITH THE INTENT OF COMPLYING WITH ALL CITY STANDARD REQUIREMENTS. THESE DOCUMENTS HAVE NOT BEEN APPROVED AND RELEASED FOR CONSTRUCTION BY THE CITY AS OF THIS DATE AND, THEREFORE, REVISIONS MAY BE REQUIRED PRIOR TO CONSTRUCTION. BY ANY USE OF THESE DOCUMENTS, THE USER AFFIRMS THEIR UNDERSTANDING OF THE PRELIMINARY STATUS OF THE PLANS AND THE POTENTIAL FOR REVISION PRIOR TO ANY CONSTRUCTION.

April 2025

WPS PROJECT #: 0060255.00  
CITY PROJECT #: 2025-1-SDP



1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
- THE NAME OF THE APPROVED PROJECT;
  - THE ACTIVITY START DATE, AND
  - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
- ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
- IF ANY SENSITIVE FEATURES (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) ARE DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
- NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SURFACE, DISTRIBUTION WELL, OR SENSITIVE FEATURE.
- PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (EAS) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURER'S SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.
- SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN TCEQ 0592 (REV. JULY 15, 2010) PAGE 2 OF 6.
- IF IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
- LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE WHEN IT OCCURS 50% OF THE BASIN'S DESIGN CAPACITY.
- ALL SPILLS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER EAS CONTROL. FOR STORAGE OF SPILLS 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 SPILLS AT THE OTHER SITE.
- IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.
- THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
- THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR.
  - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
  - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
- THE HOLDER OF ANY APPROVED EDWARDS 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 POND, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND OVERSIGHTORY STRUCTURE(S).
  - 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.

- TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
GENERAL CONSTRUCTION NOTES
1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.50, THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST PROVIDE WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.
3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
- THE NAME OF THE APPROVED PROJECT;
  - THE ACTIVITY START DATE, AND
  - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
- ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL WILL REQUIRE THE SUBMITTAL OF AN AS/CS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.
- PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (EAS) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE PROPOSED PROTECTIVE MEASURES IN ORDER TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.
- SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 8 INCHES.
- BACKFILL PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA, S AND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BACKFILLED, IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.
- ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATER TIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 150 FEET, ALTERNATE MEANS OF GASKETING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE.
- THE MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER COUPLERS AND INVERTS DESCRIBED IN TAC §217.50 ARE NOT TO BE DEVIATED FROM. IF IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER, THE INCLUSION OF STEPS IN A WHOLE IS PROHIBITED.
- WHERE WATER LINES AND NEW SEWER LINES ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO THE INSTALLATION OF NEW SEWER LINES), THE REQUIREMENTS OF 30 TAC §217.50(D) (PIPE DESIGN) AND 30 TAC §206.44E (WATER DISTRIBUTION).
- WHERE SEWER LINES DEViate FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACCOMPLISHED BY THE FOLLOWING METHOD RECOMMENDED BY THE PIPE MANUFACTURER: N/A
- IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE N/A. SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC §217.54.

#### PAVING GENERAL NOTES

1. ALL DIMENSIONS ARE FROM BACK OF CURB UNLESS OTHERWISE NOTED.
- ALL CONCRETE SHALL CONFORM TO CITY OF GEORGETOWN STANDARDS, UNLESS OTHERWISE SHOWN ON THESE PLANS, STATED IN STANDARD CITY SPECIFICATIONS OR STATED IN TxDOT STANDARD SPECIFICATIONS.
- SUBGRADE PREPARATION IN RIGHT OF WAY SHALL CONFORM TO STANDARD CITY SPECIFICATIONS OR TxDOT STANDARD SPECIFICATIONS.
- ALL FILL PLACED DURING PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 8 INCH LIFTS, UNLESS OTHERWISE NOTED, OR STATED IN GEOTECH REPORT. REFER TO STRUCTURAL SPECIFICATIONS FOR FILL PLACED BENEATH BUILDING AREAS. ALL OTHER FILL AREAS TO BE COMPACTED TO 90% STANDARD PROCTOR.
- THE CONTRACTOR SHALL SUBMIT A JOINT SPACING PLAN TO THE ENGINEER FOR APPROVAL. EXPANSION JOINT SPACING SHALL BE 90' MAXIMUM EACH WAY WITH NO KEYWAYS AND SAVED DUMMY JOINTS SHALL BE UNLESS OTHERWISE NOTED.
- TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED AT THE END OF EACH DAY'S PAVING AND WHERE INTERRUPTIONS SUSPEND OPERATIONS FOR 30 MINUTES OR MORE.
- ALL PAVING TO BE REMOVED SHALL BE SAWCUT TO A NEAT LINE, MINIMUM 1-1/2" DEEP, AND THE PAVEMENT REMOVED IN SUCH A MANNER AS TO PRESERVE THE EXISTING TRANSVERSE REINFORCING STEEL TO THE MAXIMUM EXTENT POSSIBLE.
- ALL CURB AND GUTTER SHALL BE INTEGRAL WITH THE PAVEMENT AND HAVE THE SAME COMPRESSIVE STRENGTH.
- PAVEMENT REINFORCEMENT SHALL BE #3 BARS, SPACED AT 18 INCHES CENTER TO CENTER EACH WAY EXCEPT WHERE OTHERWISE NOTED IN THE PLANS OR GEOTECH REPORT.
- BAR LAPS SHALL BE 30 DIAMETERS IN LENGTH.
- ALL STRIPS SHALL BE 4 INCHES WIDE, UNLESS OTHERWISE NOTED.
- INSTALLATION AND PLACEMENT OF IRRIGATION SLEEVES AND UTILITY CONDUITS SHALL BE IN ACCORDANCE WITH LANDSCAPE ARCHITECT AND MEP PLANS. CONTRACTOR TO VERIFY ALL SLEEVES HAVE BEEN PLACED PRIOR TO PAVING BEING PLACED OVER THEM.
- SIDEWALKS AND ACCESSIBLE ROUTES SHALL HAVE A RUNNING SLOPE NO GREATER THAN 5% (UNLESS OTHERWISE NOTED) AND A CROSS SLOPE NO GREATER THAN 2%.

#### FIRE PROTECTION NOTES

1. APPROVAL OF THIS SITE PLAN DOES NOT IMPLY APPROVAL TO INSTALL UNDERGROUND FIRE LINES. PRIOR TO INSTALLATION OF UNDERGROUND FIRE LINES, A SEPARATE PERMIT SHALL BE SUBMITTED, UNDER GROUND FIRE LINE SUPPLY.
- BACKFLOW PROTECTION WILL BE PROVIDED IN ACCORDANCE WITH THE CITY OF GEORGETOWN REQUIREMENTS WHEN REQUIRED. BACKFLOW PROTECTION WILL BE INSTALLED IN ACCORDANCE WITH THE DETAIL PROVIDED IN THE UTILITY DRAWINGS.
- ALL PRIVATE FIRE LINES AND WHAT THEY PROVIDE SERVICE TO WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24 INSTALLATION OF PRIVATE SERVICE MAINS AND THEIR APPURTENANCES.
- ALL TEES, PLUGS, CAPS, BENDS, REDUCERS, VALVES SHALL BE RESTRAINED AGAINST MOVEMENT. THRUST BLOCKING WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24.
- ALL UNDERGROUND SHALL REMAIN UNCOVERED UNTIL A VISUAL INSPECTION IS CONDUCTED BY THE GEORGETOWN FIRE MARSHAL'S OFFICE (FMO). ALL JOINTS AND THRUST BLOCKING SHALL BE UNCOVERED FOR VISUAL INSPECTION.
- ALL UNDERGROUND SHALL PASS A HYDROSTATIC TEST WITNESSED BY GEORGETOWN FMO. ALL JOINTS SHALL BE UNCOVERED FOR HYDROSTATIC TESTING. ALL PIPING AND ATTACHMENTS SUBJECTED TO SYSTEM WORKING PRESSURE SHALL BE TESTED AT 200 PSI, OR 50 PSI IN EXCESS OF THE SYSTEM WORKING PRESSURE, WHICHEVER IS GREATER, AND SHALL MAINTAIN THAT PRESSURE + OR - 5 PSI FOR 2 HOURS.
- FENCES, LANDSCAPING AND OTHER ITEMS WILL NOT BE INSTALLED WITHIN 3 FT. AND WHERE THEY WILL OBSTRUCT THE VISIBILITY OR ACCESS TO HYDRANTS, OR REMOVE FDGS.
- LICENSE REQUIREMENTS OF EITHER RMEJL OR G. WHEN CONNECTING BY UNDERGROUND TO THE WATER PURVEYORS MAIN FROM THE POINT OF CONNECTION OR VALVE WHERE THE PRIMARY PURPOSE OF WATER IS FOR FIRE PROTECTION SPRINKLER SYSTEM.

12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION AT THE TIME OF ORIGINAL CONSTRUCTION. NEW STUB OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.
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- IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET \_\_\_\_ OF \_\_\_\_ FOR POTENTIAL FUTURE LATERALS.
- THE PRIVATE SERVICE LATERAL, STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET \_\_\_\_ OF \_\_\_\_ AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET \_\_\_\_ OF \_\_\_\_.
13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSIES 8A, 1B, 18, OR ILL. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C-12 (ANSI A-10.2) CLASSIES A, B OR C.
14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS PLANS AND MANUFACTURER'S SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS TO VERIFY THAT THE TESTS MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING MUST BE DONE AS FOLLOWS:
- (A) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN DIRECTOR, EXCEPT AS TO TESTING TIMES OR A LOW-PRESSURE AIR TEST, A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:
- (1) LOW PRESSURE AIR TEST.
- (2) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR.
- (3) EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUIATION C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.
- (B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 10' LONG NOT BEING INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY. UNLESS A PIPE IS TO BE USED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBPARAGRAPH, THE FOLLOWING PROCEDURE MUST BE USED:
- (1) A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE.
- (2) ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP TO 1 PSI MUST BE 2 HOURS.
- (3) COMPUTED FROM THE FOLLOWING EQUATION:
- $$T = \frac{0.085 \times D \times K}{Q}$$
- WHERE:
- T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS
  - K =  $0.000419 \times D \times L$ , BUT NOT LESS THAN 1.0
  - L = AVERAGE INSIDE PIPE DIAMETER IN INCHES
  - D = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET
  - Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE
- (C) SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING TABLE C.3.

PIPE DIAMETER (INCHES)	PIPE (SECONDS)	MAXIMUM LENGTH FOR MINIMUM TIME (FEET)	TIME FOR LONGER LENGTH (SECONDS)
6	340	400	1,520
8	454	498	1,920
10	487	539	2,080
12	680	759	3,410
15	850	159	5,340
18	1,020	187	7,420
21	1,180	114	10,470
24	1,360	100	13,670
27	1,520	88	17,300
30	1,700	80	21,360
33	1,870	72	25,850

- (A) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME.
- (B) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.
- (C) WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF THE PROCEDURE OUTLINED IN THIS SECTION.
- (D) A TESTING PROCEDURE MAY BE USED WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.
- (E) INFLATATION/EXFILTRATION TEST.
- (F) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.
- (G) AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN THE AREAS INSTALLED BELOW THE GROUNDWATER LEVEL.
- (H) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL.
- (I) FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (G) OF THIS PARAGRAPH.
- (J) THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE TCEQ 0599 (REV. JULY 15, 2010) PAGE 6 OF 6
- THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED, AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.
- (K) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:
- (1) FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENTS REQUIRES A RIGID MANDEREL.
- (2) MANDEREL SIZING.
- (A) A RIGID MANDEREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN THE OD OF THE BASE PIPE AND THE INSIDE DIAMETER (ID) OF ANY PORTION OF PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTM, AMERICAN WATER WORKS ASSOCIATION, UNELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED AGENCY.
- (B) IF A MANDEREL SIZING MANDEREL IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDEREL MUST HAVE AN OD EQUAL TO 10.8% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDEREL, MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER OF THE MANHOLE.
- (C) THE MANDEREL SHALL BE CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.
- (D) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.
- (E) MANDEREL DESIGN.
- (F) A RIGID MANDEREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.
- (G) A MANDEREL MUST HAVE NINE OR MORE ODD NUMBER OR RUNNERS OR LEGS.

- (H) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.
- (I) EACH SIZE MANDEREL MUST USE A SEPARATE PROVING RING.
- (J) METHOD OPTIONS.
- (A) AN ADJUSTABLE OR FLEXIBLE MANDEREL IS PROHIBITED.
- (B) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.
- (C) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDEREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.
- (D) FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.
- (E) A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% OF THE DEFLECTION.
- (F) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.
- (G) GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).
- (H) IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.
- (I) ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.
- (J) ALL MANHOLES MUST PASS A LEAKAGE TEST.
- (K) AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE.
- (L) SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION.
- (M) TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.
- (N) HOT MIX ASPHALTIC CONCRETE PAVEMENT SHALL BE 0 INCHES UNLESS OTHERWISE SPECIFIED AND SHALL BE A MINIMUM OF 2 INCHES THICK ON PUBLIC STREETS AND ROADWAYS.
- (O) ALL SIDEWALK RAMPS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE.
- (P) A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVEMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEARS IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
- (Q) RECORD DRAWINGS OF PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO THE START OF CONSTRUCTION. THESE DRAWINGS SHALL BE ON MYLAR OR ON TIFF OR PDF DISK (300DPI). IF A DISK IS SUBMITTED, A BOND SET SHALL BE INCLUDED WITH THE DISK.

#### GRADING & DRAINAGE GENERAL NOTES

1. UNLESS NOTED, ALL FILL IS TO BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY WITHIN 3% OF OPTIMUM MOISTURE CONTENT. FILL TO BE PLACED IN MAXIMUM LIFTS OF 6 INCHES.
2. SIDEWALKS AND ACCESSIBLE ROUTES SHALL HAVE A RUNNING SLOPE NO GREATER THAN 5% (UNLESS OTHERWISE NOTED) AND A CROSS SLOPE NO GREATER THAN 2%.
3. GRADING OF ALL HANDICAPPED SPACES AND ROUTES TO CONFORM TO FEDERAL, STATE, AND LOCAL GUIDELINES.
4. ALL PROPOSED AND EXISTING GRADINGS IN NON-PAVED AREAS ARE "FINISHED GRADE" (I.E. IN LANDSCAPE BEDS, TOP OF MULCHBEDDING MATERIAL).
5. UNLESS NOTED, STORM DRAINAGES SHALL BE OF THE FOLLOWING MATERIALS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS:
- 5.A. RCP C-76, CLASS III
  - 5.B. ADS A-12
  - 5.C. HANCOCK HI-Q
  - 5.D. CONTECH ALUMINIZED ULTRA FLOW
  - 5.E. LANE ENTERPRISES HOPE OR APPROVED EQUAL
6. UNLESS NOTED, FORM STRUCTURES TO BE "FORTIERA PIPE AND PRECAST" SIZED AS SHOWN, OR APPROVED EQUAL.
7. FINAL PAVING, CURB, AND SIDEWALK ELEVATIONS WILL BE PLACED AT PLUS OR MINUS 0.03 FOOT.
8. REFER TO LANDSCAPE SPECIFICATIONS FOR SEEDING AND SODDING REQUIREMENTS.
9. TRENCH BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF CITY OF GEORGETOWN STANDARDS AND SHALL BE MECHANICALLY COMPACTED IN 6-INCH LIFTS TO THE TOP OF SUBGRADE TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY IN ACCORDANCE WITH CITY OF GEORGETOWN STANDARDS UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
10. EMBEDMENT SHALL CONFORM TO THE REQUIREMENTS OF CITY OF AUSTIN ITEM 510 UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
11. AROUND MANHOLE COVER MEETING CITY SPECIFICATIONS SHALL BE PLACED IN ALL INLET TOPS NEAR THE OUTLET PIPE.
12. ALL CONCRETE FOR INLETS AND DRAINAGE STRUCTURES SHALL CONFORM TO CITY OF GEORGETOWN, CLASS "A" (40 PSI) UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN STANDARD CITY SPECIFICATIONS.
13. CRUSHED STONE BEDDING OR APPROVED EQUAL SHALL BE PROVIDED BY THE CONTRACTOR WHEN ROCK IS ENCOUNTERED IN TRENCHES. THERE SHALL BE NO ADDITIONAL PAY ITEM FOR CRUSHED STONE BEDDING.
14. IF REQUIRED DUE TO CONSTRUCTION, POWER POLES TO BE BRACED OR RELOCATED AT CONTRACTOR'S EXPENSE.

#### WATER & SANITARY SEWER GENERAL NOTES

1. ALL CONCRETE SHALL BE CLASS "A" (3000 PSI), UNLESS OTHERWISE NOTED.
2. ALL WATER MAINS SHALL BE PVC C900, DR 18, CLASS 235. FIRE PROTECTION SERVICES SHALL BE PVC C900, DR 14, CLASS 305 AND INSTALLED IN ACCORDANCE WITH THE DESIGN AND SPECIFICATIONS OF THE FIRE PROTECTION PLANS TO BE PREPARED BY A LICENSED FIRE PROTECTION CONTRACTOR.
3. WATER AND SANITARY SEWER SERVICES SHALL MEET PLUMBING CODE REQUIREMENTS.
4. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 48 INCHES BELOW IMPROVED FINISHED GRADE, UNLESS OTHERWISE NOTED.
5. SANITARY SEWER PIPE SHALL BE PVC SDR-35.
6. WATER AND SANITARY SEWER MAINS SHALL REMAIN UNDER THE CURB LINE AT A DEPTH OF 12 INCHES. WHERE THE NINE FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE FOLLOWING TCEQ CHAPTERS SHALL APPLY:
- 6.A. TCEQ CHAPTER 217.53 PIPE DESIGN, SECTION (d) SEPARATION DISTANCES.
  - 6.B. TCEQ CHAPTER 290.44 WATER DISTRIBUTION, SECTION (e) LOCATION OF WATERLINES.
- CONTRACTOR TO VERIFY ALL EXISTING SEWER FLOW LINES BEFORE BEGINNING CONSTRUCTION.
7. TRENCH BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF CITY OF GEORGETOWN STANDARDS AND SHALL BE MECHANICALLY COMPACTED IN 6-INCH LIFTS TO THE TOP OF SUBGRADE TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY IN ACCORDANCE WITH CITY OF GEORGETOWN STANDARDS UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
8. EMBEDMENT SHALL CONFORM TO THE REQUIREMENTS OF NCTCOG ITEM 504.5 UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
9. VALVE BOXES SHALL BE FURNISHED AND SET ON EACH GATE VALVE. AFTER THE FINAL CLEAN-UP AND ALIGNMENT HAS BEEN COMPLETED, THE UTILITY CONTRACTOR SHALL POUR A 24"x24"x6" CONCRETE.
10. CONTRACTOR SHALL RECONNECT ALL EXISTING SERVICES AND MAINTAIN EXISTING SERVICES THROUGHOUT CONSTRUCTION.
11. IF REQUIRED DUE TO CONSTRUCTION, POWER POLES TO BE BRACED OR RELOCATED AT CONTRACTOR'S EXPENSE.

#### DEMOLITION GENERAL NOTES

1. CONTRACTOR IS TO REVIEW ALL GENERAL NOTES PRIOR TO BEGINNING WORK.
2. REMOVE ALL EXISTING PAVEMENT AND STRUCTURES WITHIN THE LIMITS OF DEMOLITION UNLESS OTHERWISE NOTED.
3. SAWCUT AND REMOVE ALL EXISTING DRIVE APPROACHES (WITHIN THE LIMITS OF DEMOLITION) TWO FEET FROM BACK OF CURB. SIDEWALKS, PAVEMENT, AND UTILITIES WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO REMAIN UNLESS OTHERWISE NOTED.
4. CONSULT THE DIMENSIONAL CONTROL PLAN. VERIFY THE PORTION OF EXISTING CONCRETE CURBS AND PAVEMENT WHICH ARE TO REMAIN.
5. COORDINATE WITH LOCAL POWER, TELEPHONE, CABLE, AND GAS COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF EXISTING UTILITIES.
6. ALL UTILITIES SHOULD BE CUT AND PLUGGED IN ACCORDANCE WITH THEIR RESPECTIVE UTILITY COMPANY REQUIREMENTS AND PRIOR TO DEMOLITION OF THE EXISTING BUILDINGS.
7. CONTRACTOR TO PLUG ALL EXISTING EXPOSED ENDS OF ABANDONED UTILITIES.
8. CONTRACTOR TO DETERMINE SOURCE OF ALL EXPOSED UTILITIES, AND IF REQUIRED, RECONNECT TO PROPOSED UTILITIES.
9. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND LEGAL DISPOSAL OF ALL THE UNSUITABLE MATERIALS FROM THE PROJECT SITE. CONTRACTOR SHALL CONTACT ALL LOCAL AUTHORITIES TO DETERMINE DISPOSAL REQUIREMENTS.
10. ALL TREES ON THE PROPERTY SHALL BE PROTECTED AGAINST DAMAGE DURING DEMOLITION OPERATIONS UNLESS OTHERWISE NOTED. THE TREE PROTECTION SHALL BE PLACED AROUND TREES PRIOR TO ANY DEMOLITION OR GRADING. CONTRACTOR SHALL SUBMIT TO TEXAS DEPARTMENT OF TRANSPORTATION PLANS FOR TREE REMOVAL AND PRESERVATION DETAILS.
11. ANY DAMAGE DONE TO EXISTING TREE CROWNS OR ROOT SYSTEMS SHALL BE REPAIRED IMMEDIATELY BY AN APPROVED TREE SURGEON AT THE OWNER'S DIRECTION. ROOTS EXPOSED AND/OR DAMAGED DURING DEMOLITION AND/OR GRADING OPERATIONS SHALL BE CUT OFF CLEANLY INSIDE THE EXPOSED OR DAMAGED AREA, CUT SURFACES PAINTED WITH AN APPROVED TREE TREAT, AND TOPSOIL AND MULCH PLACED OVER THE EXPOSED ROOT AREA IMMEDIATELY.
12. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING EROSION CONTROL MEASURES ON THE SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS UNTIL THE SITE HAS BEEN STABILIZED.
13. CONTRACTOR IS RESPONSIBLE FOR GRADING ALL DISTURBED AREAS TO ALLOW FOR POSITIVE DRAINAGE. GRADING SLOPES ARE NOT TO EXCEED 3:1.
14. AREAS EXCAVATED FOR POSITIVE DRAINAGE SHALL BE BACKFILLED WITH A MINIMUM OF 95% STANDARD PROCTOR DENSITY.
15. CONTRACTOR IS RESPONSIBLE FOR SECURITY OF THE SITE DURING DEMOLITION ACTIVITIES AND UNTIL SUBSTANTIAL COMPLETION.
16. ALL WORK, UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ISSUED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS AND CITY STANDARD CONSTRUCTION SPECIFICATIONS.
17. THE HORIZONTAL AND VERTICAL LOCATION OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL UTILITY MAINS, MANHOLES, CLEANOUTS, VALVE BOXES, AND FIRE HYDRANTS, ETC. IN THE AREA OF DEMOLITION.
18. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING TRENCH SAFETY.
19. BARRELS OF PRIVATE FIRE HYDRANTS SHALL BE TESTED ANNUALLY AND SHALL BE COLOR CODED TO INDICATE THE EXPECTED FIRE FLOW FROM THE HYDRANT DURING NORMAL OPERATION. SUCH COLOR APPLIED TO THE FIRE HYDRANT BY PAINTING THE BONNET THE APPROPRIATE COLOR AS THE EXPECTED FLOW CONDITION.
20. C. HYDRANT FLOW CODING STANDARDS.
21. FLOW GREATER THAN 1500 GPM BLUE
22. 1000 TO 1500 GPM GREEN
23. 500 TO 999 GPM ORANGE
24. LESS THAN 500 GPM RED
25. NOT WORKING BLACK OR BAGGED

#### ADJUSTED FIRE FLOW TEST RESULTS

RESIDUAL HYDRANT ID NUMBER: XXXXXXXX  
FLOW HYDRANT ID NUMBER: XXXXXXXX  
WATER MAIN SIZE: 12"  
ADJUSTED STATIC PRESSURE PSI: 51.19 PSI  
ADJUSTED RESIDUAL PRESSURE PSI: 43.19 PSI  
ADJUSTED FLOW AT 20PSI: 1922 GPM



Georgetown Fire Department  
3500 DB Westwood  
Georgetown, Texas 78628  
512-830-3473  
Fax: 512-450-3987

Water Flow Test Report									
LOCATION	800 Service Dr					TEST DATE: 1/27/2025			
TEST BY:	Capital Hydrant					TIME: 12:00 AM			
WATER SUPPLIED BY:	COG								
PURPOSE OF TEST:	Fire flow test					MAIN SIZE:			
FLOW HYDRANT(S)									
SIZE OPENING:	A1 2.5		A2 2.5		A3 2.5				
COEFFICIENT:	0.9		0.9		0.9				
PITOT READING:	34		0		0				
GPM:	978		0		0				
TOTAL FLOW DURING TEST:	978 GPM		ADJ. TOTAL FLOW:		922				
TOWER LEVEL @ TIME OF TEST:	130.22		TOWER LOW		121.45				
STATIC READING:	55 PSI		RESIDUAL:		47 PSI				
ADJ. STATIC:	51.19 PSI		ADJ. RESIDUAL:		43.19 PSI				
ADJ. FLOW:	922 GPM		ADJ. PITOT:		30.19		0.00		0.00
	FLOW AT 20 PSI RESIDUAL		1922 GPM		TOTAL FLOW AT 0 PSI		2512 GPM		









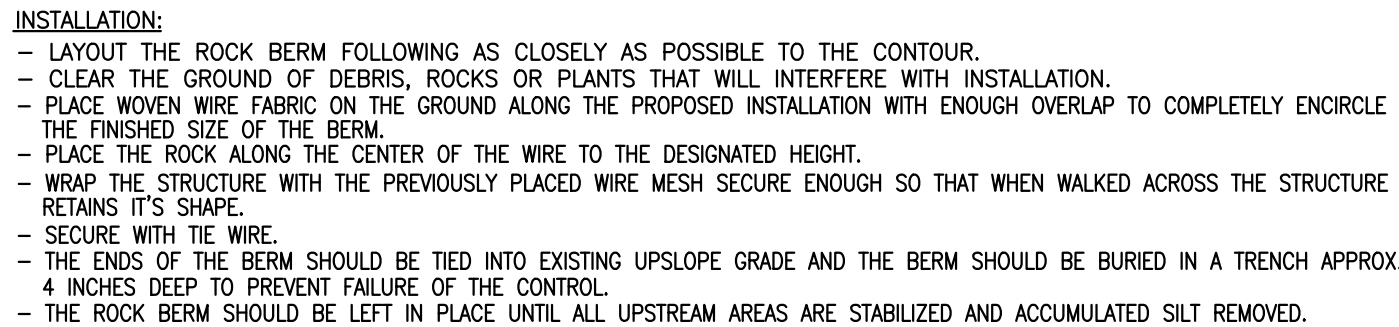


1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO PROVIDE EROSION/SEDIMENTATION CONTROL PLAN AND THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARDS' AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. EROSION/SEDIMENTATION POSITION ABATEMENT PLAN, DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF 10% EXCESS SEED. SEED SHALL BE PLANTED AT A RATE OF 100 LBS PER ACRE. SEED SHALL BE PLANTED AT A MINIMUM 82% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, AND SHALL BE TREATED WITH AN INERT FUNGICIDE. TIME OF MIXING, SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS TO THE DEALER'S QUANTITY ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. ALL PLANTED AREAS TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES, THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE GROWING SEASON. IF THERE IS NO RAINFALL FOR 10-DAYS, THE GRASS, RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95% COVERAGE.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRUPINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLASTIC TO PROTECT THE TRUNK. (6) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLASTIC TO PROTECT THE TRUNK. (8) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLASTIC TO PROTECT THE TRUNK. (10) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLASTIC TO PROTECT THE TRUNK. ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION MUST BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO THE STANDARDS AND PROCEDURES OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES).
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A RAINFALL EXCEEDING 1/4 INCH SHALL BE REMOVED. IN THE EVENT OF A SIGNIFICANT DISTURBANCE, THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS A SIGNIFICANT DISTURBANCE TO THE EROSION/SEDIMENTATION CONTROLS, THE CONTRACTOR SHALL DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4') BELOW THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING ON OTHER PROJECTS. OWNERS, CONTRACTORS, REPRESENTATIVE, AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED MUST BE REPAIRED AT OWNER'S EXPENSE.
20. INTENTIONAL RELEASE OF ANY OIL OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.



