Improving Quality of Life in Our Communities

WATER POLLUTION ABATEMENT PLAN (WPAP) MODIFICATION

HOLT CAT GEORGETOWN
2101 AIRPORT ROAD
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78628

Prepared For:

Holt Texas Ltd.
P.O. Box 207916
San Antonio, Texas 78220-7916
Contact: Michael Puryear
Phone: 210-648-8921

CDS Muery
100 NE Loop 410, Suite 300
San Antonio, Texas 78216

EDWARDS AQUIFER APPLICATION COVER PAGE
(TCEQ-20705)

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Holt Cat Georgetown						**2. Regulated Entity No.:** RN			
3. Customer Name: Holt Texas Ltd.						**4. Customer No.:** 601186745			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**			48.67 Acres
9. Application Fee:	$8,000		**10. Permanent BMP(s):**					Existing Sand Filter Basin, Existing Engineered VFS	
11. SCS (Linear Ft.):			**12. AST/UST (No. Tanks):**						
13. County:	Williamson		**14. Watershed:**					San Gabriel/ North Fork San Gabriel River	

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	✓
Region (1 req.)	___	___	✓
County(ies)	___	___	✓
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 ✓ 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. Stephen Lin, P.E. with CDS Muery (Authorized Agent)
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent — Date: 08/31/2023

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
(TCEQ-0587)

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: Stephen Lin, P.E (w/CDS Muery)

Date: 08/31/2023

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: Holt Cat Georgetown
2. County: Williamson
3. Stream Basin: Brazos River Basin
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Michael Puryear
   Entity: Holt Texas Ltd
   Mailing Address: P.O Box 207916
   City, State: San Antonio, Texas Zip: 78220-7916
   Telephone: 210-648-8921 FAX: none
   Email Address: Michael.puryear@holtcat.com

8. Agent/Representative (If any):

   Contact Person: Stephen Lin, P.E
   Entity: CDS Muery
   Mailing Address: 100 NE Loop 410, Suite 300
   City, State: San Antonio, Texas Zip: 78216
   Telephone: 210-581-1111 FAX: _____
   Email Address: stephen.lin@cdsmuery.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.

    _____

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: Existing Site is Developed

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

Google Maps 12100 Park 35 Circle, Austin, TX to 2101 Airport Rd, Georgetown, TX 78628 Drive 24.4 miles, 26 min

Imagery ©2021 CAPCOG, Maxar Technologies, USDA Farm Service Agency, Map data ©2021 500 ft

HOLT CAT GEORGETOWN SITE

12100 Park 35 Cir

Austin, TX 78753

Get on I-35 N from S IH 35 Frontage Rd and N Interstate 35 Frontage Rd

6 min (2.8 mi)

1. Head south toward Park 35 Cir

164 ft

2. Turn right toward Park 35 Cir

377 ft

3. Turn right onto Park 35 Cir

0.3 mi

4. Turn right onto S IH 35 Frontage Rd

0.9 mi

5. Use the left lane to turn left onto E Braker Ln

292 ft

6. Turn left onto N Interstate 35 Frontage Rd

1.3 mi

7. Use the left lane to take the ramp onto I-35 N

0.1 mi

Follow I-35 N to S IH 35 Service Rd N in Georgetown. Take exit 265 from I-35 N

18 min (20.3 mi)

8. Merge onto I-35 N

20.1 mi

9. Take exit 265 toward TX-130 S/Austin

0.2 mi

Drive to S IH 35 Service Rd S

2 min (1.3 mi)