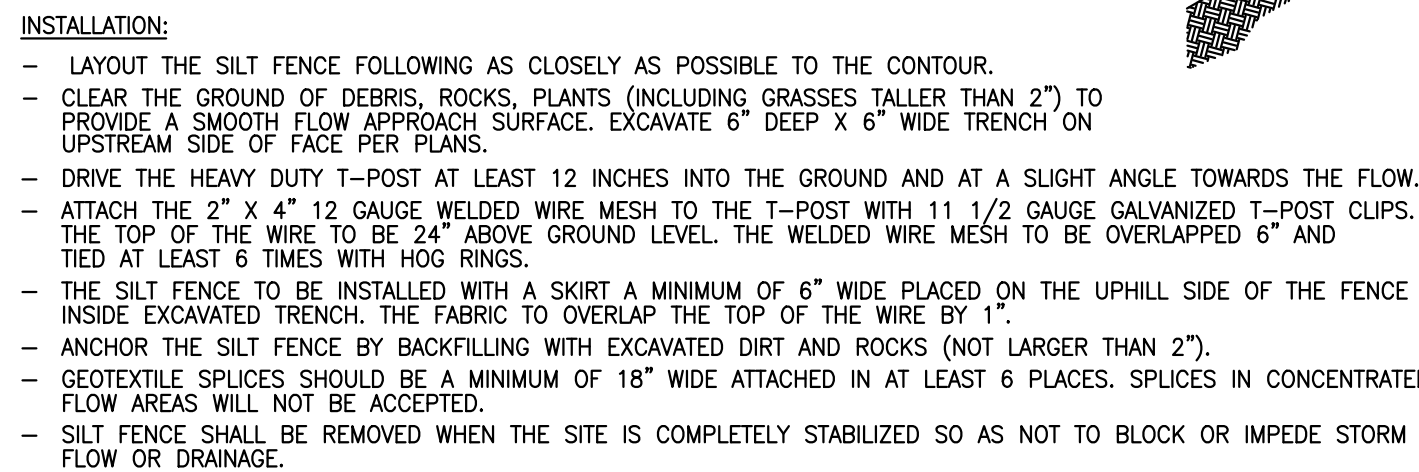
EST. 1848  
**GEORGETOWN**  
**TEXAS**  
Georgetown Utility Systems

REVISION NOTE: <b>ADOPTED 6/21/2006</b>	
DRAWING NAME: <b>EC01A</b>	
SCALE: <b>NTS</b>	DATE: <b>1/2003</b>
DRAWN BY: <b>MRS</b>	APPROVED BY: <b>TRB</b>



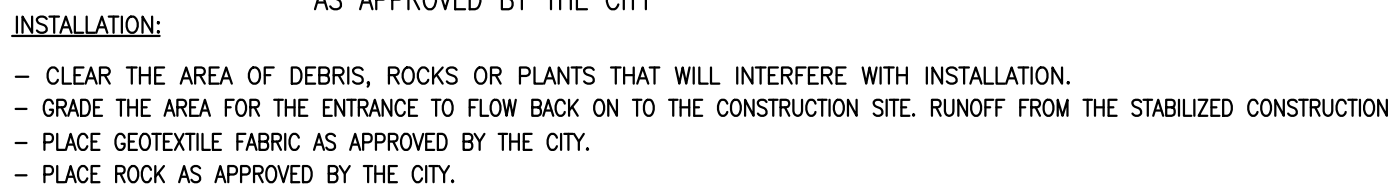
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**GEORGETOWN**  
**TEXAS**  
Georgetown Utility Systems

REVISION NOTE: <b>ADOPTED 6/21/2008</b>	
DRAWING NAME:  <b>EC03</b>	
SCALE:  <b>NTS</b>	DWG:  <b>1/2003</b>
DRAWN BY:  <b>MRS</b>	APPROVED BY:  <b>TRB</b>



EST. 1845  
**GEORGETOWN**  
**TEXAS**  
Georgetown Utility Systems

REVISION INFO:		ADOPTED 6/21/2006	
DRAWING NAME:		EC02	
SCALE:	DATE:		
NTS	1/2003		
DRAWN BY:	APPROVED BY:		
MRS	TRB		

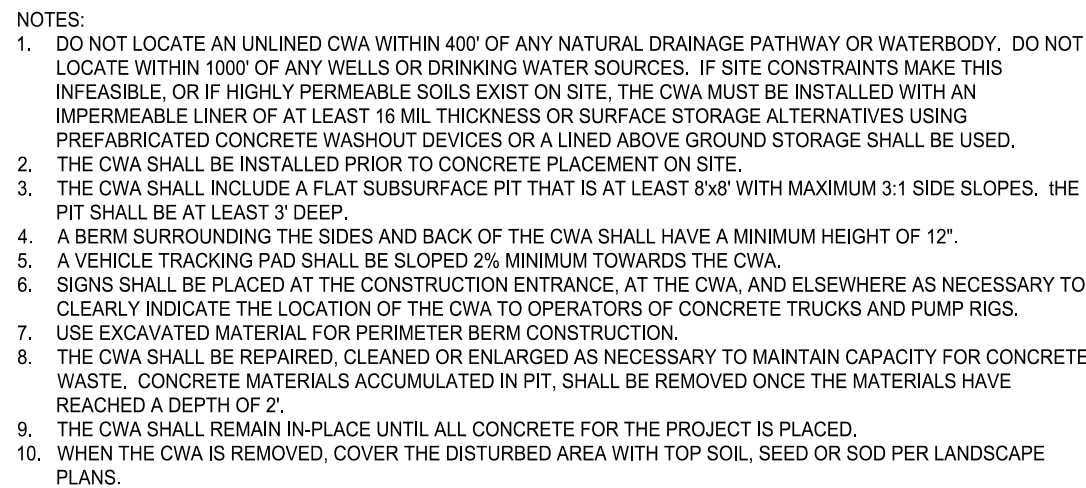


EST. 1848  
**GEORGETOWN**  
**TEXAS**  
Georgetown Utility Systems

REVISION NOTE: <b>ADOPTED 6/21/2006</b>	
DRAWING NAME:  <b>EC06</b>	
SCALE:  <b>NTS</b>	DATE:  <b>1/2003</b>
DRAWN BY:  <b>MRS</b>	APPROVED BY:  <b>TRB</b>



NOT TO SCALE



SCALE: N.T.S.

TYPE OF STRUCTURE	REACH LENGTH	MAXIMUM DRAINAGE AREA	SLOPE
SILT FENCE	N/A	2 ACRES	0 – 10%
	200 FEET	2 ACRES	10 – 20%
	100 FEET	1 ACRE	20 – 30%
	50 FEET	1/2 ACRE	> 30%
TRIANGLE FILTER DIKE	100 FEET	1/2 ACRE	< 30% SLOPE
	50 FEET	1/4 ACRE	> 30% SLOPE
ROCK BERM *, **	500 FEET	< 5 ACRES	0 – 10%



EST. 1948  
**GEORGETOWN**  
**TEXAS**  
 Georgetown Utility Systems

REVISION: <b>ADOPTED 6/21/2006</b>	
ORDERING NAME: <b>EC01</b>	
SCALE: <b>NTS</b>	DATE: <b>1/2003</b>
DRAWN BY: <b>MRS</b>	APPROVED BY: <b>TRB</b>

1. SOIL EROSION AND SEDIMENT CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH CITY OF GEORGETOWN EROSION REGULATIONS.
2. RESPONSIBILITY FOR INSTALLATION, ROUTINE INSPECTION, AND MAINTENANCE OF EROSION CONTROL SHOULD BE DEFINED AND ASSIGNED TO APPROPRIATE PERSON(S) PRIOR TO COMMENCEMENT OF ANY SOIL DISTURBING ACTIVITY.
3. EROSION CONTROL MEASURES MUST BE CONSTRUCTED AND FUNCTION BEFORE ANY GRADING OR LAND DISTURBANCE TAKES PLACE.
4. TEMPORARY OR PERMANENT SOIL STABILIZATION MUST BE APPLIED TO DISTURBED AREA LEFT DORMANT FOR 14 DAYS.
5. IN THE EVENT THAT MEASURES BEING USED ARE DEEMED TO BE INEFFECTIVE BY CITY INSPECTORS, ADDITIONAL MEASURES OR CHANGES IN THE ORIGINAL PLAN MAY BE REQUIRED BY THE CITY OF GEORGETOWN.
6. ALL EROSION CONTROL DEVICES SHALL BE INSPECTED BY THE SITE FOREMAN DAILY, ANY STRUCTURE OR CONTROL DEVICES WHICH IS DAMAGED OR INOPERATIVE WILL BE REPAIRED OR REPLACED IMMEDIATELY.
7. SANITARY FACILITIES SHALL BE PROVIDED ON THE SITE & REGULARLY SERVICED AS RECOMMENDED BY THE SUPPLIER. TRASH & DEBRIS SHALL BE STORED IN COVERED BINS OR ENCLOSURES.
8. CONSTRUCTION ENTRANCES/EXITS SHOULD BE LIMITED AND PROTECTION PROVIDED TO PREVENT TRACKING OF SOILS ONTO CITY STREETS.
9. REMOVE SILT OR SEDIMENTS FROM STREETS, CURBS, GUTTERS, FLUMES, HANDICAP ACCESS RAMPS, CURE INLETS, STORM DRAINS, AND ANY OTHER PUBLIC DRAINAGE FACILITIES DAILY OR AS ACCUMULATION OCCURS.
10. EROSION CONTROL SHOULD BE EVALUATED TO DETERMINE THE EFFECTIVENESS OF THOSE DEVICES BY THE PERSON ASSIGNED TO INSPECT EROSION CONTROL DEVICES, AND CHANGES MADE IF NECESSARY.
11. SOIL TRACKED ONTO PUBLIC ROADS SHALL BE REMOVED DAILY IF FEASIBLE, OR WHEN VISIBLY ACCUMULATED SEDIMENT HAS BEEN DEPOSITED. DISCHARGED SEDIMENT SHALL BE REMOVED AS SOON AS POSSIBLE.
12. USING WASH WATER TO WASH SEDIMENT FROM STREETS IS PROHIBITED.

**Westwood Professional Services, Inc.**  
8701 NORTH MOPAC EXPY, SUITE 320  
AUSTIN, TX 78759  
T: 512.485.0831  
F: 888.937.5150  
[westwoodpro.com](http://www.westwoodpro.com)

**600 SERVICE DRIVE, GEORGETOWN**  
**CITY OF GEORGETOWN**

GEORGETOWN AIRPORT HANGARS  
EROSION CONTROL DETAILS 1 OF 2

DATE: April, 2025

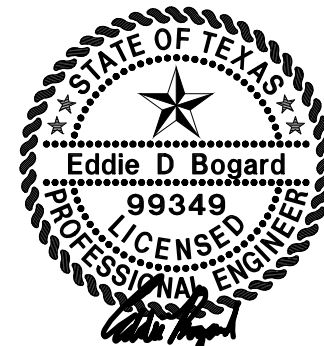
DRAFTER: AMI

DESIGNER: EDE

CHECKED: EDE

PROJECT NO.

0060255.00



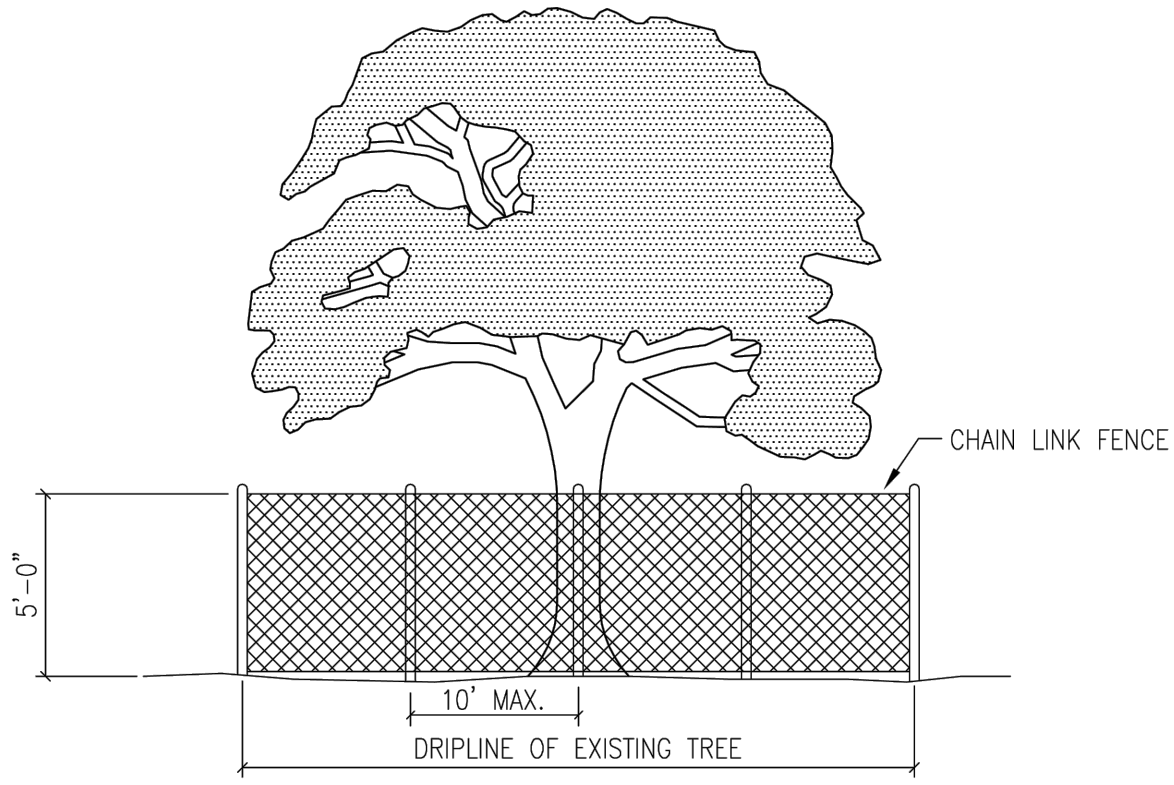
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SHEET 5 OF 33

2025-1-SDF



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5'-0"

10' MAX.


CHAIN LINK FENCE

DRIPLINE OF EXISTING TREE

NOTES:

1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
  - A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MATERIALS.
  - B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
  - C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
  - D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
  - A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
  - B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

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




CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS  
TREE PROTECTION –  
CHAIN LINK FENCE

ADOPTED 6/21/2006

EC09

DATE:	1/2003
DATE:	TRB



Westwood Professional Services, Inc.  
8701 NORTH MOPAC EXPY, SUITE 320  
AUSTIN, TX 78759  
T: 512.465.0831  
F: 888.937.5150  
TPELS ENGINEERING FIRM NO. 11756  
TPELS SURVEYING FIRM NO. 1074301

NO.	DESCRIPTION	DATE	BY	APP. DATE

600 SERVICE DRIVE, GEORGETOWN, WILLIAMSON COUNTY, TEXAS

**CITY OF GEORGETOWN**

**GEORGETOWN AIRPORT HANGARS**

**EROSION CONTROL DETAILS 2 OF 2**

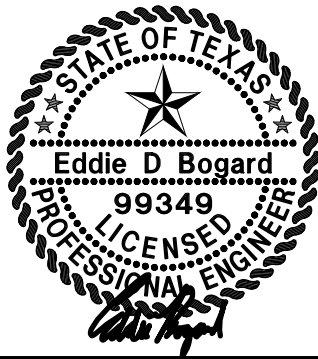
DATE: April, 2025

DRAFTER: AMM

DESIGNER: EDB

CHECKED: EDB

PROJECT NO.  
**0060255.00**



**6**

SHEET 6 OF 33

2025-1-SDP















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DRAINAGE NUMBER	INLET NUMBER	AREA (acres)	C <sub>2</sub>	C <sub>10</sub>	C <sub>25</sub>	C <sub>100</sub>	SHEET FLOW					SHALLOW CONCENTRATED FLOW					CHANNEL FLOW					INTENSITY				DISCHARGE							
							Length (ft)	Slope (ft/ft)	Surface Cover	Velocity (ft/s)	Manning's n	T <sub>sheet</sub> (min)	Length (ft)	Slope (ft/ft)	Surface Type	Velocity (ft/s)	K	T <sub>shallow</sub> (min)	Length (ft)	Slope (ft/ft)	Type	K (ft) $K = \frac{1.486 \cdot R^{2/3}}{n}$	Velocity (ft/s)	T <sub>channel</sub> (min)	T <sub>c</sub> (min)	I 2yr (in/hr)	I 10yr (in/hr)	I 25yr (in/hr)	I 100yr (in/hr)	Q 2 (cfs)	Q 10 (cfs)	Q 25 (cfs)	Q 100 (cfs)
U 1	U 1	0.404	0.75	0.83	0.88	0.97	50.00	0.01	ASPHALT	0.19	0.02	4.28	183.66	0.01	PAVED	1.57	20.33	1.95	7.72	0.01	18" RCP	59.44	4.20	0.03	6.25	5.93	9.01	11.06	14.44	1.80	3.02	3.93	5.66
U 2	U 2	1.206	0.75	0.83	0.88	0.97	50.00	0.02	ASPHALT	0.52	0.02	1.60	526.85	0.01	PAVED	1.98	20.33	4.43	7.03	0.01	12" RCP	45.36	3.21	0.04	6.07	5.98	9.10	11.16	14.58	5.41	9.10	11.84	17.05
U 3	U 3	0.739	0.75	0.83	0.88	0.97	50.00	0.03	ASPHALT	0.47	0.02	1.76	495.49	0.01	PAVED	1.83	20.33	4.52	6.74	0.01	12" RCP	45.36	3.21	0.04	6.32	5.91	8.98	11.02	14.40	3.28	5.51	7.17	10.32
U 4	U 4	0.566	0.75	0.83	0.88	0.97	50.00	0.01	ASPHALT	0.32	0.02	2.58	328.86	0.01	PAVED	1.46	20.33	3.75	0.00	0.01	12" RCP	45.36	3.21	0.00	6.33	5.91	8.98	11.02	14.39	2.51	4.22	5.49	7.90
U 5	U 5	1.096	0.75	0.83	0.88	0.97	50.00	0.01	ASPHALT	0.42	0.02	1.97	368.69	0.01	PAVED	1.46	20.33	4.21	0.00	0.01	12" RCP	45.36	3.21	0.00	6.18	5.95	9.04	11.10	14.50	4.89	8.23	10.70	15.41
U 6A	U 6A	0.735	0.35	0.40	0.44	0.52	50.00	0.02	SHORT GRASS PRAIRIE	0.06	0.15	12.84	172.67	0.02	UNPAVED	2.55	16.13	1.13	3.95	0.01	12" RCP	45.36	3.21	0.02	13.99	4.40	6.65	8.17	10.67	1.13	1.95	2.65	4.05
U 6B	U 6B	0.218	0.47	0.53	0.57	0.65	50.00	0.02	ASPHALT	0.24	0.02	3.46	78.36	0.04	UNPAVED	3.10	16.13	0.42	16.77	0.01	12" RCP	45.36	3.21	0.09	5.00	6.31	9.61	11.79	15.42	0.65	1.11	1.48	2.20
U 7A	U 7A	0.097	0.48	0.54	0.59	0.67	50.00	0.06	ASPHALT	0.24	0.02	3.43	13.96	0.16	UNPAVED	6.41	16.13	0.04	25.81	0.01	12" RCP	45.36	3.21	0.13	5.00	6.31	9.61	11.79	15.42	0.30	0.51	0.67	1.00
U 7B	U 7B	0.370	0.59	0.65	0.70	0.78	50.00	0.04	SHORT GRASS PRAIRIE	0.06	0.15	13.08	116.61	0.02	UNPAVED	2.54	16.13	0.76	35.38	0.01	12" RCP	45.36	3.21	0.18	14.03	4.39	6.64	8.16	10.65	0.95	1.60	2.11	3.09
U 8	U 8	0.084	0.45	0.51	0.56	0.63	50.00	0.01	ASPHALT	0.09	0.02	9.38	19.34	0.18	PAVED	8.52	20.33	0.04	18.45	0.01	18" RCP	59.44	4.20	0.07	9.49	5.15	7.81	9.58	12.50	0.20	0.33	0.45	0.67
U 9	U 9	0.110	0.21	0.25	0.29	0.36	50.00	0.03	ASPHALT	0.20	0.02	4.10	311.16	0.01	PAVED	2.47	20.33	2.10	0.00	0.01	18" RCP	59.44	4.20	0.00	6.19	5.94	9.04	11.09	14.48	0.14	0.25	0.35	0.57
POND 1	POND 1	0.420	0.23	0.27	0.31	0.38	50.00	0.01	ASPHALT	0.18	0.02	4.51	174.96	0.01	PAVED	1.44	20.33	2.03	18.70	0.01	18" RCP	59.44	4.20	0.07	6.62	5.83	8.86	10.87	14.19	0.56	1.00	1.41	2.26
POND 2	POND 2	0.133	0.24	0.28	0.32	0.39	50.00	0.01	ASPHALT	0.10	0.02	8.02	73.37	0.00	PAVED	1.30	20.33	0.94	41.52	0.01	18" RCP	59.44	4.20	0.16	9.13	5.23	7.93	9.73	12.69	0.17	0.30	0.42	0.66
OS 1	OS 1	1.894	0.44	0.50	0.54	0.62	50.00	0.03	ASPHALT	0.82	0.02	1.01	475.25	0.01	PAVED	1.56	20.33	5.08	99.06	0.01	NATURAL TRAP CHANNEL B=0, Y= 2, SS=3:1	28.69	2.03	0.81	6.90	5.75	8.74	10.72	13.99	4.77	8.19	10.95	16.38
OS 2	OS 2	1.770	0.30	0.35	0.39	0.46	50.00	0.04	ASPHALT	0.85	0.02	0.98	623.12	0.01	UNPAVED	1.61	16.13	6.45	23.57	0.01	18" RCP	59.44	4.20	0.09	7.52	5.59	8.49	10.42	13.60	2.96	5.19	7.14	11.08
OS 3	OS 3	1.597	0.25	0.30	0.34	0.41	50.00	0.02	ASPHALT	0.60	0.02	1.39	275.32	0.01	UNPAVED	1.94	16.13	2.36	423.04	0.01	NATURAL TRAP CHANNEL B=0, Y= 2, SS=3:1	28.69	2.03	3.47	7.22	5.67	8.61	10.56	13.79	2.28	4.06	5.67	8.98

HEC-HMS SUMMARY: EXISTING CONDITONS												
Drainage Area Basin Designation	Drainage Area (ac)	Base Curve Number CN	Lag Time (min)	Impervious Cover %	2 YEAR STORM		10 YEAR STORM		25 YEAR STORM		100 YEAR STORM	
					Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)
EX 1	11.41	83.8	18.50	24.10%	26.30		44.90		57.60		78.70	
POA 1						26.30		44.90		57.60		78.70

Basin ID	Flowpath Length (ft)	Overland Flow						Shallow Concentrated Flow						Channel Flow						T <sub>c</sub>
		Length (ft)	Slope (ft/ft)	Surface Cover	Velocity (ft/s)	*Manning's n	T <sub>o</sub>	Length (ft)	Slope (ft/ft)	Surface Type	Velocity (ft/s)	*K	T <sub>s</sub>	Length (ft)	Slope (ft/ft)	Type	*K	Velocity (ft/s)	T <sub>h</sub>	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
EX -1	1325	100	0.016	SHORT GRASS PRAIRIE	0.176	0.15	9.46	929	0.012	UNPAVED	1.78	16.1	8.68	296	0.030	CONCRETE TRAP CHANNEL B=0, Y= 2, SS=3:1	79.71	13.8	0.36	18.50