10. Merge onto S IH 35 Service Rd N

0.6 mi

11. Turn left toward S IH 35 Service Rd S

0.1 mi

12. Use any lane to turn left onto S IH 35 Service Rd S

0.6 mi

2101 Airport Rd

Georgetown, TX 78628

ATTACHMENT B:
USGS / EDWARDS AQUIFER RECHARGE ZONE MAP

Edwards Aquifer Viewer HOLT CAT GEORGETOWN

5/3/2021, 1:54:05 PM

Edwards Aquifer Label

7.5 Minute Quad Grid

TX Counties

1:9,028

0 0.05 0.1 0.2 mi

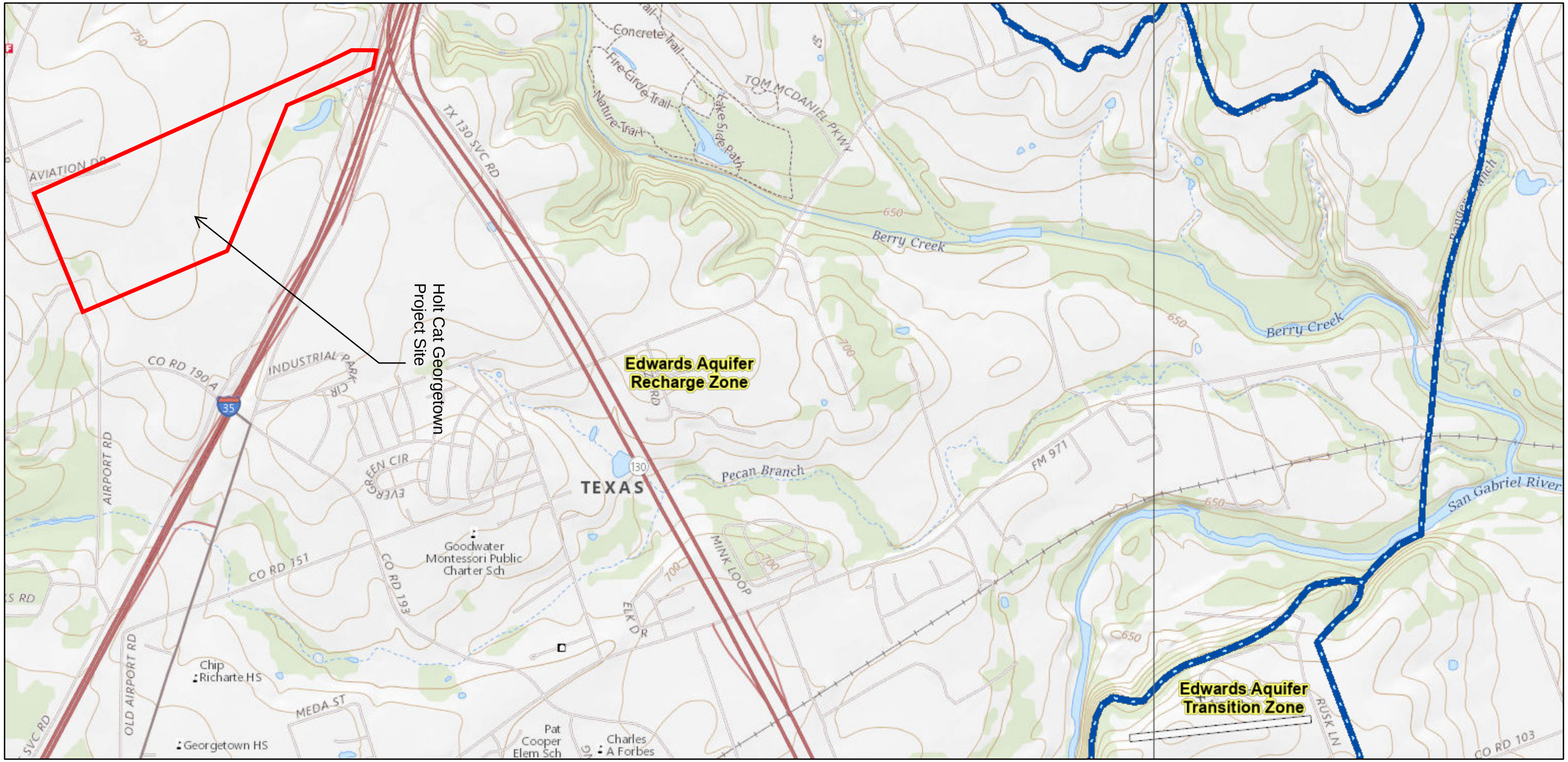
0 0.1 0.2 0.4 km

TCEQ, Williamson County TX, Maxar

Web AppBuilder for ArcGIS

TCEQ | Williamson County TX, Maxar |

Edwards Aquifer Viewer HOLT CAT GEORGETOWN



5/3/2021, 2:30:36 PM

GEORGETOWN TEXAS QUAD

DRAINAGE FLOW PATH

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

- Edwards Aquifer Label
- Edwards Aquifer Boundary
- Edwards Aquifer Boundary central line
- TX Counties
- 7.5 Minute Quad Grid

TCEQ, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset;

Web AppBuilder for ArcGIS

ATTACHMENT C:
PROJECT DESCRIPTION

Holt Cat Georgetown is an existing commercial heavy construction equipment sales and service dealership with associated parking lots, drive aisles and construction equipment storage base yards. The site is located at 2101 Airport Road, Georgetown, Williamson County, Texas 78628. Most of the site is developed, and any undeveloped areas were mass graded for future development. The site lies within the Brazos River Basin, entirely within the Edwards Aquifer Recharge Zone, and does not contain the Federal Emergency Management Agency (FEMA) 100-year floodplain. One naturally occurring sensitive geological feature, a fault, was identified in the Geologic Assessment and is shown on subsequent site plan(s). Upgradient off-site stormwater from the north was identified in the original WPAP and is intercepted by an earthen channel and routed around the site. The earthen channel was sized to capture and convey the stormwater runoff for the 25-year storm event at non-erosive velocities that are less than six (6) feet per second.

The following is a summary of the site's history in relation to the Edwards Aquifer Protection Program:

- A Water Pollution Abatement Plan (WPAP) submitted by Pape-Dawson Engineers under EAPP ID No. 1100058, approved May 26, 2017, was initially submitted for this project site in 2017. In total, it covered a project limit area of 48.97-acres which included the entirety of the 41.97-acre platted lot (Williamson County Appraisal District Account R-20-5660-000-001) having additional offsite acreage for temporary erosion control measures. The previously submitted "Temporary Water Pollution Abatement Plan" Sheet 51, which is included as part of Attachment F of this modification's Section TCEQ-0600 Permanent Stormwater Section, depicts the offsite 50-foot vegetative buffer. Upon construction of the permanent BMPs, as shown on Sheet 53 "Permanent Water Pollution Abatement Plan by Pape-Dawson Engineers, the 50-foot vegetative buffer was subsequently removed. The original approval included a water quality pond (aka. sand filter basin) and two 15-foot vegetative filter strips. Based on the Table on Sheet 53, the water quality basin was constructed to capture drainage from watershed area "C", having a total watershed area of 22.88-acres and accounted for an impervious coverage of 21.65-acres within watershed "C".

- A Sewage Collection System (SCS) was approved on July 10, 2017 (EAPP ID #11000671) for the construction of over 1,400 LF of sewer line for an expected domestic wastewater flow of 5,000 gallons per day. (Note: This submittal does not require utility improvements and therefore, no modifications to the approved Sewage Collection System Plan (SCS) are currently proposed). Potable water service is provided by the City of Georgetown. Wastewater is disposed of by the San Gabriel Wastewater Treatment Plant.