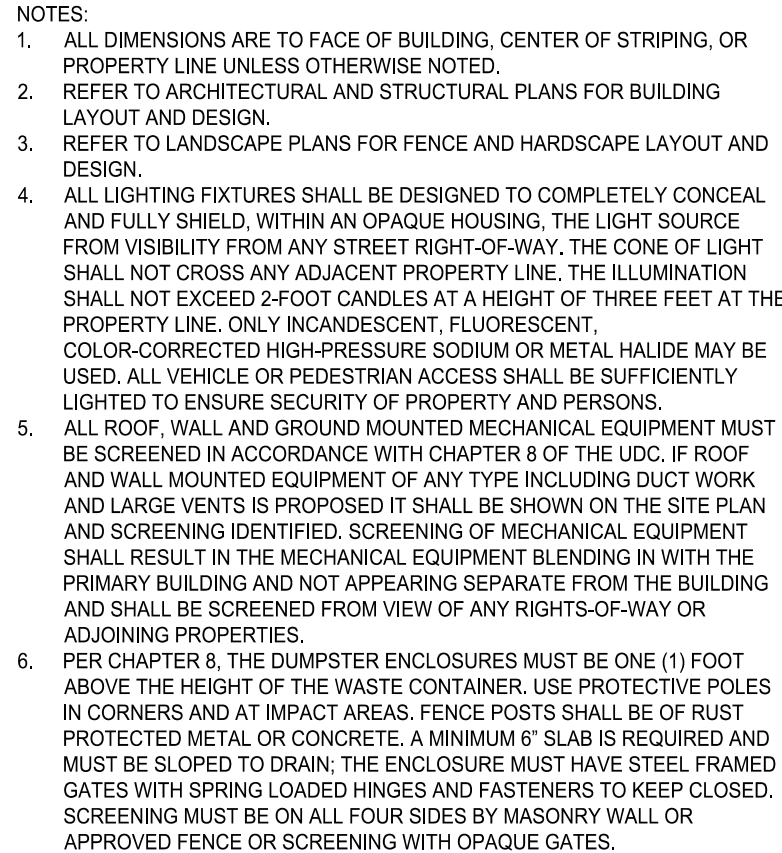
HEC-HMS SUMMARY: DEVELOPED CONDITONS													
Drainage Area Basin Designation	Drainage Area (ac)	Base Curve Number CN	Lag Time (min)	Cumulative Area (ac)	Impervious Cover %	2 YEAR STORM		10 YEAR STORM		25 YEAR STORM		100 YEAR STORM	
						Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)
DA 1	1.87	87.7	7.19		42.90%	7.40		12.20		15.40		20.70	
DA 2	3.23	96.4	5.69		91.03%	15.90		24.00		38.30			
DA 6	0.11	80.0	9.51		0.00%	0.30		0.50		0.70		1.00	
POND 1							14.80		20.40		23.80		29.10
DA 3	2.87	95.6	10.76		84.59%	10.90		16.40		20.10		26.40	
POND 2							10.50		15.40		18.50		23.60
DA 4	1.73	87.8	15.03		42.26%	5.20		8.30		10.40		13.90	
DA 5	1.60	81.4	15.35		7.83%	3.50		6.40		8.30		11.60	
POA 1				11.41			33.80		50.40		61.00		78.10

Basin ID	Flowpath Length (ft)	Overland Flow						Shallow Concentrated Flow						Channel Flow						Tc
		Length	Slope	Surface Cover	Velocity	Manning's n	To	Length	Slope	Surface Type	Velocity	K	Ts	Length	Slope	Type	K	Velocity	Tn	
		(ft)	(ft/ft)					(ft)	(ft/ft)					(ft)	(ft/ft)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
DA 1	981	100	0.016	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.424	0.01	1.17	422	0.012	PAVED	2.23	20.3	3.15	77	0.012	NATURAL TRAP CHANNEL B=0, Y= 2, SS=3:1	28.69	3.1	0.42	6.25
DA 2	583	100	0.027	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.756	0.01	0.95	465	0.007	PAVED	1.66	20.3	4.67	18	0.005	18" RCP	59.44	4.2	1.51	5.69
DA 3	663	100	0.028	SHORT GRASS PRAIRIE	0.220	0.15	7.57	121	0.040	UNPAVED	3.21	16.10	0.63	28	0.005	18" RCP	59.44	4.20	0.11	10.76
							108	0.018	UNPAVED	2.13	16.10	0.84	407	0.005	18" RCP	59.44	4.20	1.61		
DA 4	850	100	0.021	SHORT GRASS PRAIRIE	0.196	0.15	8.49	582	0.010	UNPAVED	1.65	16.1	5.88	168	0.005	18" RCP	59.44	4.20	0.67	15.03
DA 5	741	100	0.014	SHORT GRASS PRAIRIE	0.167	0.15	9.98	237	0.014	UNPAVED	1.93	16.1	2.04	404	0.005	NATURAL TRAP CHANNEL B=0, Y= 2, SS=3:1	28.69	2.03	3.32	15.35
DA 6	357	100	0.023	SHORT GRASS PRAIRIE	0.204	0.15	8.19	257	0.040	UNPAVED	3.24	16.1	1.32	0	0.000		0.00	0.00	0.00	9.51

Curve Numbers: Proposed Conditions						
Drainage Area	Surface Cover Type	Drainage Area (ac.)	% of Total Drainage Area	Hydraulic Soil Group	Curve Number	Weighted Curve Number
DA 1	Paved parking lots, roofs, driveways, etc. (excluding right-of-way)	0.80	42.90%	D	98	87.7
	Open space: Good condition (grass cover >75%)	1.07	57.10%	D	80	
DA 2	Paved parking lots, roofs, driveways, etc. (excluding right-of-way)	2.94	91.03%	D	98	96.4
	Open space: Good condition (grass cover >75%)	0.29	8.97%	D	80	
DA 3	Paved parking lots, roofs, driveways, etc. (excluding right-of-way)	2.39	84.59%	D	98	95.2
	Open space: Good condition (grass cover >75%)	0.44	15.41%	D	80	
DA 4	Paved parking lots, roofs, driveways, etc. (excluding right-of-way)	0.75	42.26%	D	98	87.6
	Open space: Good condition (grass cover >75%)	1.02	57.74%	D	80	
DA 5	Paved parking lots, roofs, driveways, etc. (excluding right-of-way)	0.12	7.83%	D	98	81.4
	Open space: Good condition (grass cover >75%)	1.47	92.17%	D	80	
DA 6	Paved parking lots, roofs, driveways, etc. (excluding right-of-way)	0.00	0.00%	D	98	80.0
	Open space: Good condition (grass cover >75%)	0.11	100.00%	D	80	

Curve Numbers: Existing Conditions						
Drainage Area	Surface Cover Type	Drainage Area (ac.)	% of Total Drainage Area	Hydraulic Soil Group	Curve Number	Weighted Curve Number
EX 1	Paved parking lots, roofs, driveways, etc. (excluding right-of-way)	1.89	16.58%	D	98	83.8
	Open space: Good condition (grass cover >75%)	8.66	75.90%	D	80	
	Impervious Area: Gravel (including right-of-way)	0.86	7.52%	D	91	





**PARKING REQUIREMENT**

**NO PARKING REQUIRED PER**  
**PUD NO. 2005-75**

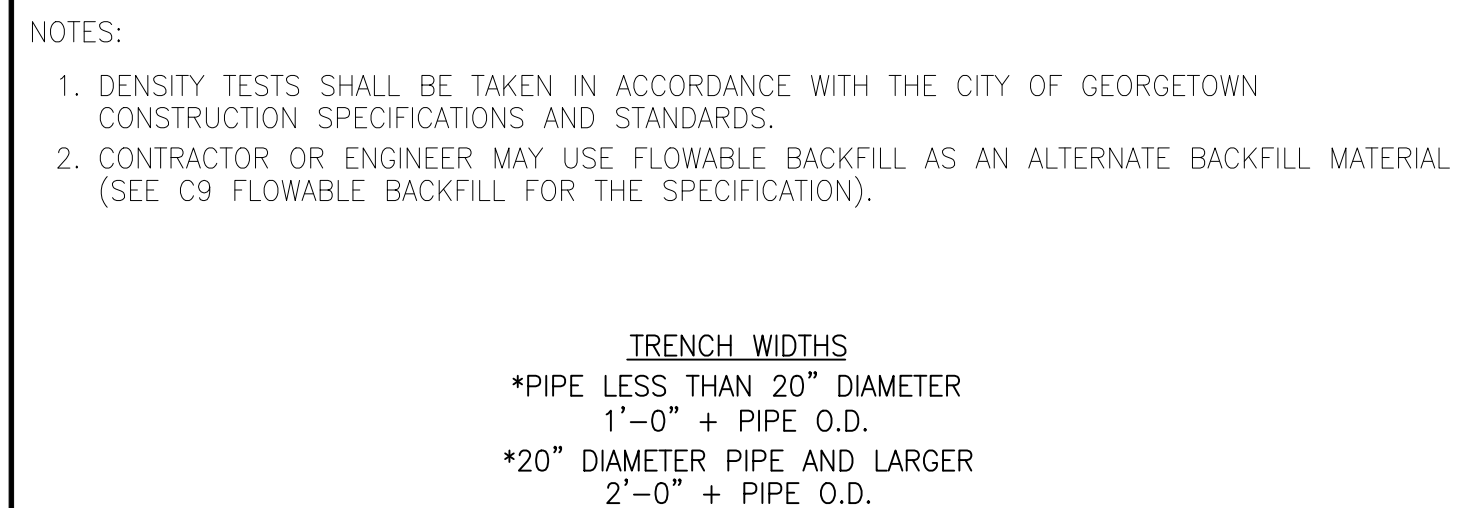





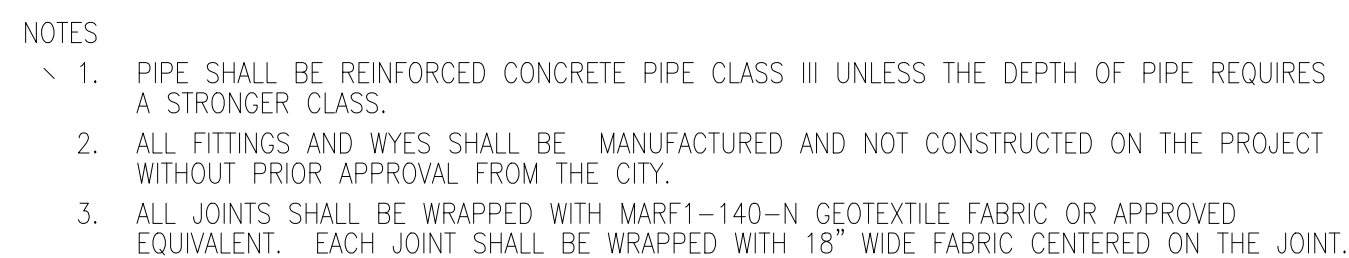





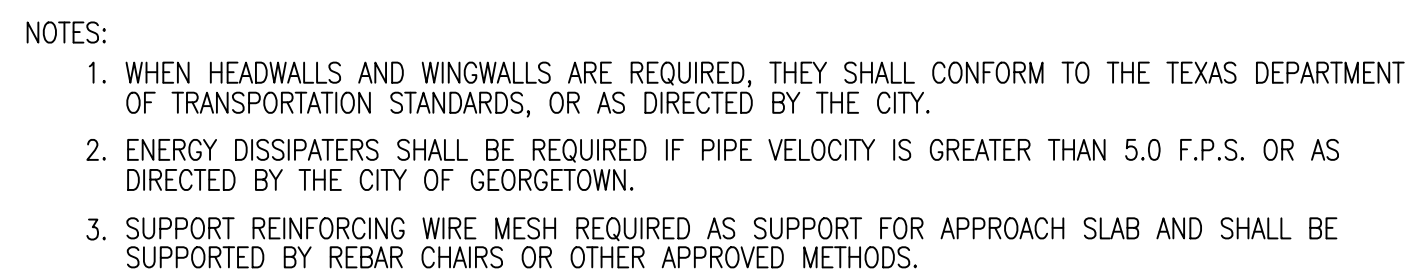
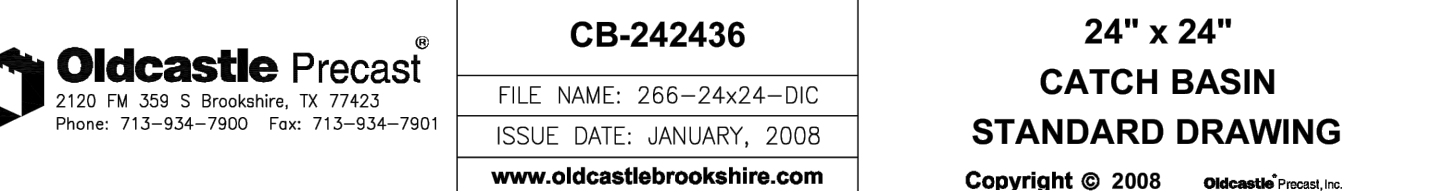





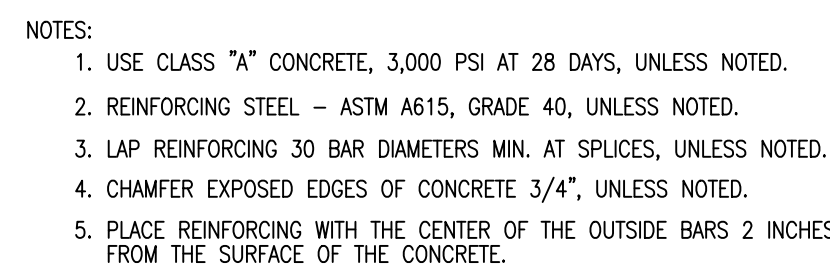
 REG. MAIL <b>GEORGETOWN</b> TEXAS Georgetown Utility Division	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY FOR STORM SEWER	DRAWING NO: <b>SD41</b>						
		<table border="1"> <tr> <td>SCALE:</td> <td>DATE:</td> </tr> <tr> <td>NTS</td> <td>1/2003</td> </tr> <tr> <td>DRAWN BY:</td> <td>APPROVED BY:</td> </tr> <tr> <td>TRE</td> <td>MCS</td> </tr> </table>	SCALE:	DATE:	NTS	1/2003	DRAWN BY:	APPROVED BY:
SCALE:	DATE:							
NTS	1/2003							
DRAWN BY:	APPROVED BY:							
TRE	MCS							




 <p><b>GEORGETOWN</b> TEXAS Georgetown Utility Systems</p>	<p>CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS TRENCH AND EMBEDMENT DETAIL (PROFILE) FOR STORM SEWER</p>	<p>drawing name: SD42</p>	
		<p>scale: NTS DATE: 1/2003 MRS. TRB</p>	<p>DATE: 1/2003 APPROVED BY: TRB</p>



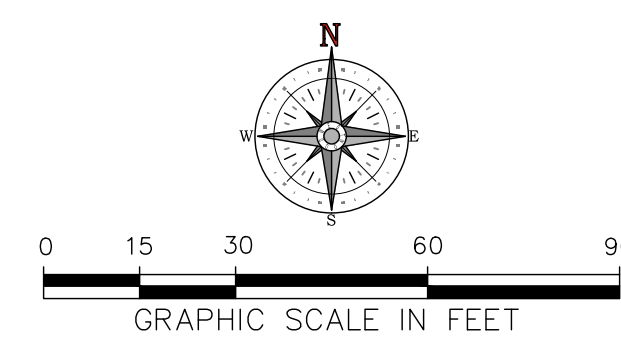
 <p>EST. 1968 <b>GEORGETOWN</b> TEXAS Georgetown Utility Systems</p>	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS  <b>TYPICAL CONCRETE RIP-RAP AT PIPE</b>		(SHEET NO.)  <b>SD19</b>
	SCALE: NTS DRAWN BY: MRS APPROVED BY: TRB	DATE: 1/2003	



D PIPE DIAMETER (INCHES)	NUMBER OF ROWS OF DISSIPATORS	NUMBER OF DISSIPATORS IN FRONT ROW	H (INCHES)	A (INCHES)	B (INCHES)
12	1	3			9.18/75
18	2	4	4 1/2	9 1/2	15.58/75
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	30 3/8
60	3	6	15	31 1/4	31 3/8

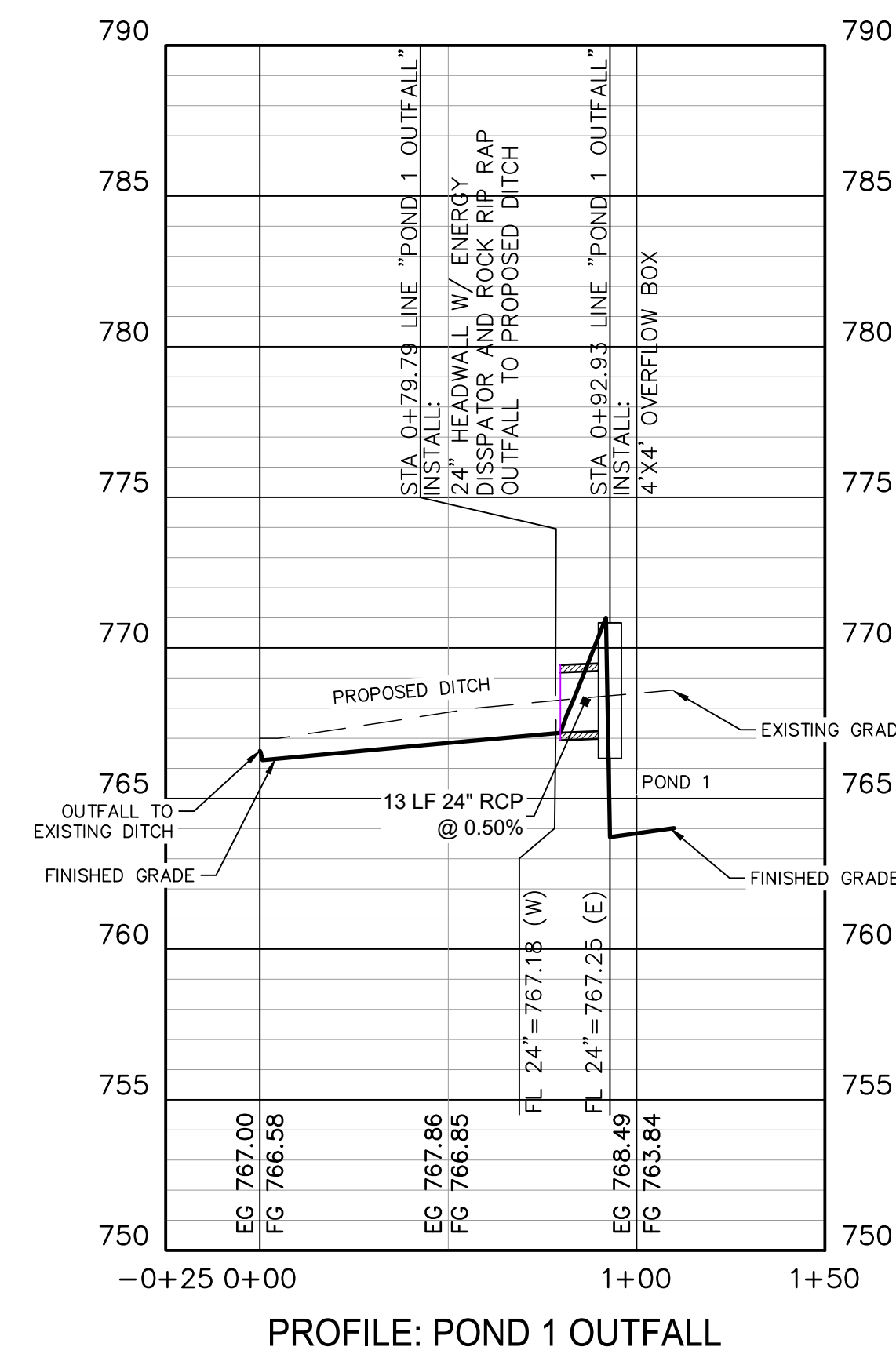
	<p align="center">CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS ENERGY DISSIPATER DETAIL</p>	<p>ISSUING BOARD: SD20</p>	
		<p>SCALE: NTS 1/2003</p>	<p>DATE: 1/2003</p>
		<p>DESIGN BY: MRS</p>	<p>APPROVED BY: TBS</p>





	PROPERTY LINE EASEMENT LINE 100 YR FLOODPLAIN LIMIT PROPOSED CONTOUR EXISTING CONTOUR RETAINING WALL DRAINAGE SWALE
X <u>FG 767.54</u> X <u>EL 767.54</u> X <u>TI 767.54</u> X <u>LP 767.54</u> X <u>HP 767.54</u>  X <u>TW 767.54</u> X <u>BW 764.54</u>  FF=132.50	EX. SPOT GRADE FINISHED GRADE TOP OF INLET LOW POINT HIGH POINT  TOP OF WALL BOTTOM OF WALL  FINISHED FLOOR ELEVATION

1. ALL PROPOSED AND EXISTING GRADES IN NON-PAVED AREAS ARE "FINISHED GRADE" (i.e. IN LANDSCAPE BEDS, TOP OF MULCH/DEBRIS MATERIAL).
2. CONTRACTOR SHALL FORM SIDEWALK AND VERIFY SLOPES PRIOR TO POURING CONCRETE. CONTRACTOR SHALL ENSURE THAT CROS SLOPES AREA NO GREATER THAN 2% ALONG THE ACCESSIBLE ROUTE AND RUNNING SLOPE IS NOT GREATER THAN 5%, UNLESS THE RUNNING SLOPE MATCHES THE EXISTING STREET SLOPE. IF ANY DISCREPANCY ARISES, CONTRACTOR SHALL CONTACT THE ENGINEER FOR SOLUTION.
3. AREAS AROUND THE PERIMETER OF THE BUILDING(S) SHALL BE AT A POSITIVE SLOPE AWAY FROM THE BUILDING TO ENSURE PROPER DRAINAGE AWAY FROM THE FOUNDATION.
4. THE CONTRACTOR MUST REFER TO THE GEOTECHNICAL REPORT, FOUNDATION PLANS, AND LANDSCAPE PLANS FOR 1) ALL BACKFILL AND COMPACTION REQUIREMENTS, 2) FOUNDATION WATER PROOFING AND 3) UNDERDRAINS AND LANDSCAPE DRAINS AROUND THE PERIMETER OF THE BUILDING(S).





# CONVERGENT WATER TECHNOLOGIES

## SMARTPOND DESIGN WORKSHEET

Upstream Storm Structure

# Pond 1

[L = 200 FT.]

Downstream Storm Structure

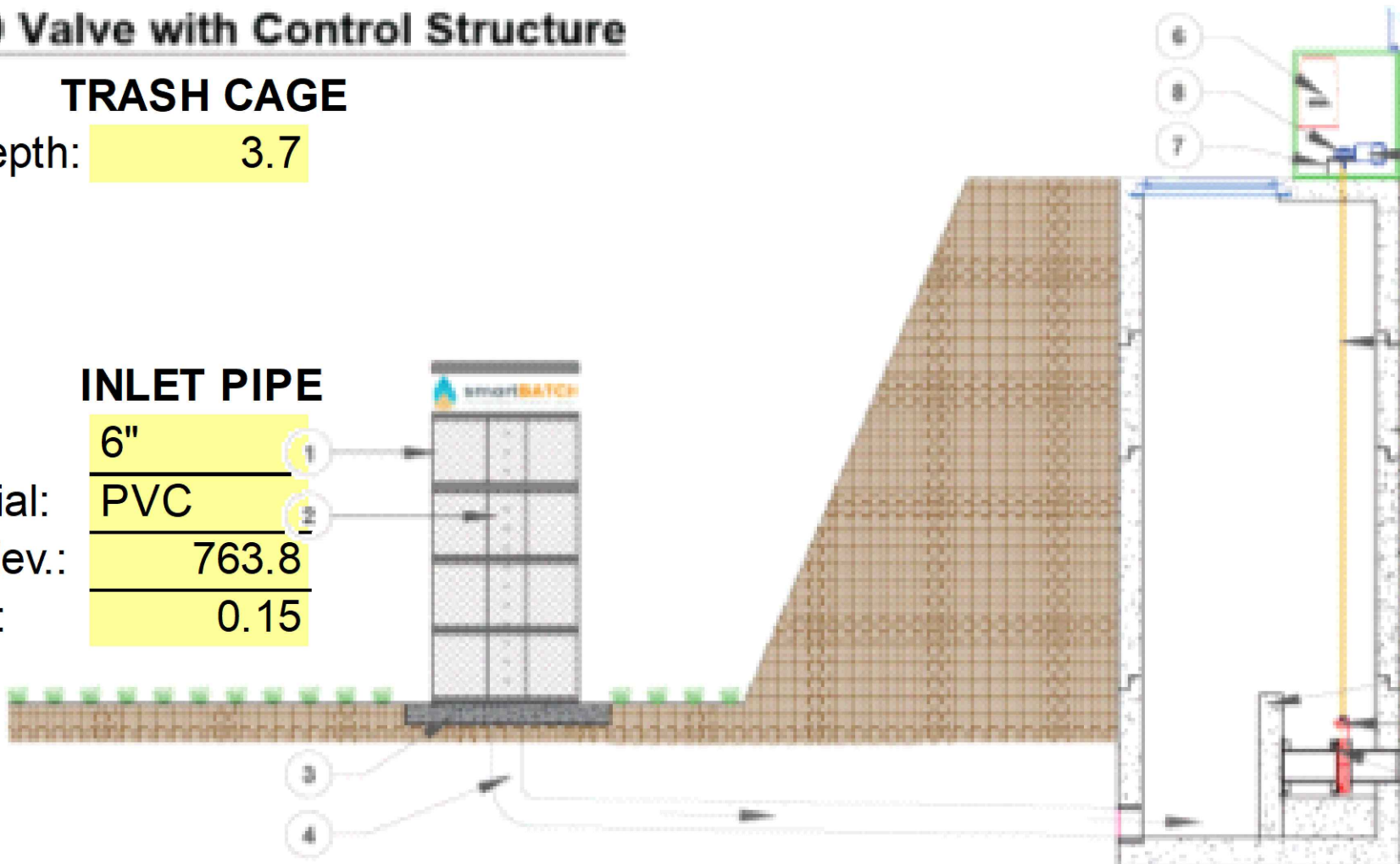
# Control Structure

[L = 20 FT.]

### smartPOND Valve with Control Structure

TRASH CAGE  
WQv Depth: 3.7

INLET PIPE  
Dia.: 6"  
Material: PVC  
Inv. Elev.: 763.8  
Slope: 0.15



CONTROL STRUCTURE  
FG: 771  
Material: PVC  
Size: 18"  
Shape: Round

OUTLET PIPE  
Dia.: 6"  
Material: PVC  
Inv. Elev.: 763.2  
Slope: 0.15

#### General Project Data

Name: Airport Hangars  
Location: Georgetown  
Engineer: Eddie Bogard, P.E.  
Date: 4/7/2025  
Fail Command: Open

#### Sediment Load

Water Quality Vol: 7250 CF  
Required Storage Vol: 10872 CF  
Sediment Load Calcs: 2967 lbs

#### Distribute By:

Construction EcoServices  
32.456.1000  
www.ecosvs.com

Pond 1 Stage Storage Table					
Water Surface Elevations	Peak Discharge (cfs)	Stage (ft msl)*	Area (sf)	Incremental Volume (cf)	Storage (cf)
		764.00	663.81	0.00	0.00
		765.00	8,148.61	777.44	4,406.21
		766.00	13,694.44	1,341.72	15,327.73
		767.00	13,694.44	1,369.44	29,022.18
WQE		767.50	13,694.44	1,369.44	35,869.40
		767.60	13,694.44	1,369.44	37,238.84
		767.70	13,694.44	1,369.44	38,608.29
		767.80	13,694.44	1,369.44	39,977.73
		767.90	13,694.44	1,369.44	41,347.17
		768.00	13,694.44	1,369.44	42,716.62
2 YR - WSE CFS	14.8	768.10	13,694.44	1,369.44	44,086.06
		768.20	13,694.44	1,369.44	45,455.51
		768.30	13,694.44	1,369.44	46,824.95
		768.40	13,694.44	1,369.44	48,194.40
		768.50	13,694.44	1,369.44	49,563.84
10 YR - WSE CFS	20.4	768.60	13,694.44	1,369.44	50,933.28
		768.70	13,694.44	1,369.44	52,302.73
		768.80	13,694.44	1,369.44	53,672.17
		768.90	13,694.44	1,369.44	55,041.62
		769.00	13,694.44	1,369.44	56,411.06
25 YR - WSE CFS	23.8	769.10	13,694.44	1,369.44	57,780.51
		769.20	13,694.44	1,369.44	59,149.95
		769.30	13,694.44	1,369.44	60,519.39
		769.40	13,694.44	1,369.44	61,888.84
		769.50	13,694.44	1,369.44	63,258.28
100 YR - WSE CFS	29.1	769.60	13,694.44	1,369.44	64,627.73
		769.70	13,694.44	1,369.44	65,997.17
		769.80	13,694.44	1,369.44	67,366.62
		769.90	13,694.44	1,369.44	68,736.06
		770.00	13,694.44	1,369.44	70,105.50
		771.00	13,694.44	1,369.44	83,799.95

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Georgetown Airport Hangars  
Date Prepared: 4/17/2025

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.  
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.  
Characters shown in red are data entry fields.  
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3:  $L_M = 27.2(A_N \times P)$

where:  $L_M$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased load  
 $A_N$  = Net increase in impervious area for the project  
 $P$  = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project  
County = Williamson  
Total project area included in plan = 7.57 acres  
Predevelopment impervious area within the limits of the plan = 0.87 acres  
Total post-development impervious area within the limits of the plan = 3.18 acres  
Total post-development impervious cover fraction = 0.42  
 $P$  = 32 inches

$L_M$  TOTAL PROJECT = 2010 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 4

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

Drainage Basin/Outfall Area No. = DA 2  
Total drainage basin/outfall area = 3.23 acres  
Predevelopment impervious area within drainage basin/outfall area = 0.48 acres  
Post-development impervious area within drainage basin/outfall area = 2.94 acres  
Post-development impervious fraction within drainage basin/outfall area = 0.91  
 $L_M$  THIS BASIN = 2139 lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

4. Calculate Maximum TSS Load Removed ( $L_R$ ) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7:  $L_R = (\text{BMP efficiency}) \times P \times (A_i \times 34.6 + A_p \times 0.54)$

where:  $A_C$  = Total On-Site drainage area in the BMP catchment area  
 $A_i$  = Impervious area proposed in the BMP catchment area  
 $A_p$  = Pervious area remaining in the BMP catchment area  
 $L_R$  = TSS Load removed from this catchment area by the proposed BMP

$A_C$  = 3.23 acres  
 $A_i$  = 2.94 acres  
 $A_p$  = 0.29 acres  
 $L_R$  = 2967 lbs

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

Desired  $L_M$  THIS BASIN = 2139 lbs.  
 $F$  = 0.72

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 0.83 inches  
Post Development Runoff Coefficient = 0.74  
On-site Water Quality Volume = 7250 cubic feet

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

Off-site area draining to BMP = 1.87 acres  
Off-site impervious cover draining to BMP = 0.80 acres  
Impervious fraction of off-site area = 0.43  
Off-site Runoff Coefficient = 0.32  
Off-site Water Quality Volume = 1810 cubic feet

Storage for Sediment = 1812 cubic feet  
Total Capture Volume (required water quality volume(s) x 1.20) = 10872

The following sections are used to calculate the required water quality volume(s) for the selected BMP.  
The values for BMP Types not selected in cell C45 will show NA.

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = 10872 cubic feet





PROPOSED RIP-RAP  
REFER TO RIP-RAP  
GRADATION TABLE

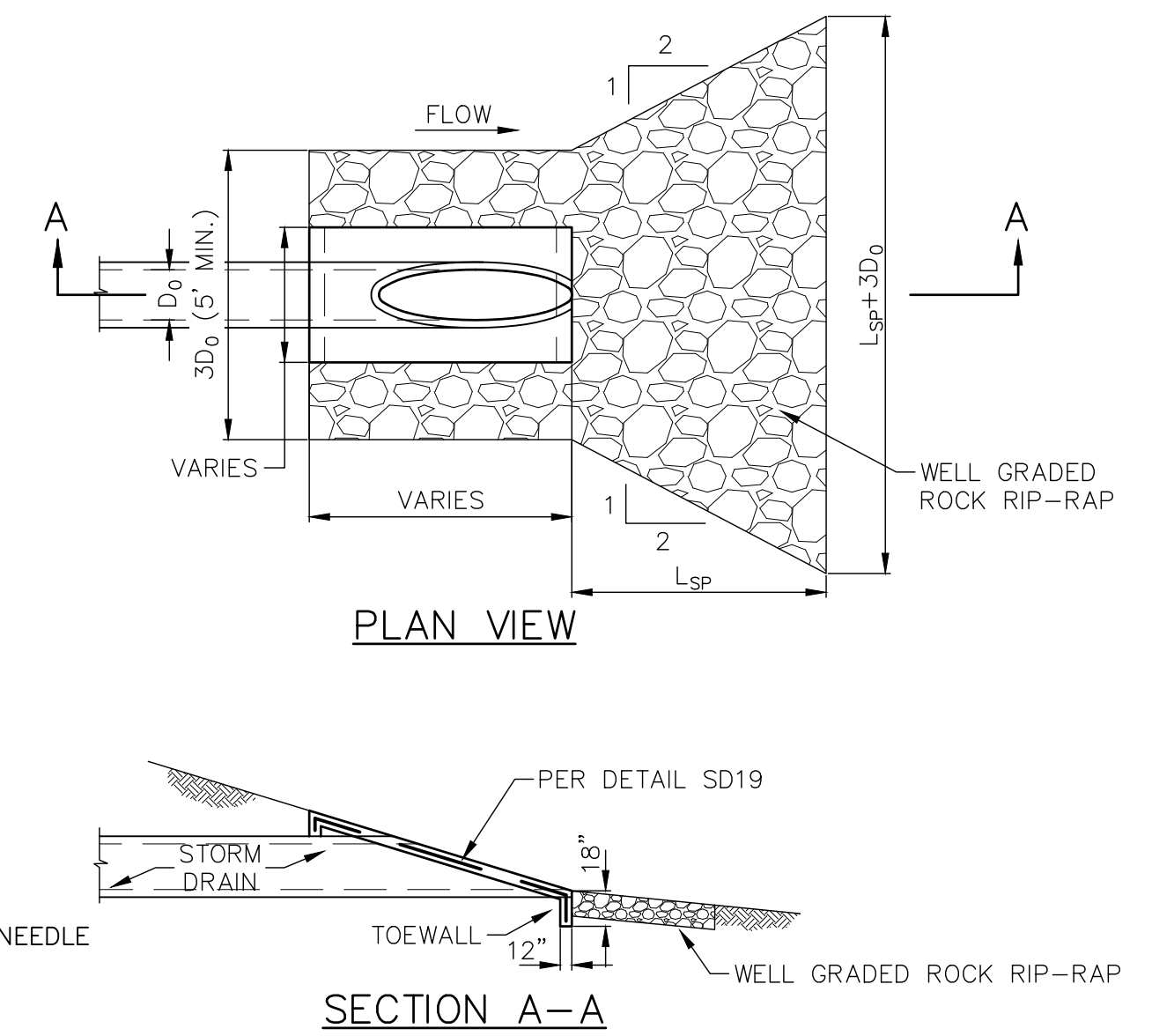
WELL GRADED ROCK  
RIP-RAP ( $D_{50}=X''$ )

PROPOSED BEDDING  
REFER TO BEDDING  
GRADATION TABLE

GEO-SYNTHETIC FILTER FABRIC, NON WOVEN NEEDLE  
PUNCHED ( $X$  OZ./SY). ANCHOR PER  
MANUFACTURER'S RECOMMENDATIONS.

EXISTING GROUND

RIP-RAP SECTION

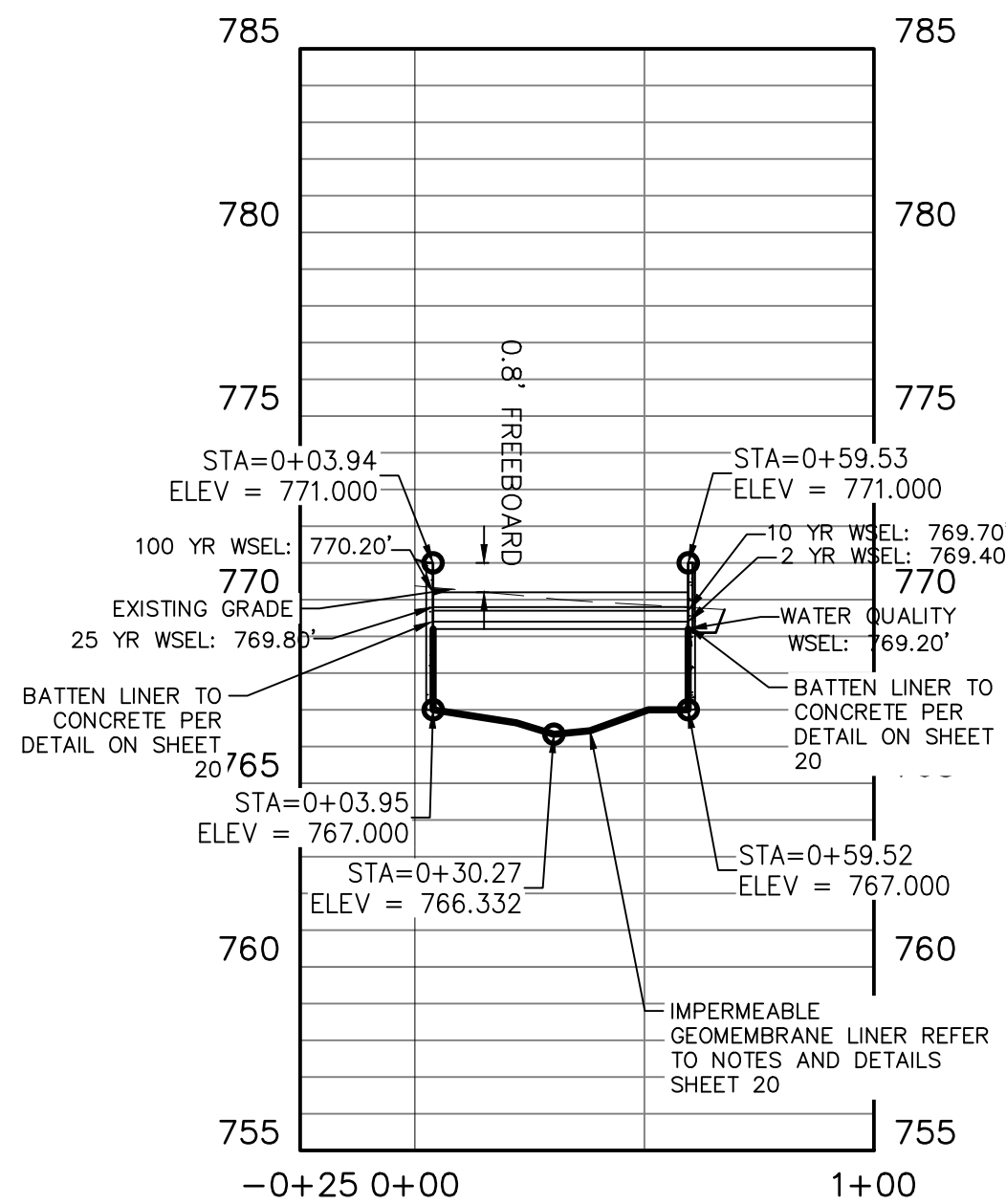


**SLOPING HEADWALL  
W/ RIP-RAP AT FREE DISCHARGE**

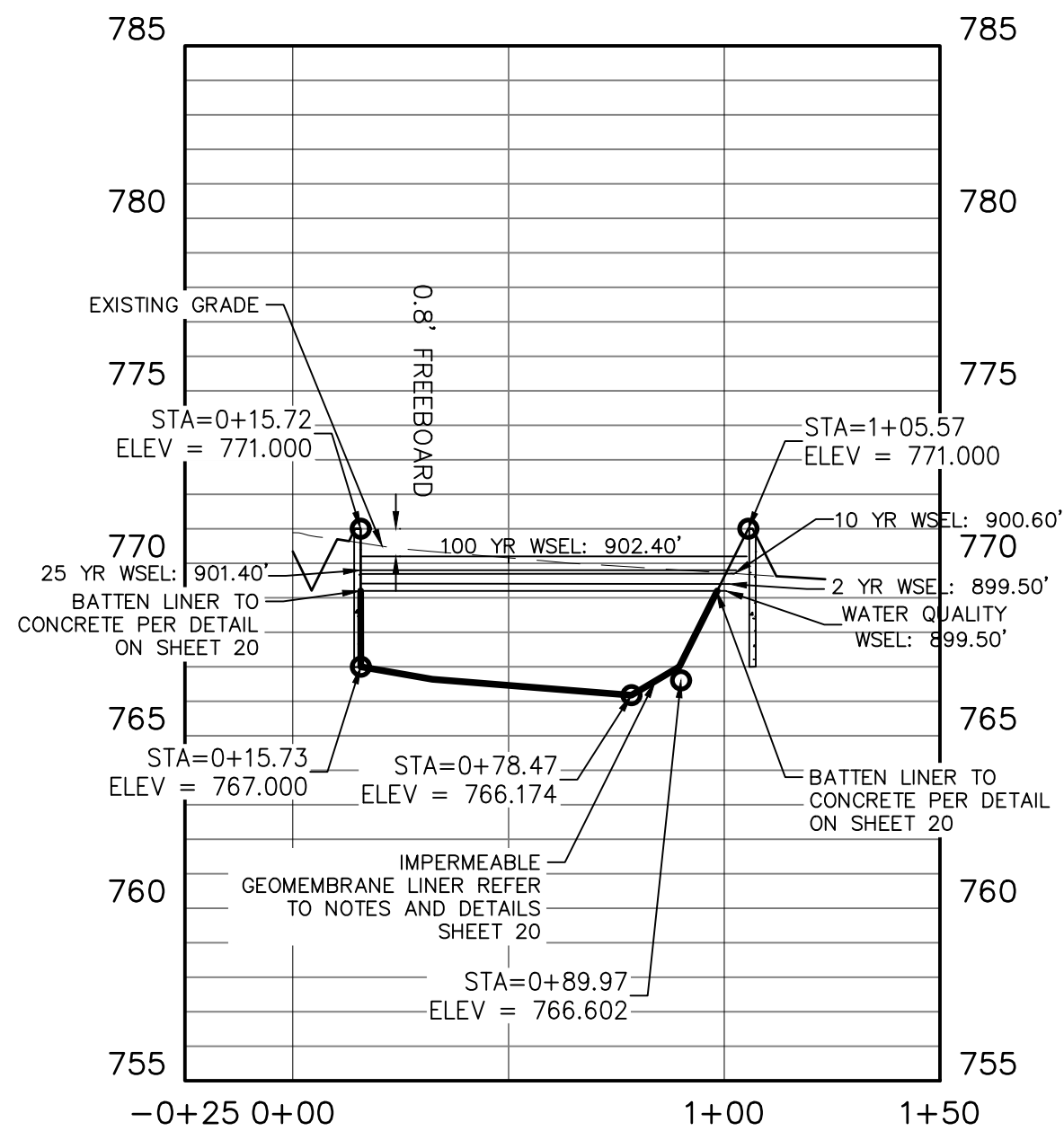
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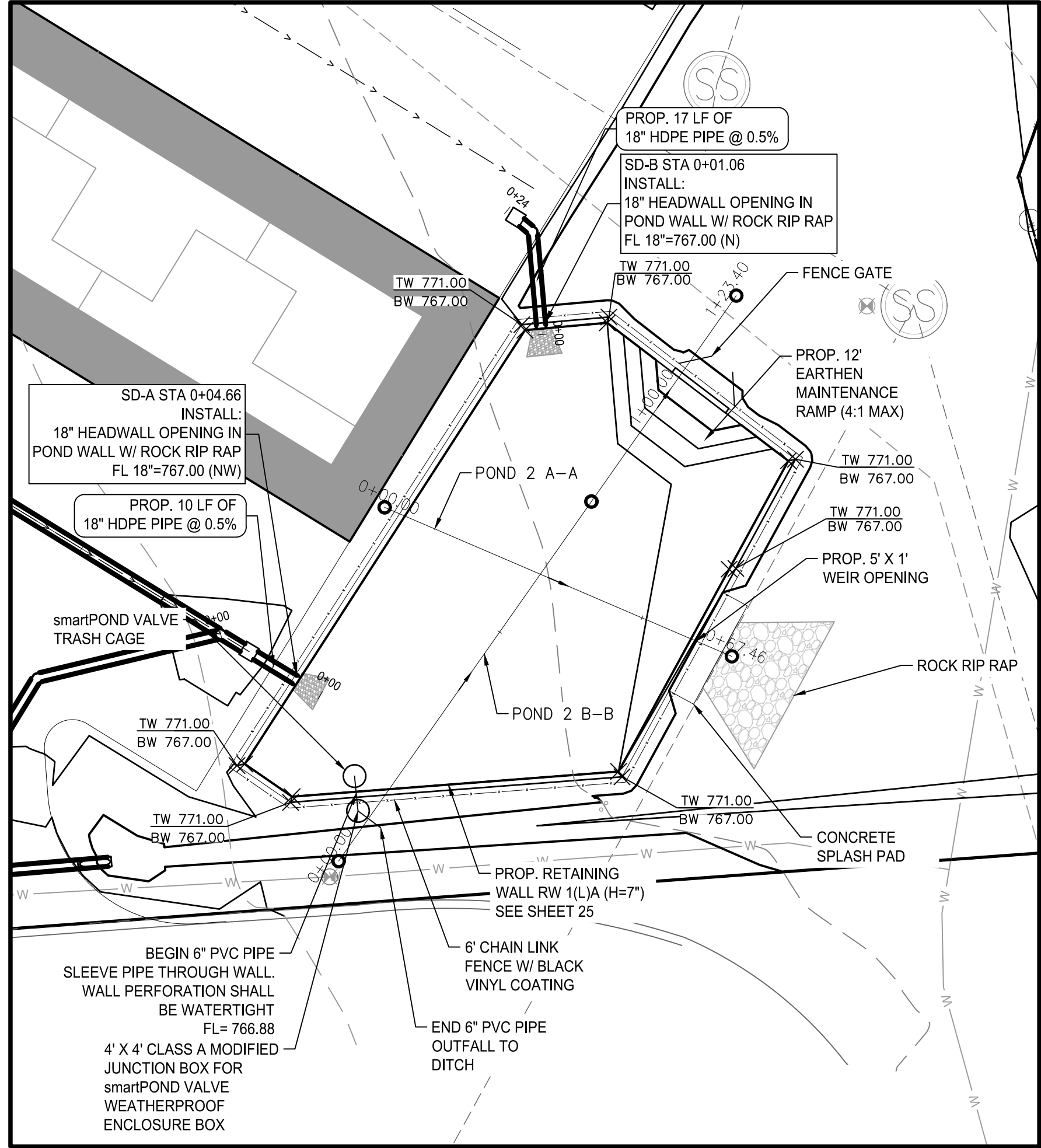
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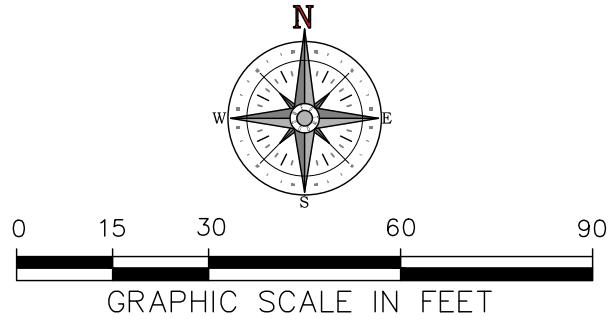
PROFILE: POND 2 A-A



PROFILE: POND 2 B-B

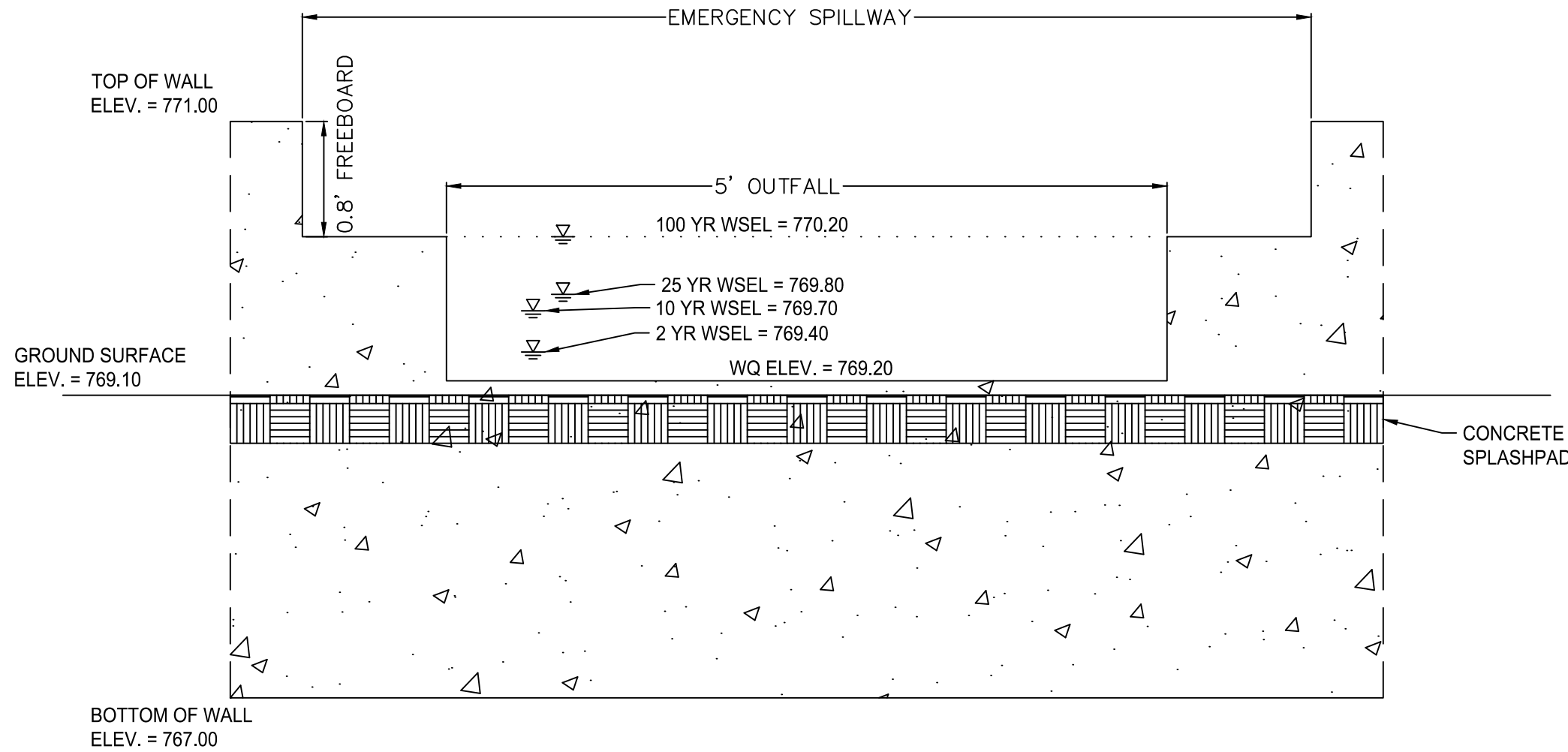


Pond 2 Stage Storage Table					
Water Surface Elevations	Peak Discharge (cfs)	Stage (ft msl)*	Area (sf)	Incremental Volume (cf)	Storage (cf)
		766.50	531.94	0.00	0.00
		767.00	4,662.40	424.00	1,279.95
		768.00	4,662.40	466.24	5,942.35
		768.50	4,662.40	466.24	8,273.54
		769.00	4,662.40	466.24	10,604.74
		769.10	4,662.40	466.24	11,070.98
WQE		769.20	4,662.40	466.24	11,537.22
		769.30	4,662.40	466.24	12,003.46
2 YR - WSE CFS	10.5	769.40	4,662.40	466.24	12,469.70
		769.50	4,662.40	466.24	12,935.94
		769.60	4,662.40	466.24	13,402.18
10 YR - WSE CFS	15.4	769.70	4,662.40	466.24	13,868.42
25 YR - WSE CFS	18.5	769.80	4,662.40	466.24	14,334.66
		769.90	4,662.40	466.24	14,800.90
		770.00	4,662.40	466.24	15,267.14
		770.10	4,662.40	466.24	15,733.38
100 YR - WSE CFS	23.6	770.20	4,662.40	466.24	16,199.62
		770.30	4,662.40	466.24	16,665.86
		770.40	4,662.40	466.24	17,132.10
		770.50	4,662.40	466.24	17,598.34
		771.00	4,662.40	466.24	19,929.54



LEGEND

- PROPERTY LINE
- EASEMENT LINE
- 100YR FP
- 100 YR FLOODPLAIN LIMIT
- PROPOSED CONTOUR
- EXISTING CONTOUR
- RETAINING WALL
- DRAINAGE SWALE
- EX. SPOT GRADE
- FINISHED GRADE
- TOP OF INLET
- LOW POINT
- HIGH POINT
- TOP OF WALL
- BOTTOM OF WALL
- FINISHED FLOOR ELEVATION



2 WEIR OUTFALL DETAIL POND 2  
NOT TO SCALE

- NOTES:
- ALL PROPOSED AND EXISTING GRADES IN NON-PAVED AREAS ARE "FINISHED GRADE" (i.e. IN LANDSCAPE BEDS, TOP OF MULCH/BEDDING MATERIAL).
  - CONTRACTOR SHALL FORM SIDEWALK AND VERIFY SLOPES PRIOR TO POURING CONCRETE. CONTRACTOR SHALL ENSURE THAT CROSS SLOPES AREA NO GREATER THAN 2% ALONG THE ACCESSIBLE ROUTE AND RUNNING SLOPE IS NOT GREATER THAN 5%, UNLESS THE RUNNING SLOPE MATCHES THE EXISTING STREET SLOPE. IF ANY DISCREPANCY ARISES, CONTRACTOR SHALL CONTACT THE ENGINEER FOR SOLUTION.
  - AREAS AROUND THE PERIMETER OF THE BUILDING(S) SHALL BE AT A POSITIVE SLOPE AWAY FROM THE BUILDING TO ENSURE PROPER DRAINAGE AWAY FROM THE FOUNDATION. THE CONTRACTOR MUST REFER TO THE GEOTECHNICAL REPORT, FOUNDATION PLANS, AND LANDSCAPE PLANS FOR 1) ALL BACKFILL AND COMPACTION REQUIREMENTS, 2) FOUNDATION WATER PROOFING AND 3) UNDERDRAINS AND LANDSCAPE DRAINS AROUND THE PERIMETER OF THE BUILDING(S).