- A modification of the original WPAP was approved on August 20, 2021 (EAPP ID #11002544) for the construction of a new track shop and rental facility and included site concrete pavement and gravel base yard for site parking, circulation, and storage of construction equipment. This project added 4.47-acres of impervious cover within a 5.6-acre limit of construction.

- A second modification (EAPP ID# 11002716) was approved on December 10, 2021, for the expansion of the construction equipment gravel base yard. The gravel base yard added an additional impervious cover of 1.94-acres within a 2.2-acre limit of construction.

- A third modification (EAPP ID# 11003404 and EAPP ID# 11003405) was approved on February 17, 2023 which was for the construction of a Pre-Engineered Metal Building (PEMB) and a 1,200 gallon Above Ground Storage Tank (AST). This Project had a net zero increase in impervious area.

As mentioned above, the original WPAP approval included the construction of one (1) Sand Filter Basin and two (2) fifteen- feet (15') engineered vegetative filter strips to meet Permanent Best Management Practices (PBMPs) for the site. These PBMPs were installed with the original construction and are currently in operation at the project site. According to the original WPAP, all PBMPs were designed in accordance with TCEQ's Technical Guidance Manual

RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) required by TCEQ and 85% per City of Georgetown guidelines.

The Sand Filter Basin was designed for a watershed area of 22.88-acres (Watershed "C") with 21.65-acres of impervious cover within the watershed. Based on the original WPAP approval and the three subsequent modifications, the current existing impervious cover discharging to the basin is 19.13-acres and includes the 12.72-acres of impervious cover within Watershed "C" that was built with the original construction project, the 4.47-acres of impervious cover associated with the first approved modification, and the 1.94-acres from the second and third modifications.

The current addition is for the construction of 49 additional parking spaces, located southeast of the existing dealership building, increasing the current impervious cover by **0.32-acres**. Therefore, the total existing and proposed impervious cover applied to the sand filter basin increases to **19.45-acres**, which is below the 21.65-acres the sand filter basin was originally designed for.

GEOLOGIC ASSESSMENT FORM
(TCEQ-0585)

Horizon™
Environmental Services, Inc.

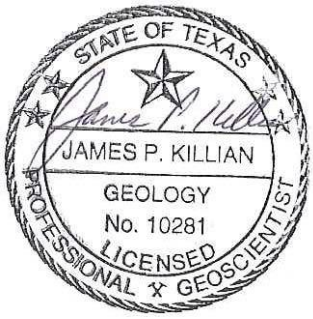
GEOLOGIC ASSESSMENT
APPROXIMATELY 75-ACRE GEORGETOWN TRACT
BETWEEN AIRPORT ROAD AND INTERSTATE 35
GEORGETOWN, WILLIAMSON COUNTY, TEXAS
HJN 160186 GA

PREPARED FOR:

BEFCO ENGINEERING, INC.
LA GRANGE, TEXAS

PREPARED BY:

HORIZON ENVIRONMENTAL SERVICES, INC.
TBPG FIRM REGISTRATION NO. 50488



NOVEMBER 2016

CORPORATE HEADQUARTERS
1507 S Interstate 35 ★ Austin, TX 78741-2502 ★ (512) 328-2430 ★ www.horizon-esi.com
Certified WBE/HUB/DBE/SBE

Horizon
Environmental Services, Inc.

TABLE OF CONTENTS

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

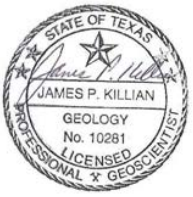
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

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

Date: 14 October 2016 Fax: 512 328-1804

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

Signature of Geologist:



Regulated Entity Name: 75-acre tract, between Airport Road & I-35, Georgetown, Williamson Co., Texas

Project Information

1. Date(s) Geologic Assessment was performed: 10 October 2016
2. Type of Project:

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

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

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Crawford clay, 0-1% slopes (CfA)	D	1 to 3
Denton silty clay, 1-3% slopes (DnB)	D	1 to 3
Denton silty clay, 3-5% slopes (DnC)	D	1 to 3
Eckrant cobbly clay, 1-8% slopes (EaD)	D	1 to 3
Houston Black clay, 0-1% slopes (HuA)	D	4 to 6

** 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" = 200'
   Site Geologic Map Scale: 1" = 200'
   Site Soils Map Scale (if more than 1 soil type): 1" = 500'

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 2 (#) 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.

Horizon
Environmental Services, Inc.

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: 75-acre tract, Airport Road, Georgetown, Williamson Co., TX

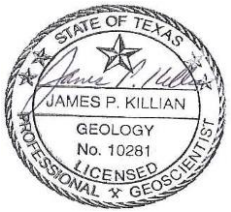
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
F-1	30.507961	97.676469	F	20	Qt/Kdg	250	10	--	N15E	10	--	--	C,F,O	7	37	X		X		Hillside
M-1	30.67615	97.67615	MB	30	Kdg/Ked	0.2	0.2	--	--	0	--	--	N, X	5	35	X		X		Hillside
M-2	30.6762	97.66866	MB	30	Qt/Ked	0.2	0.2	--	--	0	--	--	N, X	5	35	X		X		Hillside

* 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: **M-1 plugged & abandoned well; M-2 cemented well casing**

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 : October 10, 2016

Sheet 1 of 1

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

Horizon
Environmental Services, Inc.

ATTACHMENT B
STRATIGRAPHIC COLUMN

160186 - Holt Cat Georgetown\Graphics\160186A12GA_Strat.mxd | GLS | 10-27-2016

Geologic Unit	Hydrologic Unit	Approx. Thickness at Project Site (ft)
Terraces Along Streams (Qt)		20
Del Rio Clay And Georgetown Formation (Kdg)	Edwards Aquifer	130
Edwards Formation (Ked)	Edwards Aquifer	200

Elevation (ft msl)	Depth (ft)
750	0
730	20
600	150
400	350

Note: Unit elevation and thickness given with respect to a ground surface elevation of 750 ft near the center of the subject site.