Westwood

Westwood Professional Services, Inc.  
8701 NORTH MOPAC EXPY, SUITE 320  
AUSTIN, TX 78759  
T: 512.465.0831  
F: 888.937.5150  
TPELS ENGINEERING FIRM NO. 11756  
TPELS SURVEYING FIRM NO. 1074301

DATE: April, 2025

DRAFTER: AMM

DESIGNER: EDB

CHECKED: EDB

PROJECT NO.  
0060255.00

STATE OF TEXAS  
Edlie D. Bogard  
99348  
LICENSED PROFESSIONAL ENGINEER

18  
SHEET 18 OF 33  
2025-1-SDP

600 SERVICE DRIVE, GEORGETOWN, WILLIAMSON COUNTY, TEXAS

CITY OF GEORGETOWN

GEORGETOWN AIRPORT HANGARS

POND 2 PLAN & PROFILE







```

graph TD
    A[smartPOND gate closed in vertical position (default) and standing by] --> B[Water Level sensor indicates new water collection event]
    B --> C[12-Hour detention timer begins and gate remains in vertical position]
    C --> D[After 12-hour detention is complete, smartPOND immediately lowers gate to match current water level, then executes a topwater drawdown at a rate of 46 hours to 0" position]
    C --> E[If additional water collection event occurs (2nd rain), smartPOND continues with 12-hour detention timer uninterrupted]
    D --> F[Once gate & water levels = 0" gate remains at full-open position for additional 2 hours]
    E --> F
    F --> G[Drawdown complete]
    G --> A
  
```

The image contains two side-by-side diagrams illustrating the SmartPond installation process. Both diagrams feature a 'SmartPond' logo at the top.

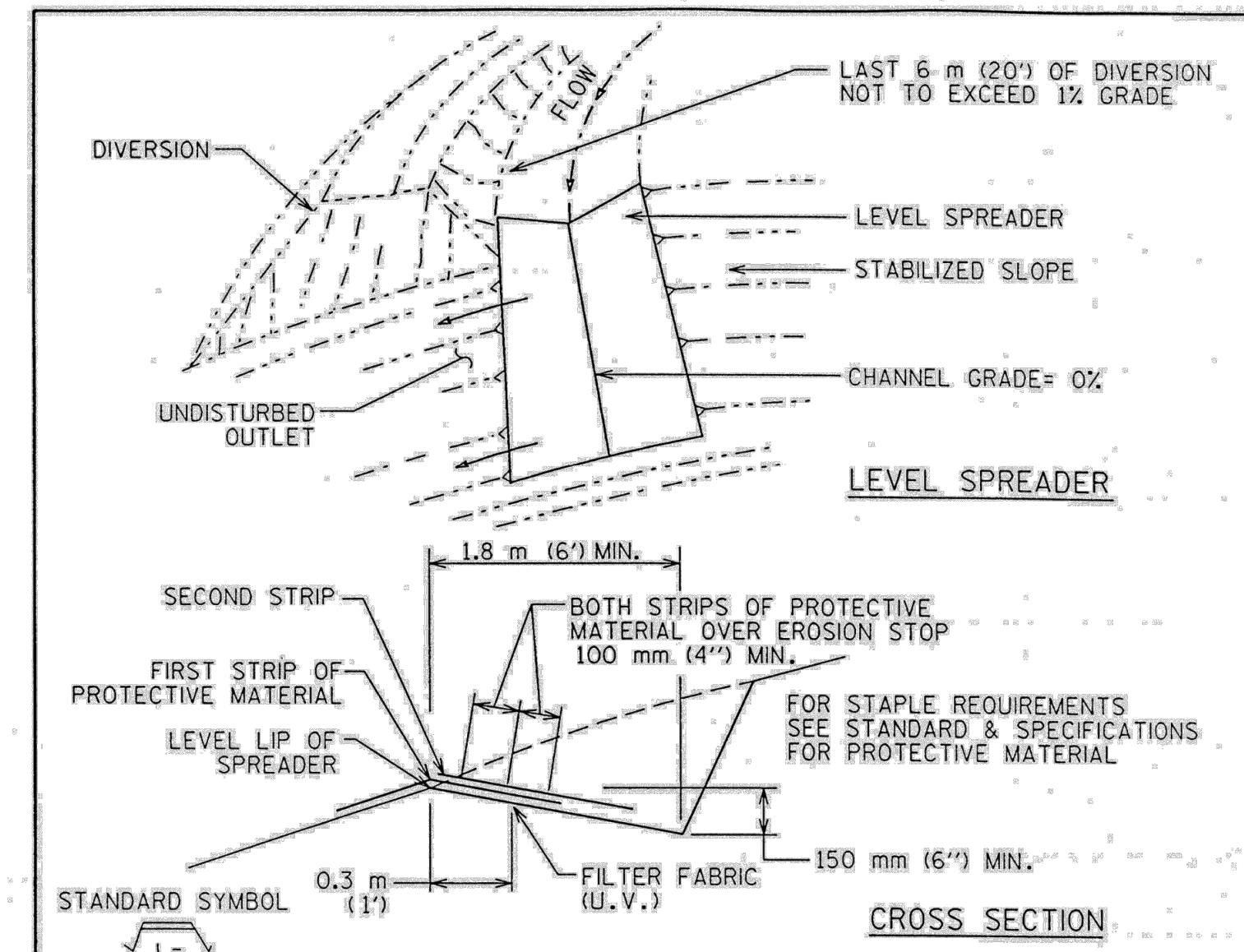
**Left Diagram (Preparation):** This diagram shows a grid of 12 panels arranged in 3 rows and 4 columns. The panels are labeled with numbers 1 through 12. A callout '1' points to the top-left panel. A callout '2' points to the second panel in the first row. A callout '3' points to the third panel in the first row. A callout '4' points to the bottom-right panel. The panels are shown being laid out on a prepared base.

**Right Diagram (Installation):** This diagram shows the same grid of 12 panels, but now they are joined together using a circular connector. The panels are labeled with numbers 1 through 12. A callout '1' points to the bottom-left panel. A callout '2' points to the second panel in the first row. A callout '3' points to the third panel in the first row. A callout '4' points to the top-right panel. The panels are shown being joined together on a prepared base.

### FRONT VIEW OF SMARTPOND


Floor plan of the control room. The plan shows a rectangular room with a control panel on the left wall, a motor/gear assembly in the center, and a battery on the right wall. The dimensions of the room are 25.27 units wide and 11.35 units high.

**smartPOND Valve**



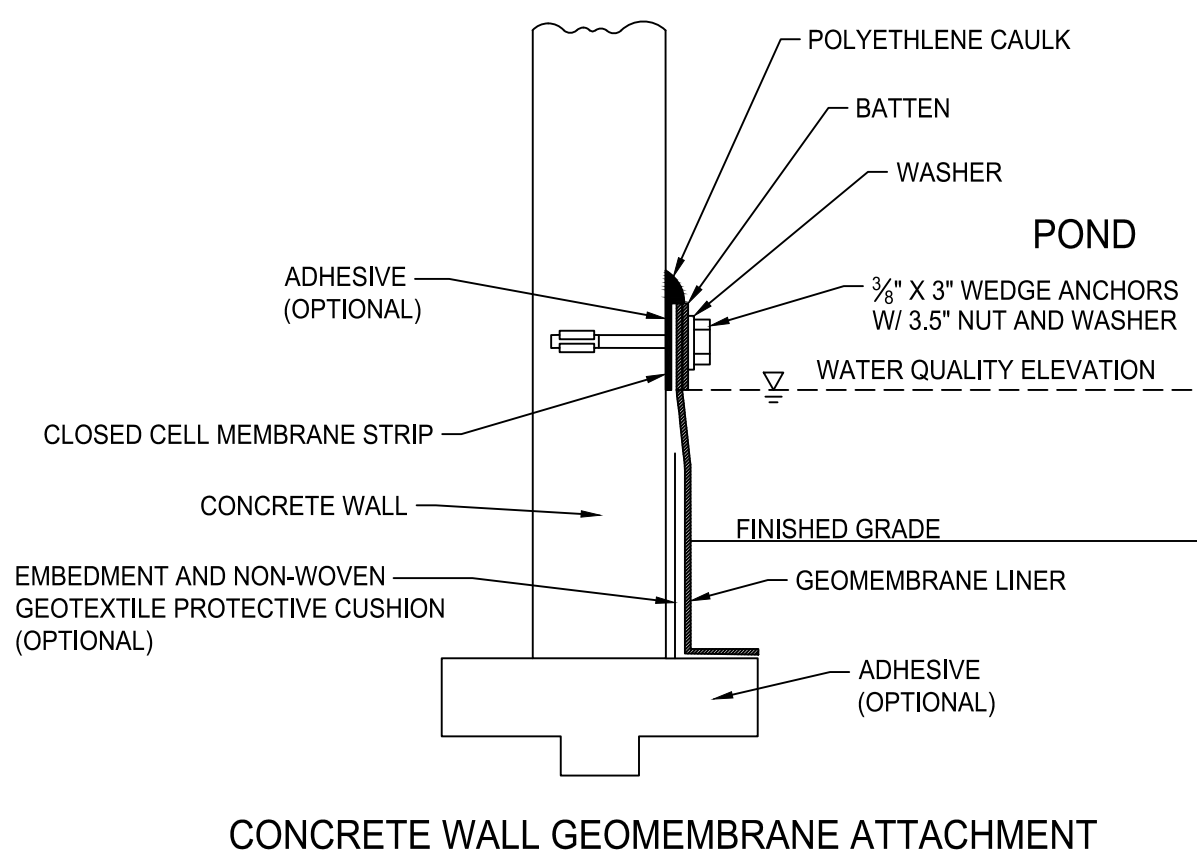
GENERAL NOTES:

1. LEVEL SPREADERS SHALL BE INSTALLED UNDER THE DIRECT SUPERVISION OF THE ENGINEER.
2. CONSTRUCT LEVEL LIP ON ZERO PERCENT GRADE TO INSURE UNIFORM SPREADING OF SEDIMENT-FREE RUNOFF (CONVERTING CHANNEL FLOW TO SHEET FLOW).
3. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL (NOT ON FILL).
4. MATTING EROSION STOP SHALL BE PLACED VERTICALLY AND AT LEAST 150 mm (6") DEEP IN A 1' TRENCH 0.5' TO (1') BACK OF AND PARALLEL WITH THE LIP. THE EROSION STOP SHALL EXTEND THE ENTIRE LENGTH OF THE LEVEL LIP AND SHALL BE TRIMMED AFTER BACKFILLING WITH TAMPED SOIL, SO THAT THE UPPER EDGE IS FLUSH WITH THE SOIL SURFACE.
5. THE ENTIRE LEVEL LIP AREA SHALL BE PROTECTED BY PLACING 2 STRIPS OF JUTE, EXCELSIOR OR OTHER APPROVED PROTECTIVE MATERIAL AS SHOWN ABOVE.
6. THE ENTRANCE CHANNEL SHALL NOT EXCEED A 1% GRADE FOR AT LEAST 6 m (20') BEFORE ENTERING SPREADER.
7. STORM RUNOFF CONVERTED TO SHEET FLOW SHALL OUTLET ONTO STABILIZED AREAS. WATER SHALL NOT BE RECONCENTRATED IMMEDIATELY BELOW THE POINT OF DISCHARGE.
8. PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PROVIDED.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		LEVEL SPREADER	
 3.27.00 ADOPTED		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 634S-1

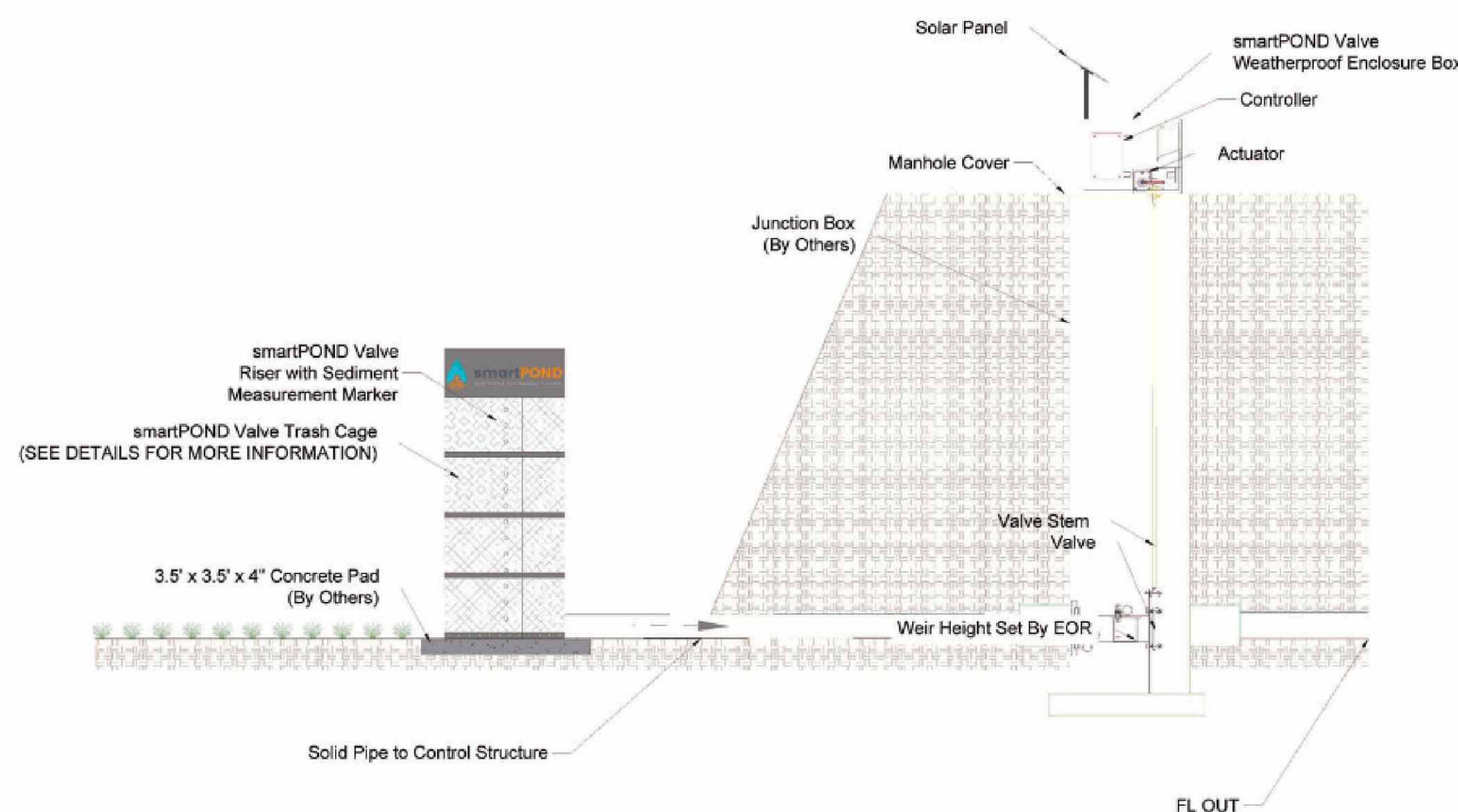
NOTES:

1. CONSTRUCT THE CONCRETE WALL AND FOOTING PER DETAIL.
2. FOLLOW THE GEOMEMBRANE LINER MANUFACTURER'S RECOMMENDATIONS FOR ANCHOR BOLT EMBEDMENT AND WALL CONNECTION DETAILS.
3. THE LINER MUST EXTEND ABOVE THE WATER QUALITY ELEVATION. IF IT ENDS BELOW, ALL WALL JOINTS UP TO THAT ELEVATION MUST BE WATERTIGHT.



**1** ) **DETAIL**  
NOT TO SCALE

NOT TO SCALE



NOTE: ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN

**smartPOND**  
Automated Stormwater Control.

**smartPOND Valve**  
with Control Structure

REVISION: 0  
DATE: 3/11/2022

# Westwood

**Westwood Professional Services, Inc.**  
8701 NORTH MOPAC EXPY, SUITE 320  
AUSTIN, TX 78759  
T: 512.485.0831  
F: 888.937.5150  
[westwoodps.com](http://www.westwoodps.com)

600 SERVICE DRIVE, GEORGETOWN, WILLIAMSON COUNTY, TEXAS  
**CITY OF GEORGETOWN**

**GEORGETOWN AIRPORT HANGARS**  
**BATCH POND DETAILS 1 OF 2**

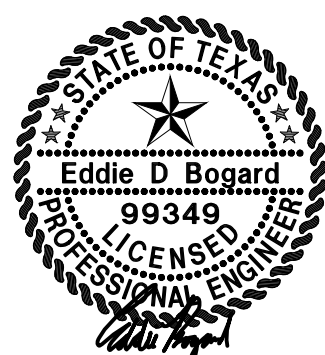
DATE: April, 2025

DRAFTER: AMM

DESIGNER: EDB

CHECKED: EDB

PROJECT NO.  
**0060255.00**



20

SHEET 20 OF 33

2025-1-SDP

Last Saved by: AMapp  
 Last Saved: 4/17/2025 4:20 PM  
 Plot Date/Time: 4/18/2025 10:58 AM  
 Drawing: N:\0060255\0006 CAD\DWG\Site Design C3D\Sheets\0060255.00-C-POND



# smartPOND Valve SPECIFICATION

## Continuously Monitored Automated Stormwater System with Valve

**smartPOND**  
Automated Stormwater Control.



FOR ADDITIONAL INFORMATION PLEASE CONTACT:  
CONVERGENT WATER TECHNOLOGIES  
1-800-711-5428  
www.convergentwater.com



**smartPOND Valve**  
**Specifications**

REVISION NO.  
**0**  
DATE  
**3/11/2022**  
SHEET NO.

### 1. Introduction

The following specifications describe the components, general functions, and applications of a smartPOND Continuously Monitored Automated Stormwater System (C-MASS) with Valve. The system functions as an electronically controlled, solar powered stormwater management device, providing precision management capabilities and real-time data. Using sensors, solar power, an electronic actuator, and an internet-based control interface, the smartPOND valve connects to a specialized perforated riser inside the stormwater impoundment to enable managers to precisely control water retention and detention automatically or in real time.

### 2. smartPOND Valve Applications in Stormwater Management

The smartPOND valve is a device for active Stormwater management. As opposed to passive devices such as floating skimmers or stationary weirs, active water management dramatically increases the efficiency and effectiveness of a detention or retention pond. Where a passive stormwater detention system allows water to leave immediately upon collection, the smartPOND valve can detain newly caught Stormwater and allow it to settle for a programmed period before automatically dewatering the impoundment completely. For stormwater retention systems, it is possible to manage the treatment volume while maintaining a specified amount of capacity for flood storage or other use.

#### 2.1 Pre-Programmed Control

Many functions can be pre-programmed without any human interactions, leaving the valve to automatically receive commands based on environmental conditions and respond as programmed.

##### 2.1.1 Batch Detention Function for Stormwater Quality

The smartPOND valve meets TCEQ Batch Detention specifications for a 91% Total Suspended Solid removal rate. The function proceeds as follows. With the valve in the closed position and the impoundment dry, the system will stand by and wait for a water collection event. At the first sign of water collection, the unit will begin a 12-hour detention timer. At the end of the 12-hour detention period, the valve will open and release all of the water that has been collected. After the water level drops to 0", the valve will remain open for an additional 2 hours to facilitate final drainage, then return to the closed position to stand by for the next water collection event.

##### 2.1.2 Predevelopment Hydrograph Function for Flood Control

The smartPOND valve predevelopment hydrograph function takes in site specific variables to determine a maximum release rate based on predevelopment conditions. The valve reads water depth in the pond every 15 minutes to determine the maximum release rate desirable to ensure the impoundment neither overtops, nor exceeds its maximum release based on predevelopment flows.

##### 2.1.3 Hazmat Function for Spill Containment

smartPOND when specified for hazmat spill containment can be equipped with pollutant specific sensors that when triggered automatically close the valve until the command is overridden.

#### 2.2 Real Time Monitoring

smartPOND comes standard with telemetry available on each unit and access to the user app available at no additional cost for 1 year. This option allows for real time monitoring of the unit and the data that comes along with it. From the real time monitoring app, a user can:

- Control the valve, either open or close
- See the water level
- See if trash or debris is surrounding the inlet
- Get maintenance alerts (Low Battery, Valve Failure, Etc.)
- Maintain specified water level

### 3. Components

The smartPOND valve may be implemented either above or below ground, and is comprised of the following components:

#### 3.1 Hardware and Configuration

The standard smartPOND valve features a cast 6" valve. An extended spool and mounting flange on each side of the valve allows it to be attached to the outfall pipe in various configurations. The valve is actuated with an electric motor connected by an extendable drive shaft for underground applications.

For above ground applications, the entire system including all necessary components for operation assemble into one kit and are housed under a single lockable steel enclosure with the solar panel mounted on top. In this configuration, the unit can be installed on a stable, level pad and be bolted onto the back of the outfall pipe with six 3/4" bolts and then switched to the "ON" position.

For underground applications, the valve is installed in a vault or concrete encasement as needed. An extended drive shaft connects between the underground valve and the rest of the components, including the motor and all electronics, which are housed in the lockable steel enclosure directly above ground.

#### 3.2 Electronics and Software Specifications

- **Main board** - The main board of the smartPOND valve's electronics box serves as the main connection terminal for all sensors and additional control boards
- **Motor Controller Board** - The motor controller board of the smartPOND valve regulates the connection between the battery and the motor and receives inputs from the main board to control motor direction. It also powers the main board.
- **Motor** - The smartPOND valve's motor operates on 12-volts and has two wires connecting to the motor controller board. It is mounted on a bracket and connects to the directly to the valve with a driveshaft.
- **Battery** - The smartPOND valve is powered by a 12-volt, 30 amp/hour gel battery. Two terminals at the top connect the power wires to the motor controller board and the solar charge controller to the battery.
- **Solar Panel** - The solar panel of the smartPOND valve is 12-volts with 15 watt charging capability. It connects to a solar charge controller which regulates the voltage and current before connecting with two wires to the positive and negative battery terminals.
- **Sensors**
  - **Pressure Transducer** - The water level sensor is a pressure transducer sensor capable of staying submersed in water indefinitely. It mounts on the side of the smartPOND valve's center spool.
  - **Valve position sensor** - A proximity sensor senses the position of the valve's drive shaft in order to control and determine the position of the valve.
- **(Optional)**
  - **Cell data modem** - A cellular data modem will be required for real time control and alert options as well as predevelopment hydrograph functions.
  - **Hydrocarbon Sensor** - This optional sensor may be fitted to the smartPOND valve to perform specific functions based on the presence of hydrocarbon contamination.

### 4. Real Time Monitoring Interface (optional)

If the real time monitoring option is selected, the smartPOND valve may be monitored in real time through the Autoflow app. Live and historical data from each unit may be viewed in the app, as well as alerts (detailed in section 5).

#### 4.1 Accessing unit data

To access live and historical data in the Autoflow app, select the unit of interest on the home page by clicking on the unit's name. From there, select the "Data" button, and the data page for that unit will be displayed.

#### 4.2 Sending a command

To send a remote-control command to the SmartPOND valve, click the "Send New Command" button on the unit's home page. The unit's current position will be displayed at the top. To change the unit's position, simply select "OPEN" or "CLOSE". Within 1-3 minutes, the unit will move to the new position and update its status in the app.

### 5. Alerts

The smartPOND valve will indicate the following alerts by illuminating an exteriorly visible red LED light

- Low battery
- Loss of function
- Valve malfunction
- Hydrocarbon contamination (optional)

If the telemetry option is selected, the unit will upload the above alerts to the Autoflow app and notify the operator via text or email.

### 6. In Case of Failure

To bypass the smartPOND valve's normal automated functions and control the valve position in case of failure:

#### 6.1 Removal of motor and manual direct control

In case of a total electronic or motor failure, the motor and motor bracket can be uninstalled together by removing the two bolts at the bottom of the motor bracket. With the motor and motor bracket removed, the output shaft on the butterfly valve can be manually controlled with a socket wrench, or any other tool that can grip the output shaft.

### 7. Additional Components List

#### 7.1 Perforated Riser

The smartPOND valve system includes a stackable perforated steel riser which installs on the inlet side of the outfall pipe within the impoundment area. The perforated riser features an 8-inch steel perforated square tube within a 24" round steel mesh tube. At the bottom of the 8-inch square tube, there is a female threaded fitting for a six inch PVC outfall pipe to connect. The steel tube is perforated with 1-inch holes every 4" on center to the height of the impoundment.

#### 7.2 Trash Cage

The trash cage attaches to the perforated riser with a coupling and calder pin. The trash cage will be comprised of steel banding and a 1.5" x 1.5" mesh to prevent floatable's and other contaminants from entering and clogging the perforated riser. The trash cage will sit 0.5" above the bottom of the impoundment to allow the last 0.5" out of the impoundment.

#### 7.3 Valve Stem Extension

The driveshaft/valve stem of the smartPOND system may be extended to any length necessary for instances where the valve will be in an underground vault or manhole. The valve stem will connect the valve to the above ground controls.

### 8. Maintenance

#### 8.1 Grease

The smartPOND valve includes a grease fitting on the valve itself which should be greased twice per year. It is also recommended that a thick, mildly heat-resistant grease be used to avoid grease melting out of the groove in warmer temperatures.

#### 8.2 Flange Bolts

There are 6 bolts connecting the smartPOND valve's flange to the outfall pipe or fixture. During routine maintenance intervals, these bolts should be checked for tightness. All bolts should be tightened evenly.