Horizon Environmental Services, Inc.

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10281
LICENSED
PROFESSIONAL GEOSCIENTIST

ATTACHMENT B

Stratigraphic Column
75-AcreTract
Georgetown, Williamson County, Texas

ATTACHMENT C
DESCRIPTION OF SITE GEOLOGY

Geologic information for the subject site obtained via literature review is provided in Attachment E, Supporting Information.

A geologic assessment of the 75-acre Georgetown Tract was conducted pursuant to Texas rules for regulated activities on the Edwards Aquifer Recharge Zone (EARZ) (30 TAC 213). The subject site is a rural homestead with open pastureland and farmland located between Airport Road and Interstate 35, in Georgetown, Williamson County, Texas. Assessment findings were used to develop recommendations for site construction measures intended to be protective of water resources at the subject site and adjacent areas.

The entire subject site is located within the EARZ, as defined by the Texas Commission on Environmental Quality (TCEQ). The EARZ occurs where surface water enters the subsurface through exposed limestone bedrock containing faults, fractures, sinkholes, and caves.

Most of the subject site has thin, overlying deposits of Terraces along Streams (Qt). Additionally, a small portion located near the northwestern corner of the site is underlain by the Del Rio Clay and Georgetown Formation undivided (Kdg) (UT-BEG 1981). Underlying the Del Rio Clay and Georgetown Formation undivided is the Edwards Limestone (Ked).

One natural geologic feature (fault, F-1) and 2 manmade features (water wells, M-1 and M-2) were identified at the subject site. Further information pertaining to the geologic and manmade features is presented in the following Attachments D, E, and F. Photographs of the subject site are presented in Attachment G.

Horizon
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ATTACHMENT D
SITE GEOLOGIC MAP

F-1

M-2

M-1

Horizon™ Environmental Services, Inc.

Date:	10/27/2016
Drawn:	GLS
HJN NO:	160186
Source:	TNRIS, 2015 UT-BEG, 1981

Legend

- Subject Site
- Terraces along streams (Qt)
- Del Rio Clay and Georgetown Formation (Kdg)
- Edwards Limestone (Ked)

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10281
LICENSED
PROFESSIONAL GEOSCIENTIST

Attachment D

Site Geologic Map
75-AcreTract
Georgetown, Williamson County, Texas

0 100 200
Feet

160186 - Holt Cat Georgetown\Graphics\160186A02GA, SGM.mxd

ATTACHMENT E
SUPPORTING INFORMATION

1.0 INTRODUCTION AND METHODOLOGY

This report and any proposed abatement measures are intended to fulfill Texas Commission on Environmental Quality (TCEQ) reporting requirements (TCEQ, 2005). This geologic assessment includes a review of the subject site for potential aquifer recharge and documentation of general geologic characteristics for the subject site. Horizon Environmental Services, Inc. (Horizon) conducted the necessary field and literature studies according to TCEQ *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones* (TCEQ, 2004).

Horizon walked transects spaced less than 50 feet apart, mapped the locations of features using a sub-foot accurate Trimble Geo HX handheld GPS, and posted processed data utilizing GPS Pathfinder Office software, topographic maps, and aerial photographs. Horizon also searched the area around any potential recharge features encountered to look for additional features. When necessary, Horizon removed loose rocks and soil (by hand) to preliminarily assess each feature's subsurface extent while walking transects. However, labor-intensive excavation was not conducted during this assessment. Features that did not meet the TCEQ definition of a potential recharge feature (per TCEQ, 2004), such as surface weathering, karren, or animal burrows, were evaluated in the field and omitted from this report.

The results of this survey do not preclude the possibility of encountering subsurface voids or abandoned test or water wells during the clearing or construction phases of the proposed project. If a subsurface void is encountered during any phase of the project, work should be halted until the TCEQ (or appropriate agency) is contacted and a geologist can investigate the feature.

2.0 ENVIRONMENTAL SETTING

2.1 LOCATION AND GENERAL DESCRIPTION

The subject site is located between Airport Road and Interstate 35, in Georgetown, Williamson County, Texas (Attachment F, Figure 1). The subject site consists of approximately 75 acres of open pastureland and farmland located within an area that is experiencing rapid residential and commercial development. A rural homestead with associated livestock pens and work sheds is located at the west side of the site.

2.2 LAND USE

Current land use on the subject site is agricultural and rural single-family residential. Pastureland for cattle grazing occurs on the majority of the site, and an unoccupied one-story house is located on the western portion of the Property. The eastern portion of the site is cropland for livestock feed (hay production). Surrounding lands are generally used for single-family residential, agricultural, and/or retail commercial purposes.

`2.3 TOPOGRAPHY AND SURFACE WATER

The subject site is situated on gently sloping terrain within the San Gabriel River watershed (Attachment F, Figures 2 and 3). Surface elevations on the subject site vary from a minimum of approximately 730 feet above mean sea level, within an unnamed tributary of Pecan Branch near the west side of the site, to a maximum of approximately 750 feet above mean sea level near the center (USGS, 1986). Drainage on the site occurs primarily by overland sheet flow from north to south into Pecan Branch, which eventually drains into Berry Creek.