#### 8.3 Perforated Riser

Silt, sediment, and debris can build up around the perforated riser with time. An annual inspection of the unit is necessary to ensure that excess debris or sediment has not limited the drainage capacity of the perforated riser. To access the perforated riser for maintenance, lift the trash cage off of the riser, dig out any accumulated sediment, and clear all perforations.

#### 8.4 Trash Cage

As a part of routine maintenance, it is advisable to remove trash and debris that has accumulated on the trash cage and properly dispose.

#### 8.5 Solar Panel

On all inspection visits, it is necessary to confirm that the solar panel is facing south and is well secured. The solar panel is commonly utilized by birds and insects. It is important to keep the surface clean of bird litter, insect nests and debris in order to maintain optimal performance.

#### 8.6 Battery

Over time, battery terminals may corrode. Check annually for corrosion and clean as needed. The battery should be replaced every 4 to 6 years.

#### 8.7 Storage

The smartPOND valve is shipped in a near-fully assembled configuration and should be stored likewise. The systems are transported and stored on pallets and must remain secured via straps or steel bands to said pallet at all times. The solar panel is not installed at times of transport or storage and should not be installed until the unit is ready to begin operation. The battery may be stored inside the electronics box and if removed, should never be stored on a concrete surface.

### 9. Installation

The smartPOND valve can be installed in a near-completely assembled configuration. Only the solar panel should be removed during the installation process. There are several ways to install the smartPOND valve with the key being structured support.

#### 9.1 Structural Support

If the smartPOND valve is mounted to a steel pipe in an above ground/fully assembled configuration, the weight of the unit may be supported by the steel pipe. For plastic or concrete pipes, it is recommended that the weight of the unit be supported by either a concrete pad or steel frame. For below ground installations, the upper unit (electronics and actuator) should be fastened to the surface of the concrete vault. For vault installations, see design details for standard vault design.

### 10. Important Safety Information and Warnings:

- Always keep hands clear of the valve and motor when unit is in operation.
- Turn the power switch off when doing any electrical work.
- Do not enter the water when the device is actively draining water
- Always use proper PPE and confined space protocol when servicing a valve beneath ground.

### 11. PRODUCTS

Manufacturer/Supplier/Reseller shall be an established stormwater company that has at least 5 installations of automated stormwater management devices that have been in use and functional for the past 3 or more years.

#### A. Acceptable smartPOND Valve

"smartBATCH" Automated Batch Detention System  
"smartPOND" Automated Detention System

#### B. Acceptable System Supplier

Convergent Water Technologies, Inc.  
(800) 711-5428  
www.convergentwater.com

#### C. Authorized Value Added Reseller

Construction EcoServices  
(800) 456-1000  
www.ecosvs.com

### 12. Quality Assurance and Performance Specifications

The quality of all system components and all other appurtenances and their assembly process shall be subject to inspection upon delivery of the system to the work site. Installation is to be performed only by skilled work people with satisfactory record of performance on earthworks, pipe, welding, chamber, or pond/landfill construction projects of comparable size and quality.

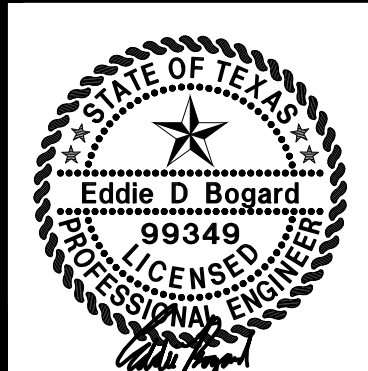
NOTE: ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.

**Westwood**  
Westwood Professional Services, Inc.  
8701 NORTH MOPAC EXPY, SUITE 320  
AUSTIN, TX 78759  
T: 512.485.0831  
F: 888.937.5150  
TPBELS ENGINEERING FIRM NO. 11756  
TPBELS SURVEYING FIRM NO. 1074301  
westwoodps.com

NO.	DESCRIPTION	DATE	BY	APP. DATE

600 SERVICE DRIVE, GEORGETOWN, WILLIAMSON COUNTY, TEXAS
CITY OF GEORGETOWN
GEORGETOWN AIRPORT HANGARS
BATCH POND DETAILS 2 OF 2
### ### ### ###

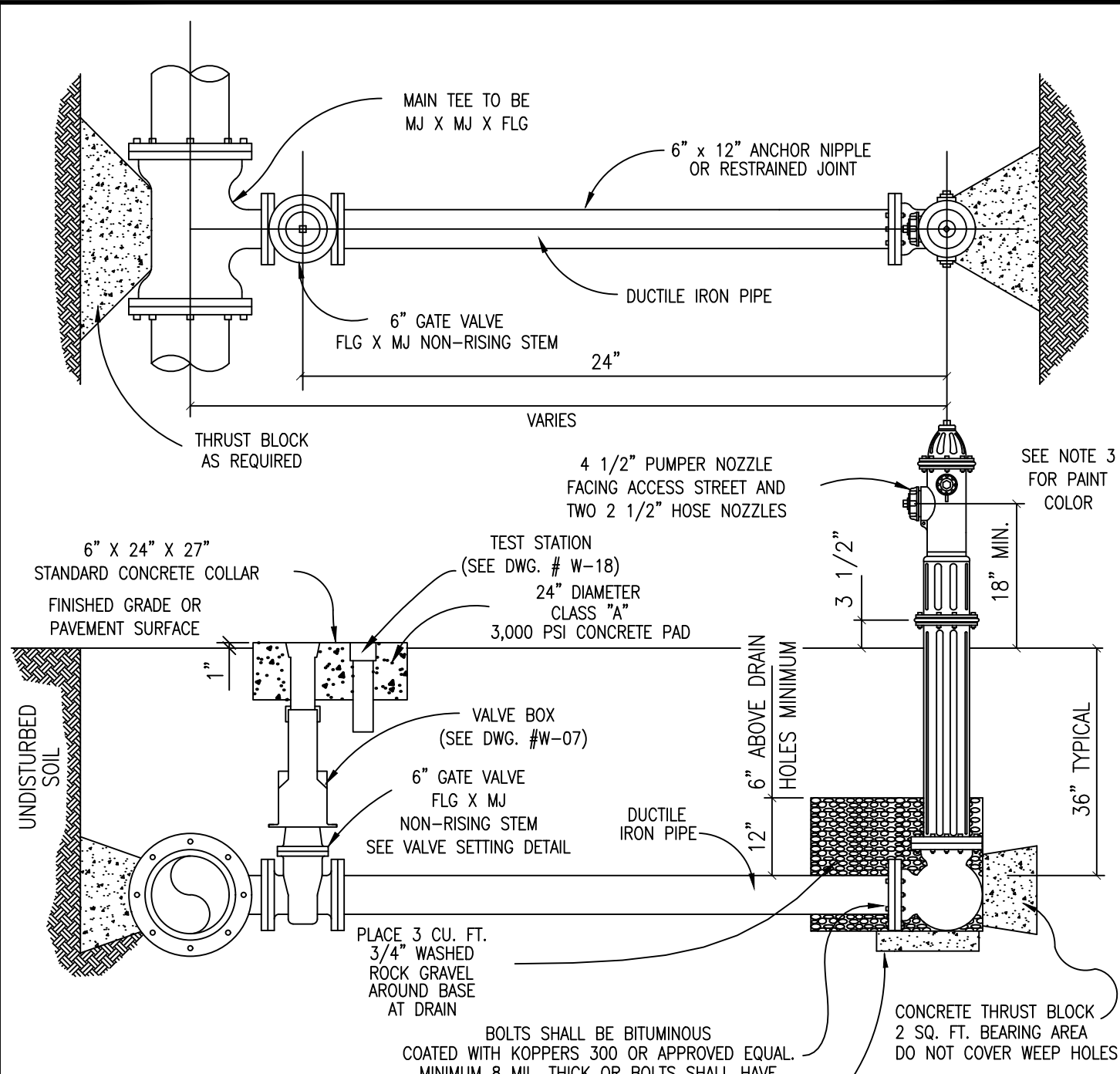
DATE: April, 2025
DRAFTER: AMM
DESIGNER: EDB
CHECKED: EDB
PROJECT NO. 0060255.00











- NOTES:
- FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
  - FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
  - ALL FIRE HYDRANT EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED SILVER USING A HIGH GRADE ENAMEL.
  - HEEL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
  - THE ONLY FIRE HYDRANTS ACCEPTABLE ARE:
    - KENNEDY - K81
    - AMERICAN DARLING - B84B
    - CLOW MEDALLION
  - DOUBLE BLUE REFLECTOR "HYE-LITES" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED AT CENTERLINE OF STREET PERPENDICULAR TO HYDRANT.
  - ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MILL. POLYETHYLENE FILM.

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

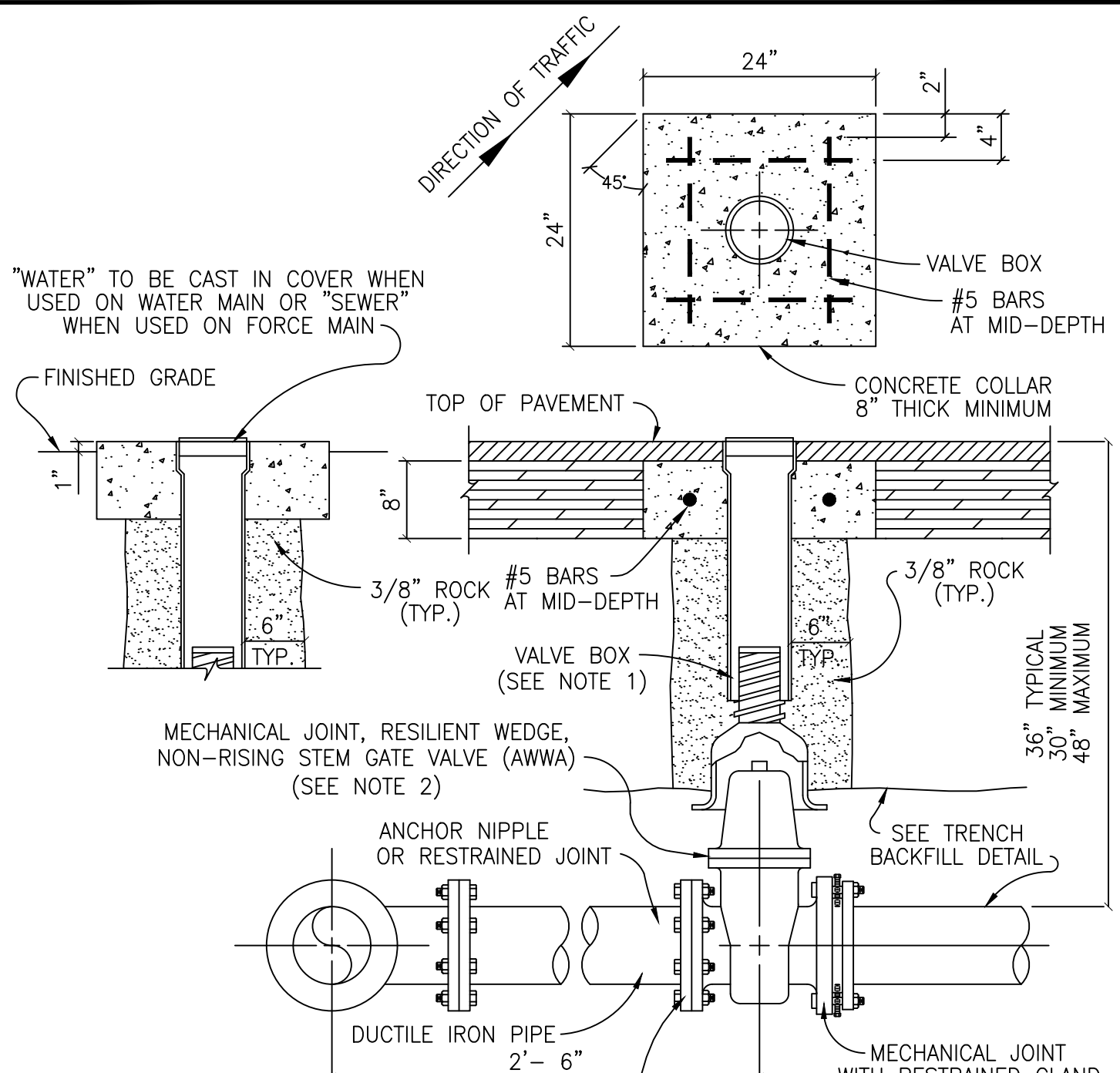
ADOPTED 6/21/2006

CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS

W10

TYPICAL FIRE HYDRANT INSTALLATION

SCALE: NTS 1/2003  
DATE: 1/2003  
DESIGNED BY: MRS  
APPROVED BY: TRB



- NOTES:
- VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR - 6 INCHES FROM INSTALLED FINISH GRADE.
  - ACCEPTABLE GATE VALVES ARE:
    - AMERICAN FLOW CONTROL - SERIES 2500
    - MUELLER - 2360 SERIES
    - CLOW

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

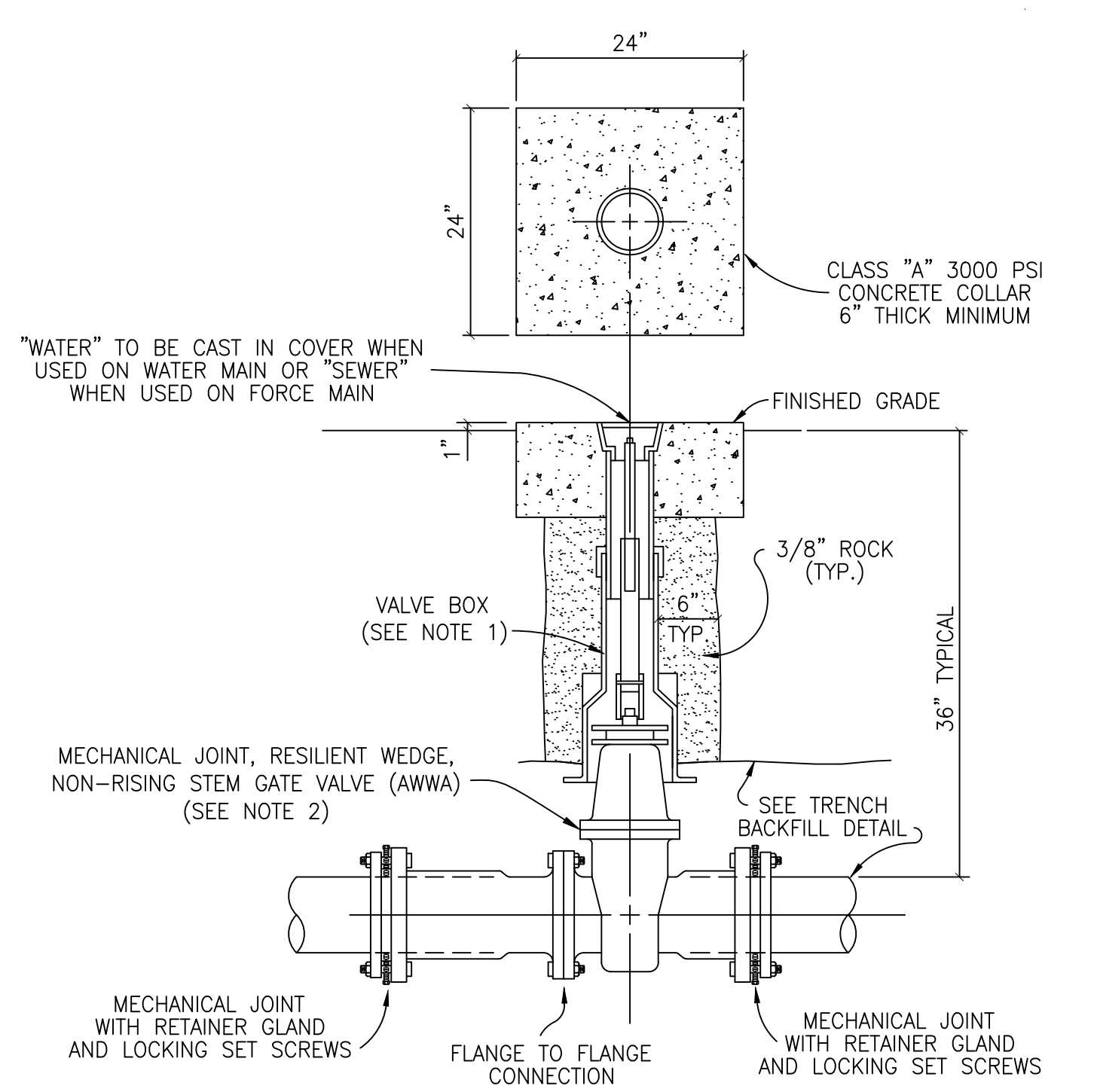
ADOPTED 6/21/2006

CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS

W07

TYPICAL VALVE SETTING

SCALE: NTS 1/2003  
DATE: 1/2003  
DESIGNED BY: MRS  
APPROVED BY: TRB



- NOTES:
- SEE VALVE SETTING DETAIL, DWG. #W-07.
  - ACCEPTABLE GATE VALVES ARE:
    - MUELLER - 2360 SERIES
    - CLOW

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

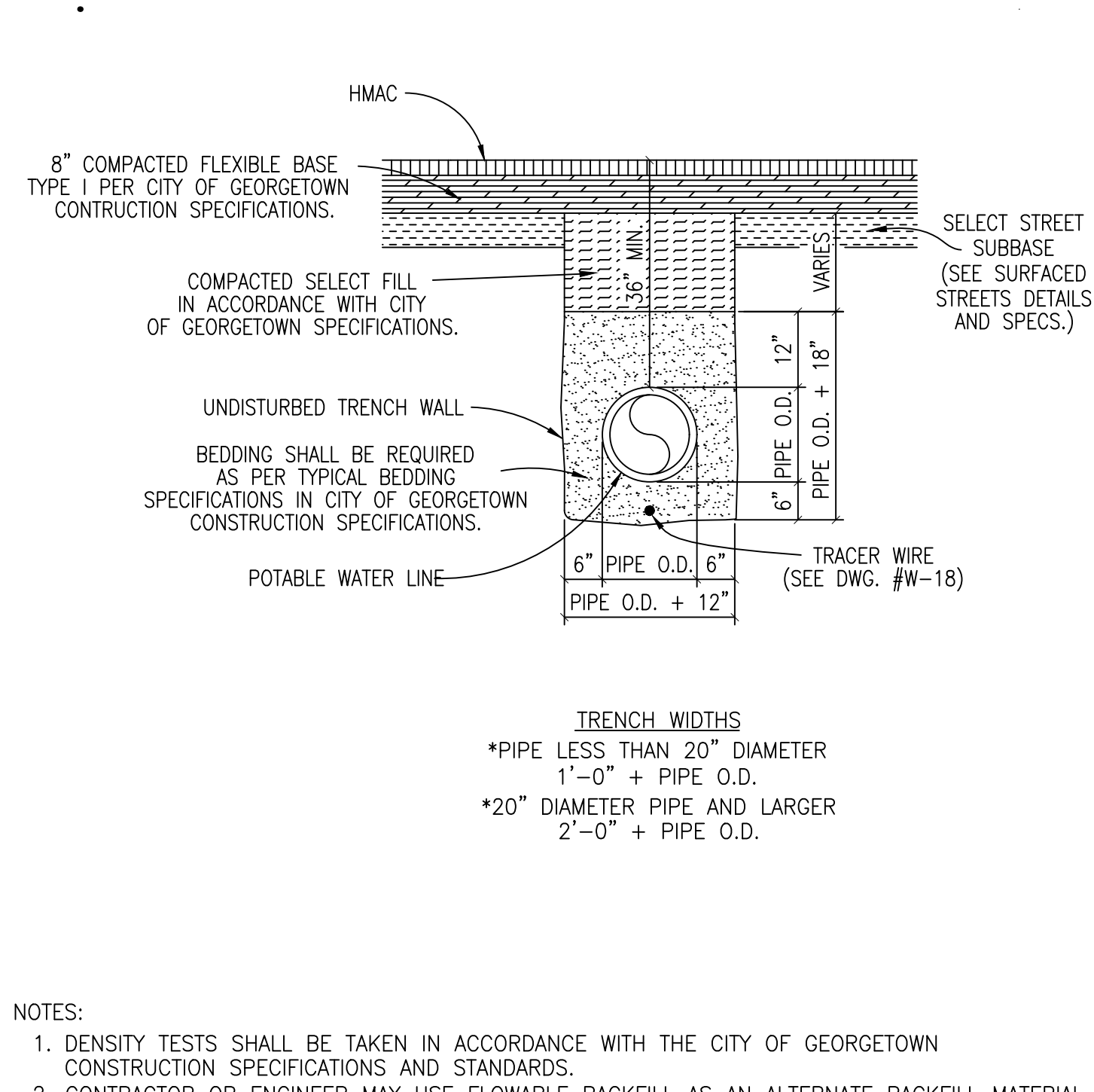
ADOPTED 6/21/2006

CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS

W21

INLINE VALVE INSTALLATION

SCALE: NTS 1/2003  
DATE: 1/2003  
DESIGNED BY: MRS  
APPROVED BY: TRB



- NOTES:
- DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
  - CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

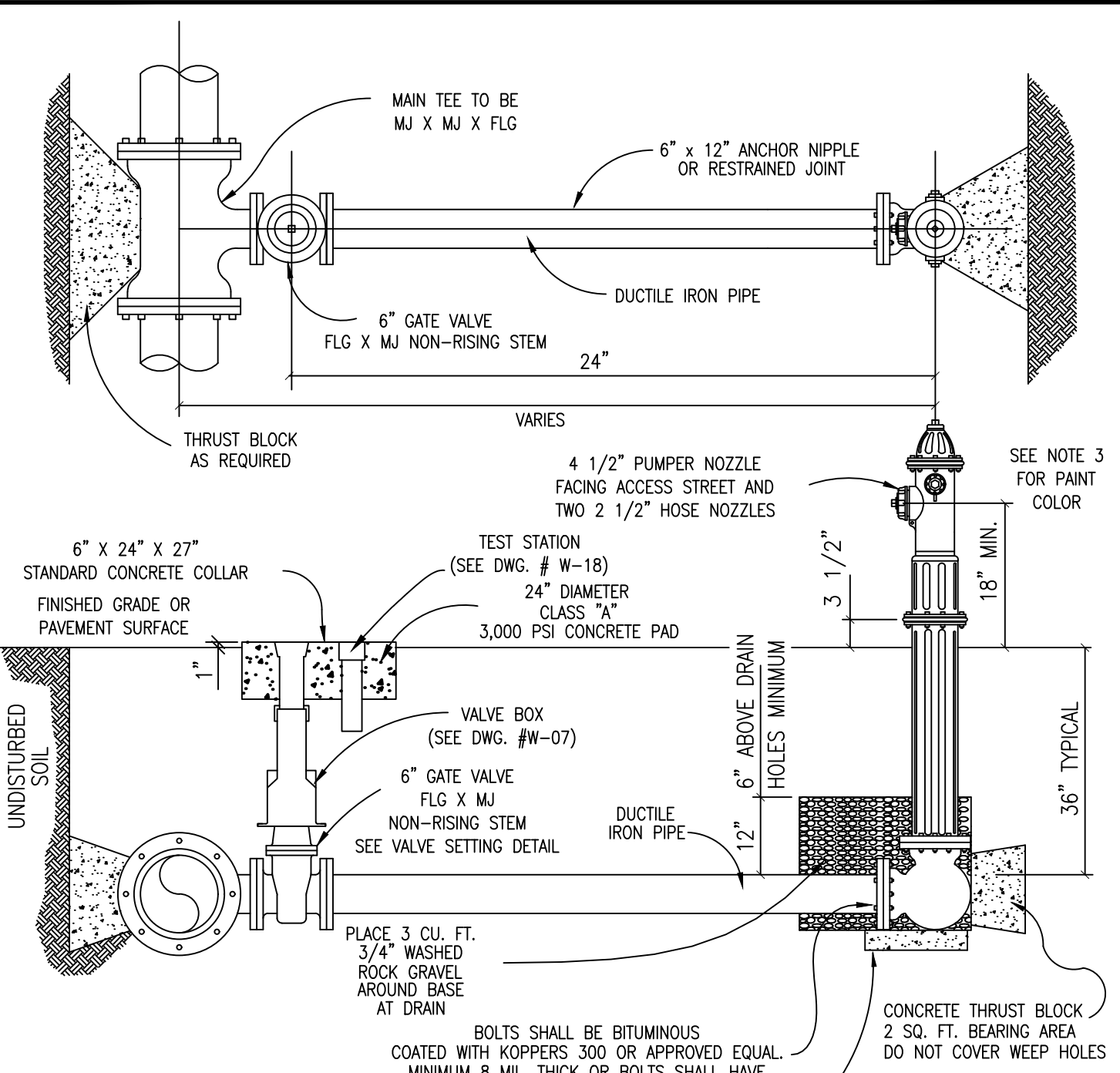
ADOPTED 6/21/2006

CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS

W22

TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY

SCALE: NTS 1/2003  
DATE: 1/2003  
DESIGNED BY: MRS  
APPROVED BY: TRB



- NOTES:
- FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
  - FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
  - ALL FIRE HYDRANT EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED SILVER USING A HIGH GRADE ENAMEL.
  - HEEL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
  - THE ONLY FIRE HYDRANTS ACCEPTABLE ARE:
    - KENNEDY - K81
    - AMERICAN DARLING - B84B
    - CLOW MEDALLION
  - DOUBLE BLUE REFLECTOR "HYE-LITES" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED AT CENTERLINE OF STREET PERPENDICULAR TO HYDRANT.
  - ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MILL. POLYETHYLENE FILM.