2.4 EDWARDS AQUIFER ZONE

The subject site is within the Edwards Aquifer Recharge Zone (TCEQ, 2016) (Attachment F, Figure 2). The Recharge Zone is described as an area where the stratigraphic units constituting the Edwards Aquifer crop out, including the outcrops of other geologic formations in proximity to the Edwards Aquifer, where caves, sinkholes, faults, fractures, or other permeable features would create a potential for recharge of surface waters into the Edwards Aquifer.

2.5 SURFACE SOILS

Six soil units are mapped within the subject site (NRCS, 2016) (Attachment F, Figure 4). Generally, the soil series are similar in their physical, chemical, and engineering properties, with the principal exception being rock fragment content and thickness. The soil units are described in further detail below.

Crawford clay (CfA) is on foot slopes and shallow valleys on uplands. The surface layer is neutral, dark grayish-brown clay about 6 inches thick. The layer below, to 32 inches, is neutral, dark brown clay. The substratum is fractured, whitish limestone. This soil is well drained, and permeability is very slow. Surface runoff is slow, and the available water capacity is low (NRCS, 2016).

Denton silty clay (DnB) is in shallow valleys and narrow drainageways on uplands. The surface layer is dark brown, silty clay about 33 inches thick. The layer below, to 36 inches, is very pale brown, silty clay loam. The underlying material is fractured limestone and limy material. This is a well drained and slowly permeable soil. Runoff is medium, and the available water capacity is medium (NRCS, 2016). .

Denton silty clay (DnC) is in shallow valleys on short side slopes on uplands. The upper layer is dark brown, silty clay about 18 inches thick. The subsoil, to a depth of about 25 inches, is light brown, silty clay loam. The underlying material is limestone interbedded with weathered limestone and limy material. This soil is well drained, and runoff is medium. Permeability is slow, and the available water capacity is medium (NRCS, 2016).

Eckrant cobbly clay (EaD) is on undulating uplands. The surface layer is about 13 inches thick. The upper part is dark grayish-brown, cobbly clay, and the lower part is dark brown, cobbly clay. The underlying material is coarsely fractured indurated limestone. This soil is well

drained, and permeability is moderately slow. Runoff is rapid, and the available water capacity is very low (NRCS, 2016).

Houston Black clay (HuA) is on high ridges and in valleys on uplands. This soil has a dark gray, clay upper layer about 26 inches thick. The layer below, to 52 inches, is dark grayish-brown clay that has mottles of light yellowish-brown. The underlying layer, to 62 inches, is mottled reddish-yellow and brown shaly clay. This soil is moderately well drained, and permeability is very slow. Runoff is very slow because of the nearly level slope. The available water capacity is high (NRCS, 2016).

Krum silty clay (KsA) is on high terraces. This soil has a surface layer of dark grayish-brown, silty clay about 6 inches thick. The subsurface layer, to 26 inches, is very dark grayish-brown, silty clay. The subsoil, to 44 inches, is brown, silty clay. The underlying layer, to 72 inches, is reddish-yellow, silty clay that has a few concretions and soft masses of calcium carbonate. This soil is well drained, and runoff is slow. The permeability is moderately slow, and the available water capacity is high (NRCS, 2016).

2.6 WATER WELLS

A review of TCEQ and Texas Water Development Board (TWDB) records revealed no water wells on the subject site and 9 wells within 0.5 miles of the subject site (TCEQ, 2016; TWDB, 2016). According to the TWDB records, all of the wells are reportedly completed within the Edwards Aquifer at total depths ranging from 148 to 200 feet.

Two private water wells (M-1 and M-2) were observed on the subject site during Horizon's site survey. One abandoned and/or plugged well (M-1) is located immediately west of an unoccupied rock house within a concrete slab near an unused rock cistern at the western portion of the site. This well appears to have been filled and/or plugged to within about 5 feet of the concrete surface. The second private well (M-2) is located about 600 feet due east/southeast of the homestead well, near a small shed that is currently used to water livestock.

The results of this assessment do not preclude the existence of undocumented or abandoned wells on the site. If a water well or casing is encountered during construction, work should be halted near the object until the TCEQ is contacted. If any on-site wells are not intended for future use, they should be capped or properly abandoned according to the Administrative Rules of the Texas Department of Licensing and Regulation (TDLR), 16 Texas Administrative Code (TAC), Chapter 76. A plugging report must be submitted by a licensed water well driller to the TDLR Water Well Driller's Program, Austin, Texas. TCEQ publication RG-347, "Landowner's Guide to Plugging Abandoned Water Wells," provides specific guidance. If a well is intended for use, it must comply with 16 TAC §76.

2.7 GEOLOGY

Literature Review

A review of existing literature indicates most of the subject site is predominately underlain by recent (Quaternary-age) fluviatile terrace deposits (Qt – terraces along streams; i.e., gravel, sand, silt, and clay with more gravel in older, higher terraces) (UT-BEG, 1981), with an estimated maximum thickness of up to approximately 20 feet at higher surface elevations. Underlying these recent deposits is the Del Rio Clay and Georgetown Formation undivided (Kdg). This unit crops out in the northwestern corner of the subject site with an estimated maximum thickness of about 130 feet. The Del Rio Clay is calcareous and gypsiferous, becoming less calcareous and more gypsiferous upward, and pyrite is common. It is blocky, medium-gray, weathers light gray to yellowish-gray, with some thin lenticular beds of highly calcareous siltstone. Marine megafossils include abundant *Exogyra arietina* and other pelecypods; thickness ranges from 40 to 70 feet. The Georgetown Formation consists of limestone and marl. It is fine-grained, argillaceous, nodular, moderately indurated, and light gray; some limestone is hard, brittle, thick-bedded, and white. Marine megafossils include *Kingena wacoensis* and *Gryphaea washitaensis*; thickness ranges from 30 to 80 feet (UT-BEG, 1981).