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

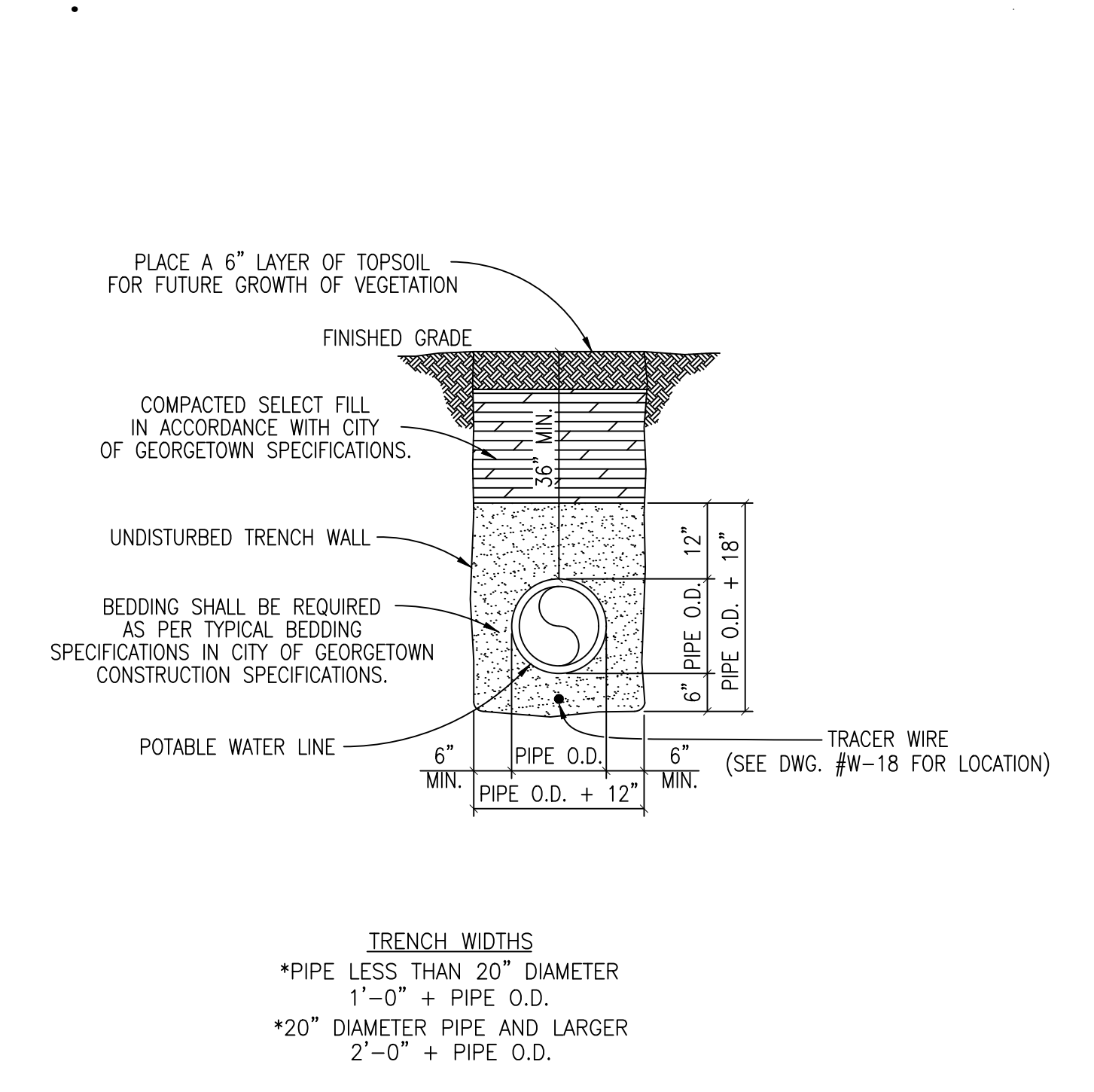
ADOPTED 6/21/2006

CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS

W10

TYPICAL FIRE HYDRANT INSTALLATION

SCALE: NTS 1/2003  
DATE: 1/2003  
DESIGNED BY: MRS  
APPROVED BY: TRB



- NOTES:
- DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
  - CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

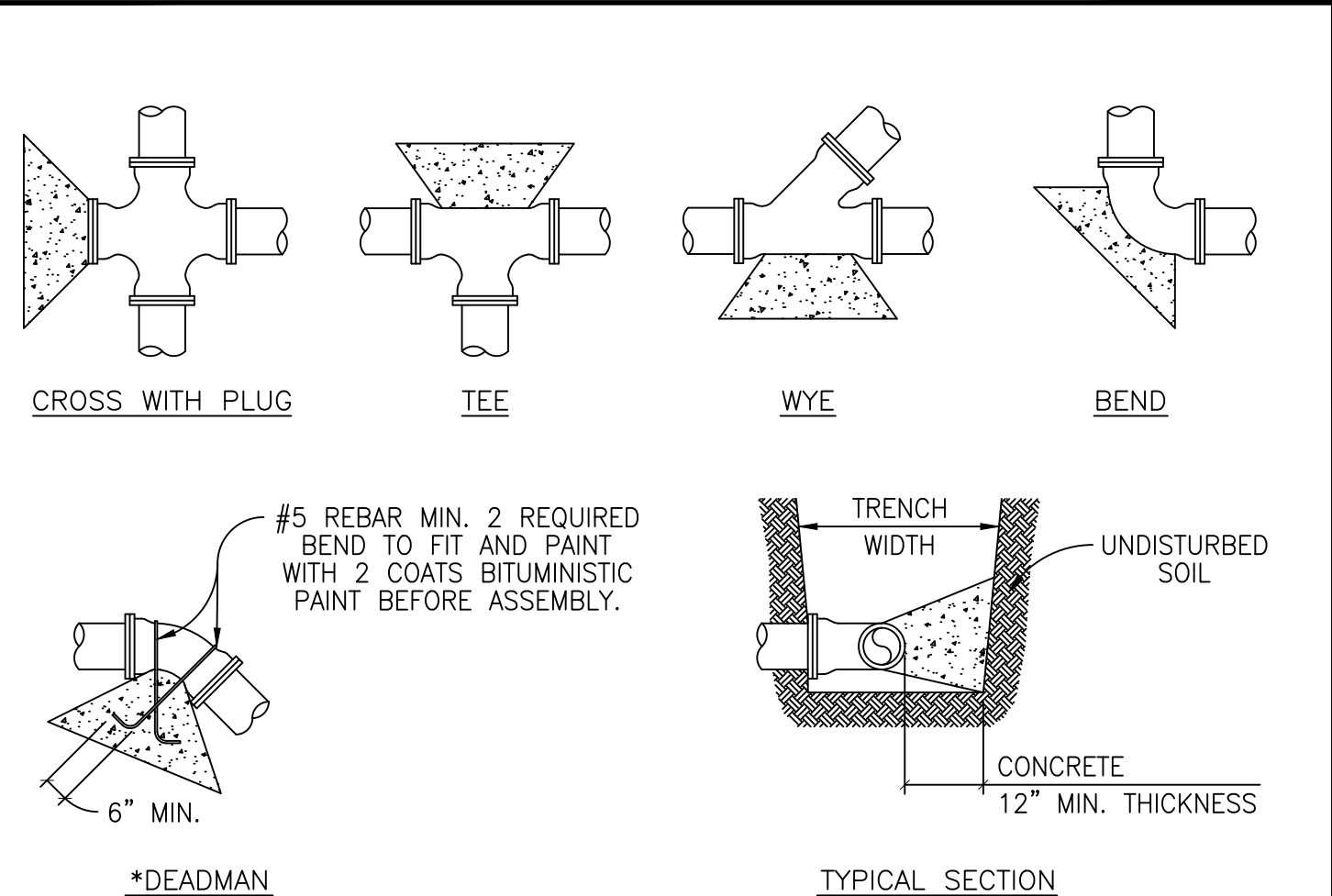
ADOPTED 6/21/2006

CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS

W02

TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS

SCALE: NTS 1/2003  
DATE: 1/2003  
DESIGNED BY: MRS  
APPROVED BY: TRB



- NOTES:
- TEST STATION SHALL BE HANDLEY INDUSTRIES INC. - 2 INCH CATHODIC TEST STATIONS OR APPROVED EQUAL.
  - THE 15" ABS PLASTIC BOX SHALL BE A FLANGED TOP FOR INSTALLATION AT GROUND LEVEL.
  - ALL TERMINALS ARE TO BE MADE OF SOLID BRASS.
  - PLASTIC LIDS SHALL BE COLOR BLUE AND MARKED "WATER".
  - TEST TERMINALS ARE TO BE INCORPORATED WITH HANDLEY VALVE BOXES.
  - BURY SPICE SHALL BE 3M DIRECT BURY SPICE (DBR) OR APPROVED EQUAL.
  - TEST STATIONS SHALL BE INSTALLED AT EACH FIRE HYDRANT LOCATION.

PIPE SIZE	THRUST BLOCK AREA REQUIRED	PIPE SIZE	THRUST BLOCK AREA REQUIRED	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	
16"	24.0 SQ. FT.			

\* THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

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

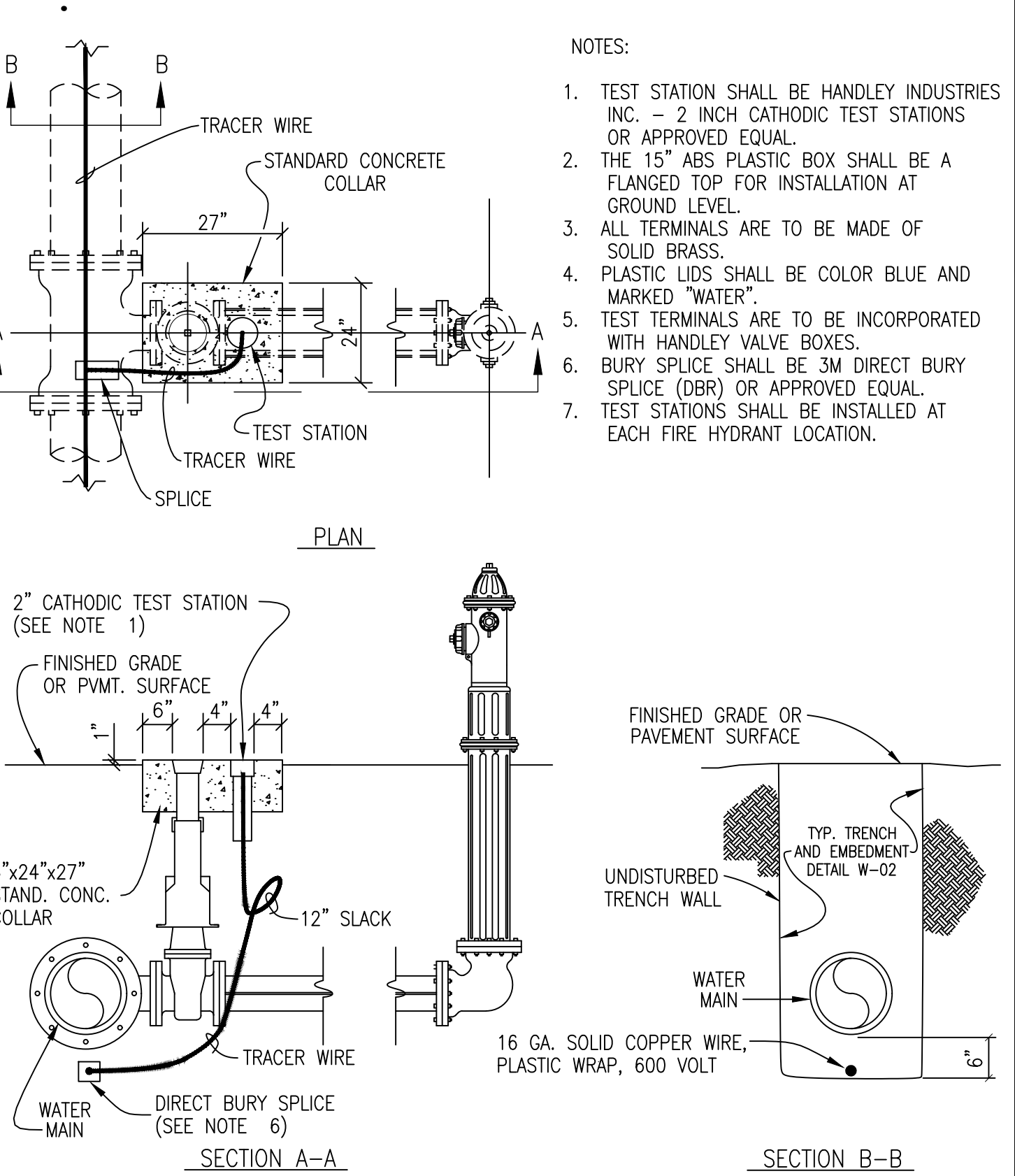
ADOPTED 6/21/2006

CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS

W11

TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN

SCALE: NTS 1/2003  
DATE: 1/2003  
DESIGNED BY: MRS  
APPROVED BY: TRB



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

ADOPTED 6/21/2006

CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS

W18

TRACER WIRE INSTALLATION AND TEST STATION LOCATION

SCALE: NTS 1/2003  
DATE: 1/2003  
DESIGNED BY: MRS  
APPROVED BY: TRB

**Westwood**  
Westwood Professional Services, Inc.  
8701 NORTH MOPAC EXPY. SUITE 320  
AUSTIN, TX 78759  
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600 SERVICE DRIVE, GEORGETOWN, WILLIAMSON COUNTY, TEXAS

**CITY OF GEORGETOWN**

**GEORGETOWN AIRPORT HANGARS**

**UTILITY DETAILS**

DATE: April, 2025

DRAFTER: AMM

DESIGNER: EDB

CHECKED: EDB

PROJECT NO. 0060255.00

STATE OF TEXAS  
Eddie D. Bogard  
99348  
LICENSED PROFESSIONAL ENGINEER

**23**

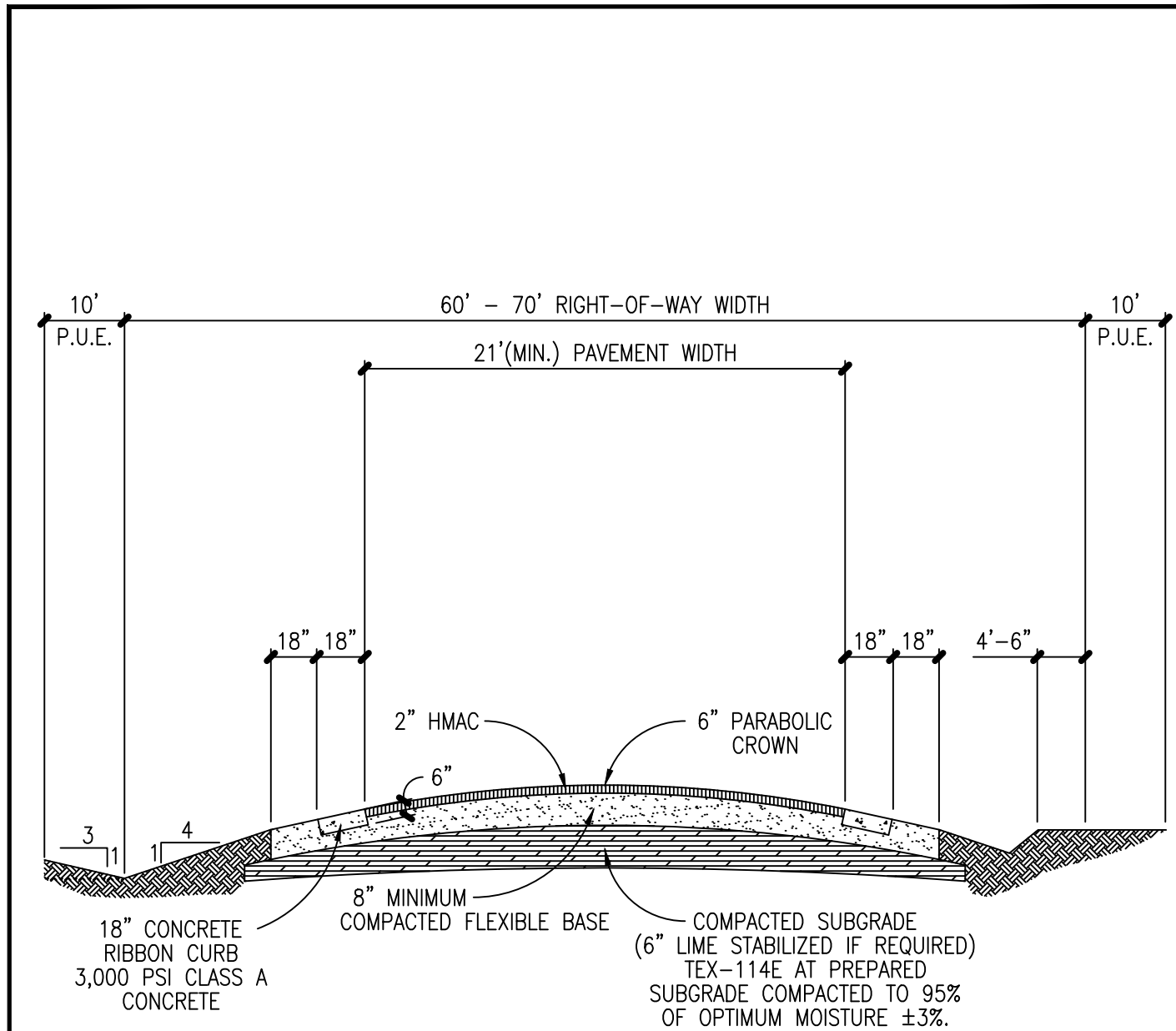
SHEET 23 OF 33

2025-1-SDP



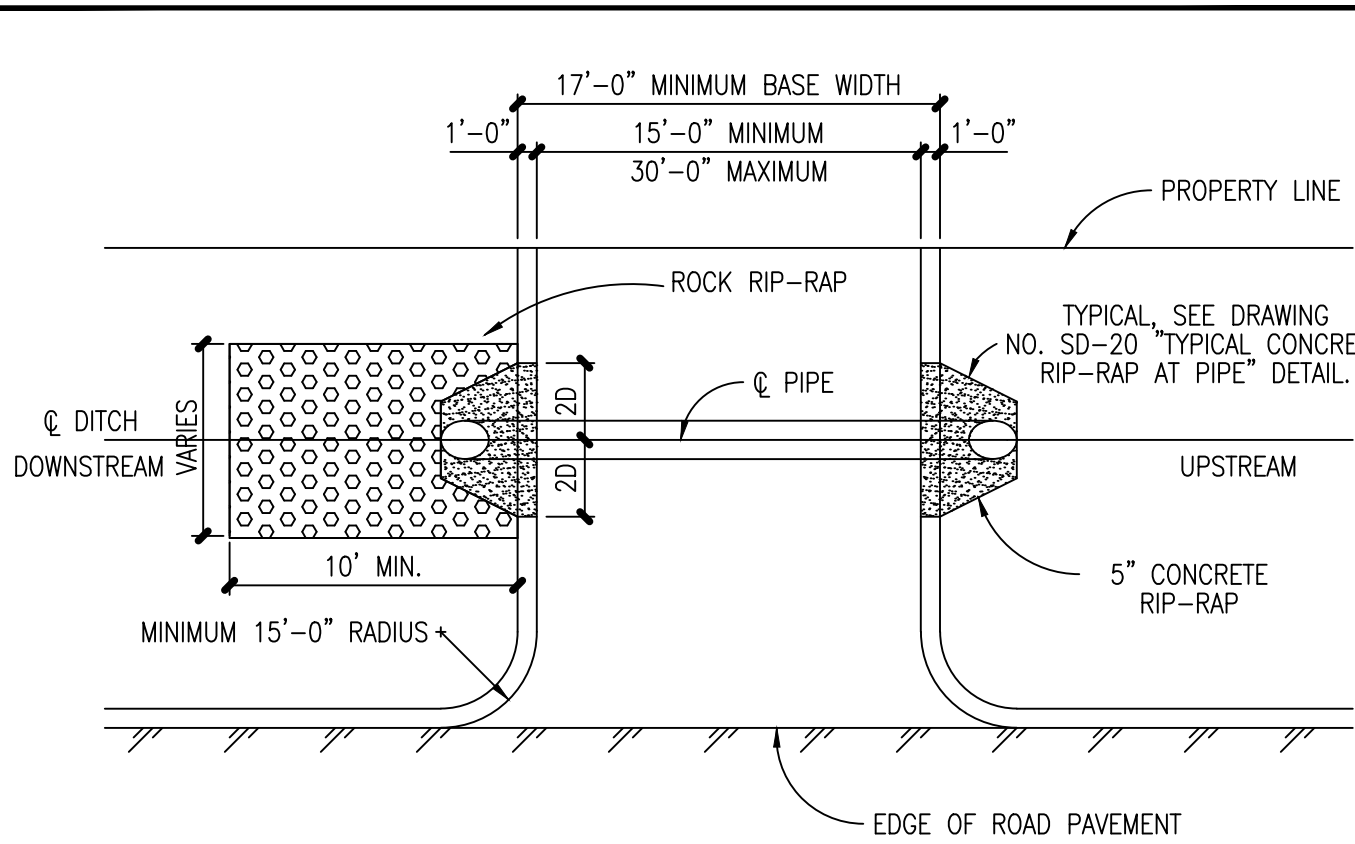






NOTE:

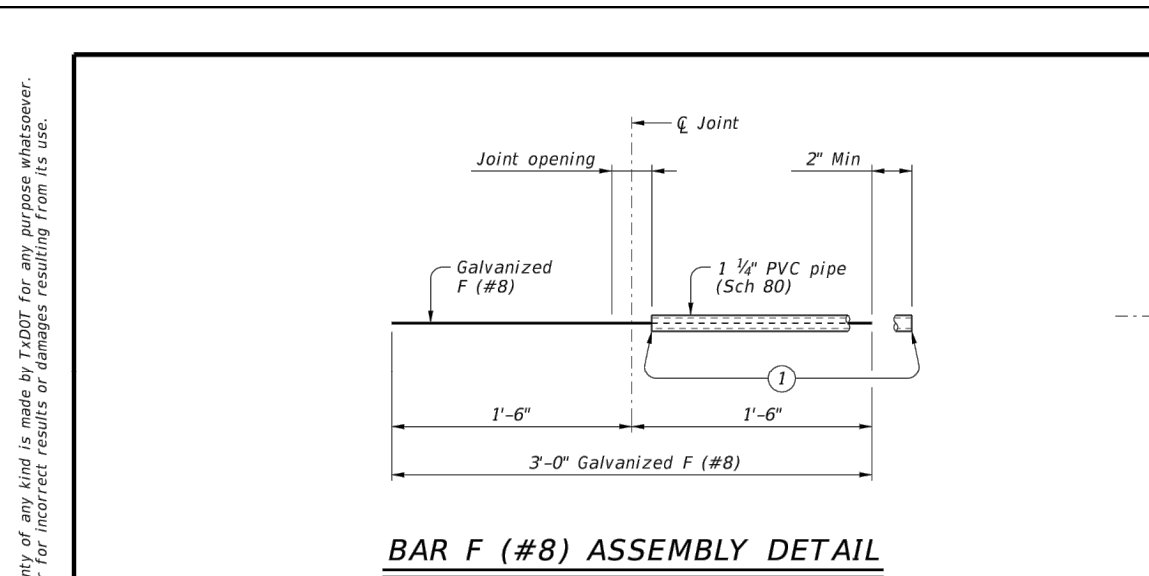
AT MINIMUM, ALL RURAL STREETS SHALL BE PAVED WITH A MINIMUM OF 8" OF FLEXIBLE BASE COMPACTED TO 100% MAXIMUM DENSITY IN ACCORDANCE WITH TEX-113E AT OPTIMUM MOISTURE  $\pm 3\%$ , AND 2" OF HMAC TYPE D.



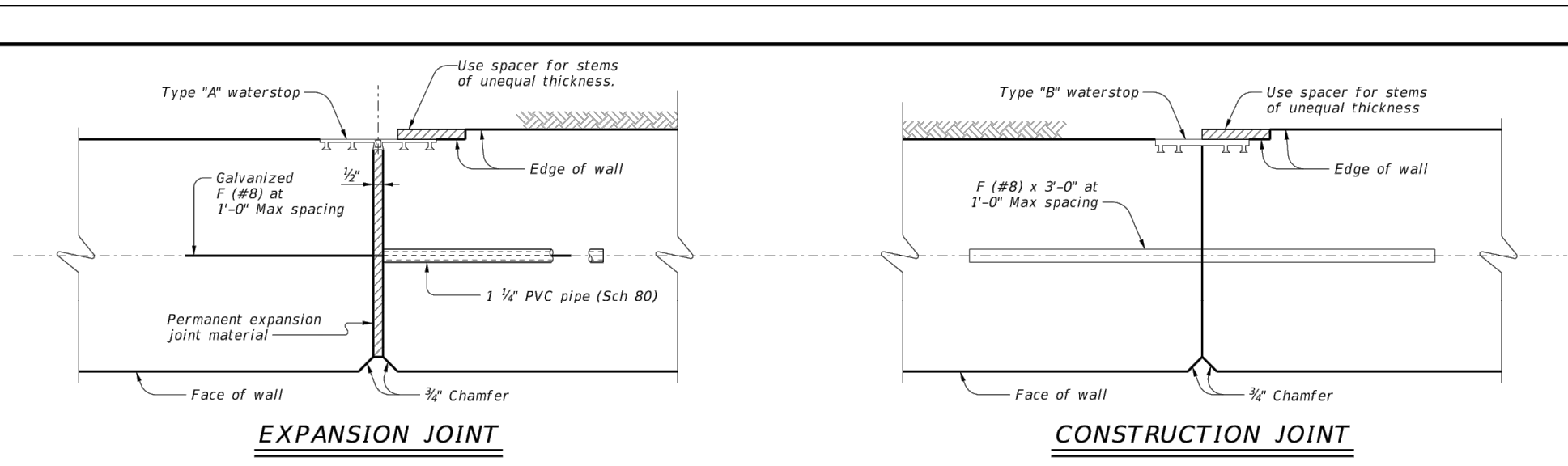
NOTES:

1. MINIMUM COVER OVER CULVERT PIPE SHALL BE 6" (SEE NOTE 5).
2. 5" CONCRETE RIP-RAP SHALL BE INSTALLED.
3. CULVERT PIPE TO BE MINIMUM OF 12" DIAMETER.
4. CULVERT PIPE MATERIAL TO BE R.C.P. (CLASS III), UNLESS PRIOR APPROVAL IS GRANTED BY THE CITY OF GEORGETOWN.
5. MINIMUM COVER OVER CULVERT PIPE SHALL PROVIDE H20 LOADING.
6. BACKFILL AROUND CULVERT PIPE SHALL BE SELECT MATERIAL TO BE PLACED AND COMPACTED TO 95% TEX-114E.
7. ROCK RIP-RAP SHALL EXTEND 10' FROM THE DOWN STREAM SIDE USING THE AVERAGE STONE SIZE DIA. OF 8" AT A DEPTH OF 16" (MINIMUM).
8. MINIMUM CHANNEL SIDE SLOPE SHALL BE 4:1.