The subject site is located within the Balcones Fault Zone. Available geologic reports indicate the nearest mapped fault (geologic feature F-1) traverses across the northwestern portion of the site, trending from southwest to northeast (azimuth: N10-15°E) (UT-BEG, 1981). In general, the rock strata beneath the site dip to the southeast at about 10 to 30 feet per mile. The site Stratigraphic Column is provided as Attachment B, and the Site Geologic Map is Attachment D.

Field Assessment

A field survey of the subject site was conducted by a licensed Horizon geologist on 10 October 2016. Horizon identified 1 natural geologic feature, an inactive fault (F-1), on the subject site that meets the TCEQ definition of a potential recharge feature. Two manmade features (M-1 and M-2, private water wells, previously discussed) were identified at the subject site.

Additionally, no springs or creeks were identified at the subject site. According to the Texas Parks and Wildlife Department (TPWD) Natural Diversity Database (NDD) data, there are no occupied sites for any federally listed salamander species within 1 radial mile of the subject site (TPWD, 2016).

The geologic and manmade features were evaluated for their potential to be a significant pathway for fluid movement into the Edwards Aquifer. The Geologic Assessment Table (Attachment A) summarizes this evaluation and assigns each feature's sensitivity a total point value. Features with a point value of 40 or higher are deemed to be sensitive groundwater recharge features and should be protected during site development pursuant to TCEQ rules for protection of the Edwards Aquifer (30 TAC 213).

3.0 CONCLUSIONS AND RECOMMENDATIONS

One natural geologic feature (F-1) and 2 manmade features (M-1 and M-2) were identified at the subject site. Based on assessment findings, the geologic and manmade features would not require protection or mitigation pursuant to TCEQ rules for protection of the Edwards Aquifer (30 TAC 213).

Additionally, no springs, tributaries, and/or creeks were identified within the recharge zone of the subject site that would require protection or mitigation pursuant to the City of Georgetown Edwards Aquifer Recharge Zone Water Quality Ordinance No. 2013-59.

The site generally appears well suited to development prospectuses. It should be noted that soil and drainage erosion would increase with ground disturbance. Native grasses and the cobbly content of the soil aid to prevent erosion. Soil and sedimentation fencing should be placed in all appropriate areas prior to any site-disturbing activities.

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

4.0 REFERENCES

(COA) City of Austin. GIS Data Sets, Year 2003 2-foot contours of the City of Austin and ETJ only, <ftp://ftp.ci.austin.tx.us/GIS-Data/Regional/coa_gis.html>. Updated by City of Austin 2012.

(OSM) OpenStreetMap contributors. Open Street Map, <http://www.openstreetmap.org>. Available under the Open Database License (www.opendatacommons.org/ licenses/odbl). Accessed 7 October 2016.

(NRCS) Natural Resources Conservation Service (formerly the Soil Conservation Service) US Department of Agriculture, Engineering Division. *Soil Series and Hydrologic Soil Groups of Urban Hydrology for Small Watersheds*, Technical Release No. 55. January 1975.

_____. Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey. aspx>. Accessed 26 October 2016.

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

_____. Edwards Aquifer Protection Program. Edwards Aquifer Viewer, <http://www.tceq.state. tx.us/field/eapp/viewer.html>. Accessed 27 October 2016.

(TNRIS) Texas Natural Resources Information System. Texas Orthoimagery Program. Williamson County, Texas. 2015.

(TPWD) Texas Parks and Wildlife Department. Natural Diversity Database, T/E and Rare Species Elemental Occurrences. Wildlife Division, Habitat Assessment Program, Austin, Texas. 3 March 2016.

(TWDB) Texas Water Development Board. Water Information Integration and Dissemination System. TWDB Groundwater Database (ArcIMS), <http://wiid.twdb.state.tx.us/ ims/wwm_drl/viewer.htm?>. Accessed 26 October 2016.