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

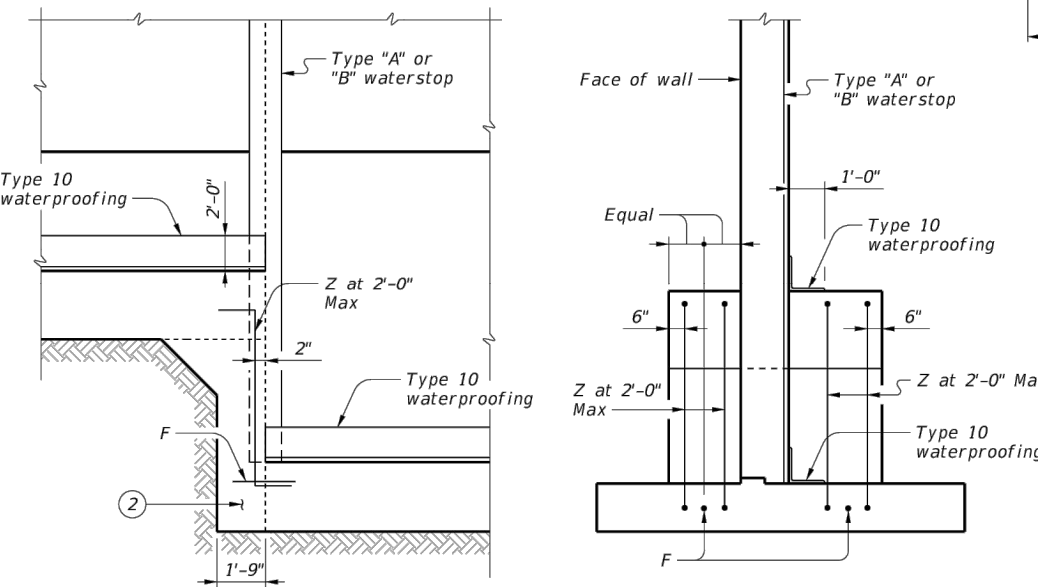


BAR F (#8) ASSEMBLY DETAIL

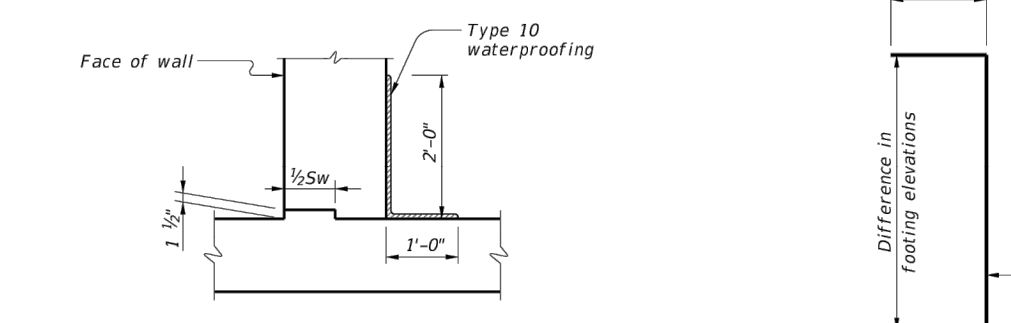


EXPANSION JOINT

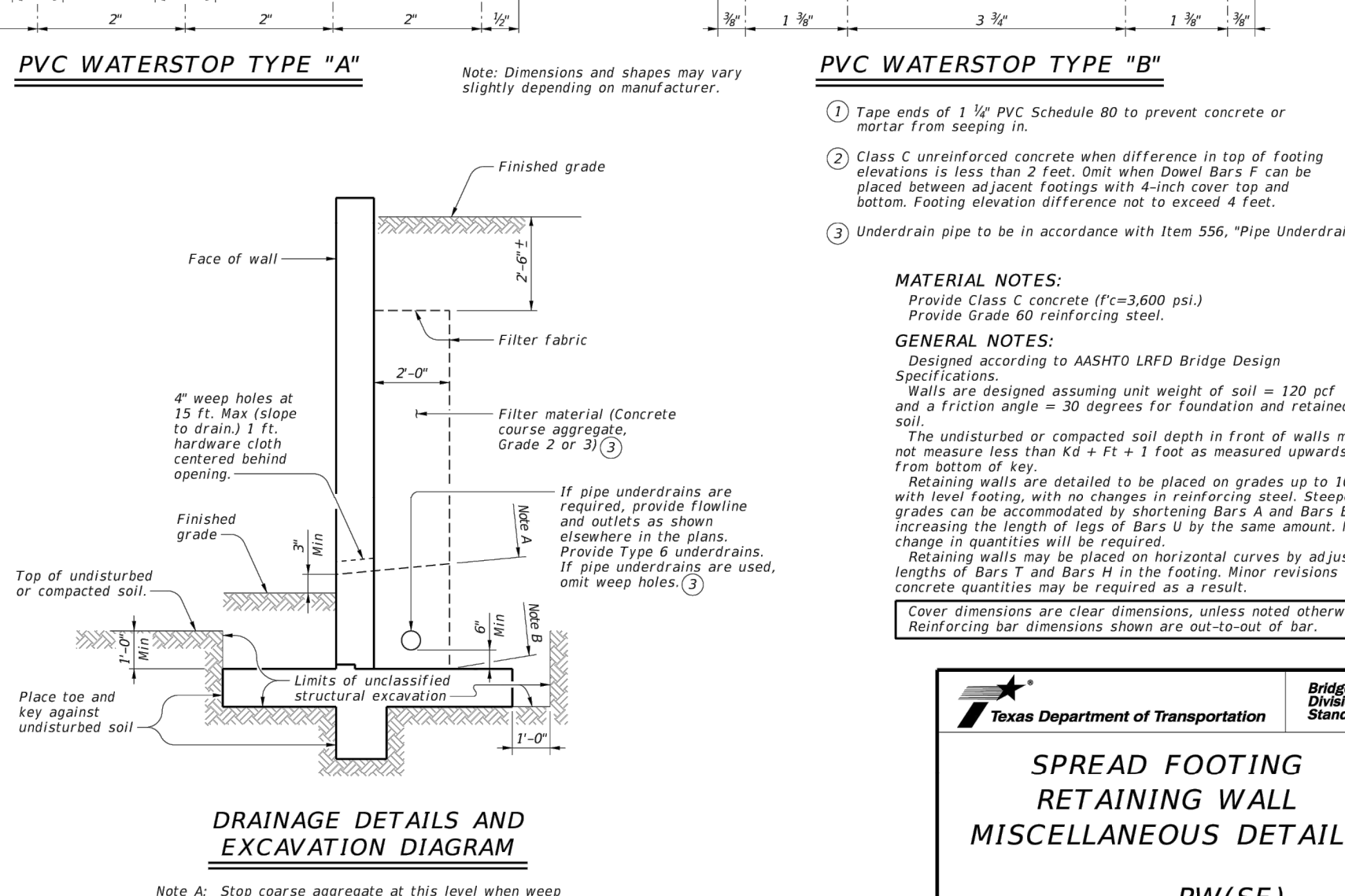
CONSTRUCTION JOINT



PARTIAL ELEVATION PARTIAL SECTION SHOWING WATERSTOP AT FOOTING ELEVATION TRANSITION



JOINT AND WATERSTOP DETAILS



PVC WATERSTOP TYPE "A" PVC WATERSTOP TYPE "B"

**MATERIAL NOTES:**  
Provide Class C concrete (f'c=3600 psi).  
Provide Grade 60 reinforcing steel.  
**GENERAL NOTES:**  
Designed according to AASHTO LRFD Bridge Design Specifications.  
Walls are designed assuming unit weight of soil = 120 pcf and a friction angle = 30 degrees for foundation and retained soil.  
The undisturbed or compacted soil depth in front of walls must not measure less than 4' x 1' foot as measured downwards from bottom of key.  
Retaining walls are detailed to be placed on grades up to 10% with level footing, with no changes in reinforcing steel. Slopes greater than 10% shall be detailed with stepped footings and increasing the length of legs of Bars U by the same amount. No change in quantities will be required.  
Retaining walls may be placed on horizontal curves by adjusting lengths of Bars T and Bars H in the footing. Minor revisions to concrete quantities may be required as a result.  
Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.



**SPREAD FOOTING RETAINING WALL MISCELLANEOUS DETAILS**

RW(SF)		REVISED		SHEET NO.	
DATE	BY	DATE	BY	DATE	BY
07/01/01	June 2002				
REVISIONS		REVISIONS		REVISIONS	
NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION
1	Updated under-drain requirements.				

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS  
TYPICAL RURAL PAVING DETAIL

ADOPTED 6/21/2006  
SD02

DATE: 1/2003  
DRAWN BY: NTS  
CHECKED BY: MFS

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS  
RURAL NON-RESIDENTIAL UNDIVIDED DRIVEWAY APPROACH WITH CULVERT PIPE

ADOPTED 6/21/2006  
SD18

DATE: 1/2003  
DRAWN BY: NTS  
CHECKED BY: MFS

**REINFORCING STEEL FOR ONE 32' PANEL (DESIGN A)**

**PROPERTIES**

WALL DIMENSIONS	Max. Soil Press.	At 15' c/c	At 25' c/c	At 35' c/c	At 45' c/c	At 55' c/c	At 65' c/c	At 75' c/c	At 85' c/c	At 95' c/c	At 105' c/c	At 115' c/c	At 125' c/c	At 135' c/c	At 145' c/c	At 155' c/c	At 165' c/c	At 175' c/c	At 185' c/c	At 195' c/c	At 205' c/c	At 215' c/c	At 225' c/c	At 235' c/c	At 245' c/c	At 255' c/c	At 265' c/c	At 275' c/c	At 285' c/c	At 295' c/c	At 305' c/c	At 315' c/c	At 325' c/c	At 335' c/c	At 345' c/c	At 355' c/c	At 365' c/c	At 375' c/c	At 385' c/c	At 395' c/c	At 405' c/c	At 415' c/c	At 425' c/c	At 435' c/c	At 445' c/c	At 455' c/c	At 465' c/c	At 475' c/c	At 485' c/c	At 495' c/c	At 505' c/c	At 515' c/c	At 525' c/c	At 535' c/c	At 545' c/c	At 555' c/c	At 565' c/c	At 575' c/c	At 585' c/c	At 595' c/c	At 605' c/c	At 615' c/c	At 625' c/c	At 635' c/c	At 645' c/c	At 655' c/c	At 665' c/c	At 675' c/c	At 685' c/c	At 695' c/c	At 705' c/c	At 715' c/c	At 725' c/c	At 735' c/c	At 745' c/c	At 755' c/c	At 765' c/c	At 775' c/c	At 785' c/c	At 795' c/c	At 805' c/c	At 815' c/c	At 825' c/c	At 835' c/c	At 845' c/c	At 855' c/c	At 865' c/c	At 875' c/c	At 885' c/c	At 895' c/c	At 905' c/c	At 915' c/c	At 925' c/c	At 935' c/c	At 945' c/c	At 955' c/c	At 965' c/c	At 975' c/c	At 985' c/c	At 995' c/c	At 1005' c/c	At 1015' c/c	At 1025' c/c	At 1035' c/c	At 1045' c/c	At 1055' c/c	At 1065' c/c	At 1075' c/c	At 1085' c/c	At 1095' c/c	At 1105' c/c	At 1115' c/c	At 1125' c/c	At 1135' c/c	At 1145' c/c	At 1155' c/c	At 1165' c/c	At 1175' c/c	At 1185' c/c	At 1195' c/c	At 1205' c/c	At 1215' c/c	At 1225' c/c	At 1235' c/c	At 1245' c/c	At 1255' c/c	At 1265' c/c	At 1275' c/c	At 1285' c/c	At 1295' c/c	At 1305' c/c	At 1315' c/c	At 1325' c/c	At 1335' c/c	At 1345' c/c	At 1355' c/c	At 1365' c/c	At 1375' c/c	At 1385' c/c	At 1395' c/c	At 1405' c/c	At 1415' c/c	At 1425' c/c	At 1435' c/c	At 1445' c/c	At 1455' c/c	At 1465' c/c	At 1475' c/c	At 1485' c/c	At 1495' c/c	At 1505' c/c	At 1515' c/c	At 1525' c/c	At 1535' c/c	At 1545' c/c	At 1555' c/c	At 1565' c/c	At 1575' c/c	At 1585' c/c	At 1595' c/c	At 1605' c/c	At 1615' c/c	At 1625' 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c/c	At 2405' c/c	At 2415' c/c	At 2425' c/c	At 2435' c/c	At 2445' c/c	At 2455' c/c	At 2465' c/c	At 2475' c/c	At 2485' c/c	At 2495' c/c	At 2505' c/c	At 2515' c/c	At 2525' c/c	At 2535' c/c	At 2545' c/c	At 2555' c/c	At 2565' c/c	At 2575' c/c	At 2585' c/c	At 2595' c/c	At 2605' c/c	At 2615' c/c	At 2625' c/c	At 2635' c/c	At 2645' c/c	At 2655' c/c	At 2665' c/c	At 2675' c/c	At 2685' c/c	At 2695' c/c	At 2705' c/c	At 2715' c/c	At 2725' c/c	At 2735' c/c	At 2745' c/c	At 2755' c/c	At 2765' c/c	At 2775' c/c	At 2785' c/c	At 2795' c/c	At 2805' c/c	At 2815' c/c	At 2825' c/c	At 2835' c/c	At 2845' c/c	At 2855' c/c	At 2865' c/c	At 2875' c/c	At 2885' c/c	At 2895' c/c	At 2905' c/c	At 2915' c/c	At 2925' c/c	At 2935' c/c	At 2945' c/c	At 2955' c/c	At 2965' c/c	At 2975' c/c	At 2985' c/c	At 2995' c/c	At 3005' c/c	At 3015' c/c	At 3025' c/c	At 3035' c/c	At 3045' c/c	At 3055' c/c	At 3065' c/c	At 3075' c/c	At 3085' c/c	At 3095' c/c	At 3105' c/c	At 3115' c/c	At 3125' c/c	At 3135' c/c	At 3145' c/c	At 3155' c/c	At 3165' c/c	At 3175' c/c	At 3185' c/c	At 3195' c/c	At 3205' c/c	At 3215' c/c	At 3225' c/c	At 3235' c/c	At 3245' c/c	At 3255' c/c	At 3265' c/c	At 3275' c/c	At 3285' c/c	At 3295' c/c	At 3305' c/c	At 3315' c/c	At 3325' c/c	At 3335' c/c	At 3345' c/c	At 3355' c/c	At 3365' c/c	At 3375' c/c	At 3385' c/c	At 3395' c/c	At 3405' c/c	At 3415' c/c	At 3425' c/c	At 3435' c/c	At 3445' c/c	At 3455' c/c	At 3465' c/c	At 3475' c/c	At 3485' c/c	At 3495' c/c	At 3505' c/c	At 3515' c/c	At 3525' c/c	At 3535' c/c	At 3545' c/c	At 3555' c/c	At 3565' c/c	At 3575' c/c	At 3585' c/c	At 3595' c/c	At 3605' c/c	At 3615' c/c	At 3625' c/c	At 3635' c/c	At 3645' c/c	At 3655' c/c	At 3665' c/c	At 3675' c/c	At 3685' c/c	At 3695' c/c	At 3705' c/c	At 3715' c/c	At 3725' c/c	At 3735' c/c	At 3745' c/c	At 3755' c/c	At 3765' c/c	At 3775' c/c	At 3785' c/c	At 3795' c/c	At 3805' c/c	At 3815' c/c	At 3825' c/c	At 3835' c/c	At 3845' c/c	At 3855' c/c	At 3865' c/c	At 3875' c/c	At 3885' c/c	At 3895' c/c	At 3905' c/c	At 3915' c/c	At 3925' c/c	At 3935' 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c/c	At 5485' c/c	At 5495' c/c	At 5505' c/c	At 5515' c/c	At 5525' c/c	At 5535' c/c	At 5545' c/c	At 5555' c/c	At 5565' c/c	At 5575' c/c	At 5585' c/c	At 5595' c/c	At 5605' c/c	At 5615' c/c	At 5625' c/c	At 5635' c/c	At 5645' c/c	At 5655' c/c	At 5665' c/c	At 5675' c/c	At 5685' c/c	At 5695' c/c	At 5705' c/c	At 5715' c/c	At 5725' c/c	At 5735' c/c	At 5745' c/c	At 5755' c/c	At 5765' c/c	At 5775' c/c	At 5785' c/c	At 5795' c/c	At 5805' c/c	At 5815' c/c	At 5825' c/c	At 5835' c/c	At 5845' c/c	At 5855' c/c	At 5865' c/c	At 5875' c/c	At 5885' c/c	At 5895' c/c	At 5905' c/c	At 5915' c/c	At 5925' c/c	At 5935' c/c	At 5945' c/c	At 5955' c/c	At 5965' c/c	At 5975' c/c	At 5985' c/c	At 5995' c/c	At 6005' c/c	At 6015' c/c	At 6025' c/c	At 6035' c/c	At 6045' c/c	At 6055' c/c	At 6065' c/c	At 6075' c/c	At 6085' c/c	At 6095' c/c	At 6105' c/c	At 6115' c/c	At 6125' c/c	At 6135' c/c	At 6145' c/c	At 6155' c/c	At 6165' c/c	At 6175' c/c	At 6185' c/c	At 6195' c/c	At 6205' c/c	At 6215' c/c	At 6225' c/c	At 6235' c/c	At 6245' c/c	At 6255' c/c	At 6265' c/c	At 6275' c/c	At 6285' c/c	At 6295' c/c	At 6305' c/c	At 6315' c/c	At 6325' c/c	At 6335' c/c	At 6345' c/c	At 6355' c/c	At 6365' c/c	At 6375' c/c	At 6385' c/c	At 6395' c/c	At 6405' c/c	At 6415' c/c	At 6425' c/c	At 6435' c/c	At 6445' c/c	At 6455' c/c	At 6465' c/c	At 6475' c/c	At 6485' c/c	At 6495' c/c	At 6505' c/c	At 6515' c/c	At 6525' c/c	At 6535' c/c	At 6545' c/c	At 6555' c/c	At 6565' c/c	At 6575' c/c	At 6585' c/c	At 6595' c/c	At 6605' c/c	At 6615' c/c	At 6625' c/c	At 6635' c/c	At 6645' c/c	At 6655' c/c	At 6665' c/c	At 6675' c/c	At 6685' c/c	At 6695' c/c	At 6705' c/c	At 6715' c/c	At 6725' c/c	At 6735' c/c	At 6745' c/c	At 6755' c/c	At 6765' c/c	At 6775' c/c	At 6785' c/c	At 6795' c/c	At 6805' c/c	At 6815' c/c	At
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## Attachment G – Inspection, Maintenance, Repair and Retrofit Plan

### Batch Detention

- *Batch detention* basins may have somewhat higher maintenance requirements than an extended detention basin since they are active stormwater controls. The maintenance activities are identical to those of extended detention basins with the addition of maintenance and inspections of the automatic controller and the valve at the outlet.
- *Inspections.* Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.
- *Mowing.* The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.
- *Litter and Debris Removal.* Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.
- *Erosion control.* The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.
- *Nuisance Control.* Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).
- *Structural Repairs and Replacement.* With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.
- *Sediment Removal.* A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when



sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

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



Engineer Signature

Eddie Bogard, P.E.

Printed Name

Project Manager

Title

04/16/2025

Date



Owner Signature

Eric Johnson

Printed Name

Public Works Director

Title

May 14, 2025

Date



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

I Eric Johnson  
\_\_\_\_\_  
Print Name  
Public Works Director  
\_\_\_\_\_  
Title - Owner/President/Other  
of City of Georgetown  
\_\_\_\_\_  
Corporation/Partnership/Entity Name  
have authorized Eddie Bogard  
\_\_\_\_\_  
Print Name of Agent/Engineer  
of Westwood PS  
\_\_\_\_\_  
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

March 18, 2025

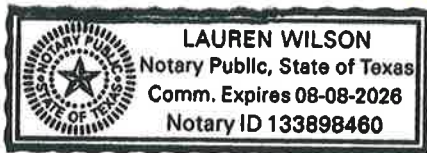
Date

THE STATE OF TEXAS §

County of WILLIAMSON §

BEFORE ME, the undersigned authority, on this day personally appeared ERIC JOHNSON 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 18<sup>th</sup> day of MARCH, 2025.



  
NOTARY PUBLIC

Lauren Wilson  
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 08-08-2026



# Application Fee Form

## Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Georgetown Airport Hangars

Regulated Entity Location: Georgetown; Williamson County

Name of Customer: Eric Johnson

Contact Person: Eddie Bogard P.E.

Phone: (512) 485-0831

Customer Reference Number (if issued): CN 600412043

Regulated Entity Reference Number (if issued): RN Not yet assigned

### Austin Regional Office (3373)

☐ Hays

☐ Travis

☒ Williamson

### San Antonio Regional Office (3362)

☐ Bexar

☐ Medina

☐ Uvalde

☐ Comal

☐ Kinney

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

☒ Austin Regional Office

☐ San Antonio Regional Office

☐ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

### Site Location (Check All That Apply):

☒ Recharge Zone

☐ Contributing Zone

☐ Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	7.566 Acres	\$ 5,000
Sewage Collection System	L.F.	\$
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

Signature: 

Date: 04/16/2025



# Application Fee Schedule

Texas Commission on Environmental Quality

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

## ***Water Pollution Abatement Plans and Modifications***

### ***Contributing Zone Plans and Modifications***

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

### ***Organized Sewage Collection Systems and Modifications***

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

### ***Underground and Aboveground Storage Tank System Facility Plans and Modifications***

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

### ***Exception Requests***

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

### ***Extension of Time Requests***

<b><i>Project</i></b>	<b><i>Fee</i></b>
Extension of Time Request	\$150





TCEQ Use Only

# TCEQ Core Data Form

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

## SECTION I: General Information

<b>1. Reason for Submission</b> (If other is checked please describe in space provided.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> Other
<b>2. Customer Reference Number (if issued)</b>	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	<b>3. Regulated Entity Reference Number (if issued)</b>
CN 600412043		RN N/A

## SECTION II: Customer Information

<b>4. General Customer Information</b>		<b>5. Effective Date for Customer Information Updates</b> (mm/dd/yyyy)	
<input type="checkbox"/> New Customer		<input checked="" type="checkbox"/> Update to Customer Information	
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)		<input type="checkbox"/> Change in Regulated Entity Ownership	
<b>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).</b>			
<b>6. Customer Legal Name</b> (If an individual, print last name first: eg: Doe, John)		If new Customer, enter previous Customer below:	
CITY OF GEORGETOWN			
<b>7. TX SOS/CPA Filing Number</b>	<b>8. TX State Tax ID</b> (11 digits)	<b>9. Federal Tax ID</b> (9 digits)	<b>10. DUNS Number</b> (if applicable)
N/A	N/A	17460009743	N/A
<b>11. Type of Customer:</b>	<input checked="" type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input checked="" type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other	<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Other:	
<b>12. Number of Employees</b>		<b>13. Independently Owned and Operated?</b>	
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>14. Customer Role</b> (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following			
<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Owner & Operator			
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other:			
<b>15. Mailing Address:</b>	809 Martin Luther King St		
	City	Georgetown	State TX ZIP 78626 ZIP + 4
<b>16. Country Mailing Information</b> (if outside USA)		<b>17. E-Mail Address</b> (if applicable)	
		eric.johnson@georgetown.org	
<b>18. Telephone Number</b>	<b>19. Extension or Code</b>	<b>20. Fax Number</b> (if applicable)	
( 512 ) 930-3666		( ) -	

## SECTION III: Regulated Entity Information

<b>21. General Regulated Entity Information</b> (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)	
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information	
<b>The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).</b>	
<b>22. Regulated Entity Name</b> (Enter name of the site where the regulated action is taking place.)	
Georgetown Airport Hangars	



23. Street Address of the Regulated Entity: (No PO Boxes)	600 Service Drive							
	City	Georgetown	State	TX	ZIP	78626	ZIP + 4	
24. County								

**Enter Physical Location Description if no street address is provided.**

25. Description to Physical Location:								
26. Nearest City					State	Nearest ZIP Code		
27. Latitude (N) In Decimal:	30.6865556° N			28. Longitude (W) In Decimal:	-97.6745278°W			
Degrees	Minutes	Seconds		Degrees	Minutes	Seconds		
30	41	11.6		97	40	28.3		
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)			
4581			236220					
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)								
Airport Hangars								
34. Mailing Address:	600 Service Drive							
	City	Georgetown	State	TX	ZIP	78626	ZIP + 4	
35. E-Mail Address:	eric.johnson@georgetown.org							
36. Telephone Number		37. Extension or Code			38. Fax Number (if applicable)			
( 512 ) 930-3666					( ) -			

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

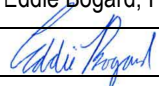
<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
		n/a		
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/>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

#### **SECTION IV: Preparer Information**

40. Name:	Eddie Bogard, P.E.	41. Title:	Senior Project Manager
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
( 512 ) 485-0831		( ) -	eddie.bogard@westwoodps.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:	Westwood Professional Services	Job Title:	Senior Project Manager
Name (In Print):	Eddie Bogard, P.E.	Phone:	( 512 ) 485- 0831
Signature:		Date:	5/12/25



STATE OF TEXAS  
REGISTERED  
FRED L. DODD JR.  
6392  
LAND PROFESSIONAL  
SURVEYOR

**CURVE DATA TABLE:**

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	35.80'	22.31'	91°56'37"	S 48°24'59" E	32.08'

**TREE LIST:**

NO.	TYPE	DIAMETER
2149	LIVE OAK	15"
2150	LIVE OAK	18"
2151	LIVE OAK	13"
3012	LIVE OAK	32"-28"
3013	LIVE OAK	27"-26"
3014	LIVE OAK	28"
3015	LIVE OAK	25"
3016	LIVE OAK	18"
3017	LIVE OAK	23"
3018	LIVE OAK	18"
3019	LIVE OAK	24"
3020	LIVE OAK	44"
3021	LIVE OAK	15"
3022	LIVE OAK	15"
3023	LIVE OAK	14"
3024	LIVE OAK	30"-13"-10"
3025	LIVE OAK	18"
3026	LIVE OAK	20"
3027	LIVE OAK	22"
3028	LIVE OAK	19"
3029	LIVE OAK	24"
3030	LIVE OAK	20"
3031	LIVE OAK	23"
3032	LIVE OAK	21"
3033	LIVE OAK	25"
3034	LIVE OAK	27"
3035	LIVE OAK	22"
3036	LIVE OAK	33"-20"
3037	LIVE OAK	19"
3038	LIVE OAK	23"
3039	LIVE OAK	18"
3040	LIVE OAK	17"-16"
3041	LIVE OAK	26"
3042	LIVE OAK	23"
3043	LIVE OAK	24"