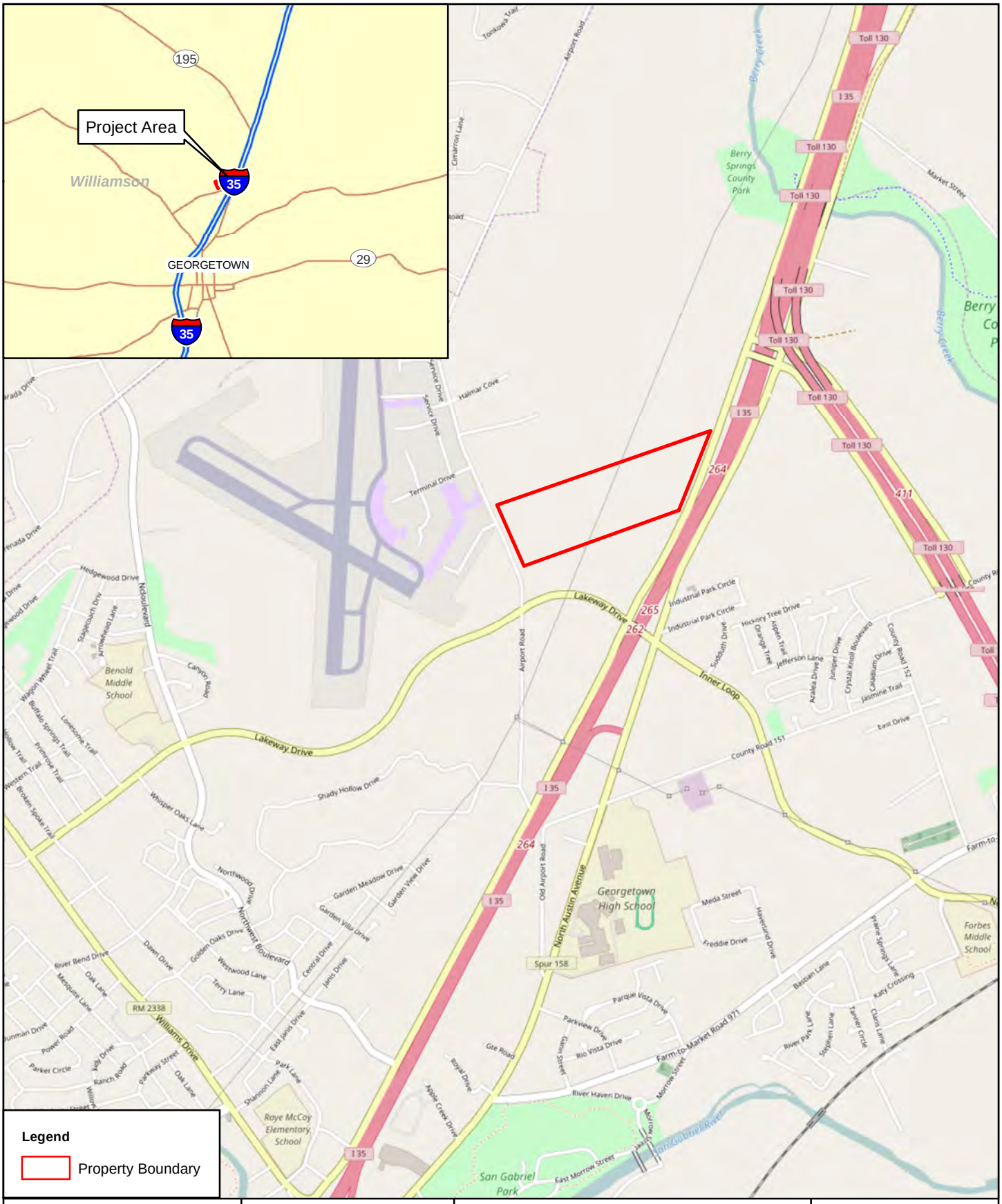
(USGS) US Geological Survey. 7.5-minute series topographic maps, Georgetown, Texas quadrangle, 1986.

(UT-BEG) University of Texas Bureau of Economic Geology, C.V. Proctor, Jr., T.E. Brown, J.H. McGowen, N.B. Waechter, and V.E. Barnes. *Geologic Atlas of Texas*, Austin Sheet, Francis Luther Whitney Memorial Edition. 1974; revised 1981.

Werchan, L. E., and J. L. Coker. Soil survey of Williamson County, Texas. Soil Conservation Service, US Department of Agriculture, Washington, D.C. 1983.

ATTACHMENT F

ADDITIONAL SITE MAPS



Horizon Environmental Services, Inc.

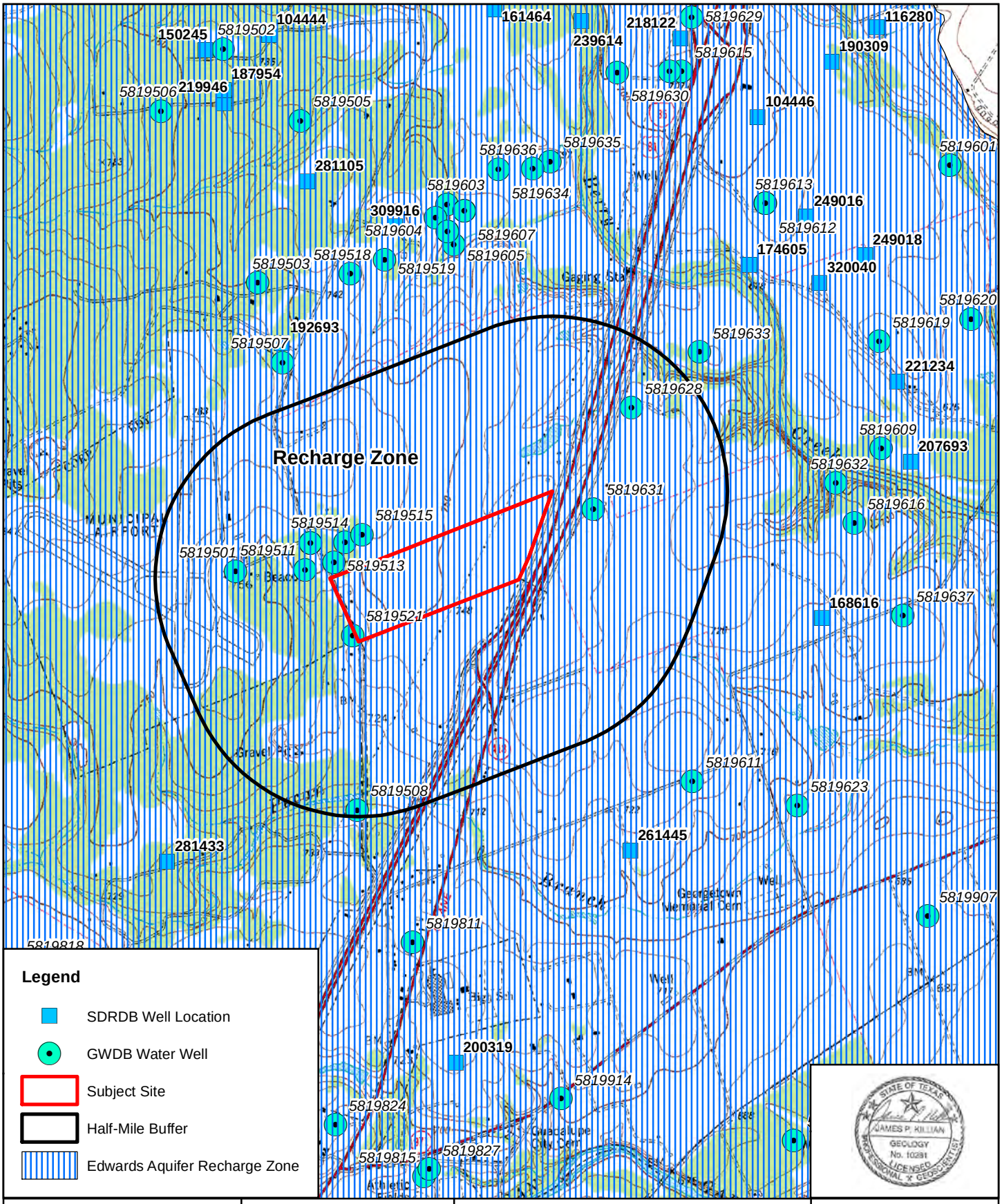
Date:	10/17/2016
Drawn:	JMB
HJN NO:	160186
Source:	OSM, 2016

Attachment F, Figure 1

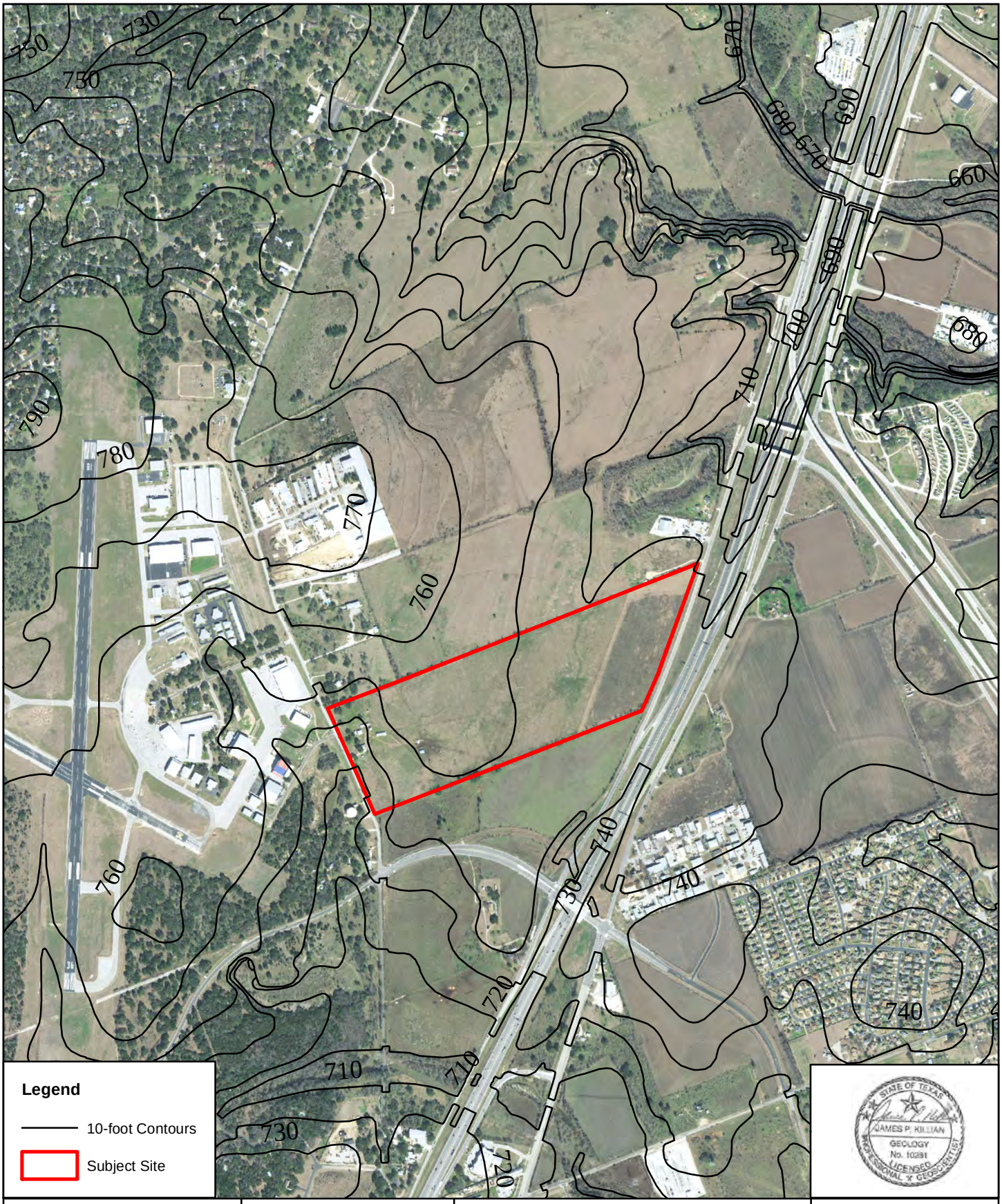
Vicinity Map
75-Acre Tract
Georgetown, Williamson County, Texas

0 1,000 2,000
Feet

160186/Holt Cat Georgetown/Graphics/160186A01GA_Vicinity.mxd



160186- Holt Cat Georgetown\Graphics\160186A03GA_Topo_Hydro.mxd



Legend

10-foot Contours

Subject Site

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10291
LICENSED
PROFESSIONAL GEOSCIENTIST

Horizon Environmental Services, Inc.

Date:	10/19/2016
Drawn:	JMB
HJN NO:	160186
Source:	COA, 2012; TNRIS, 2015

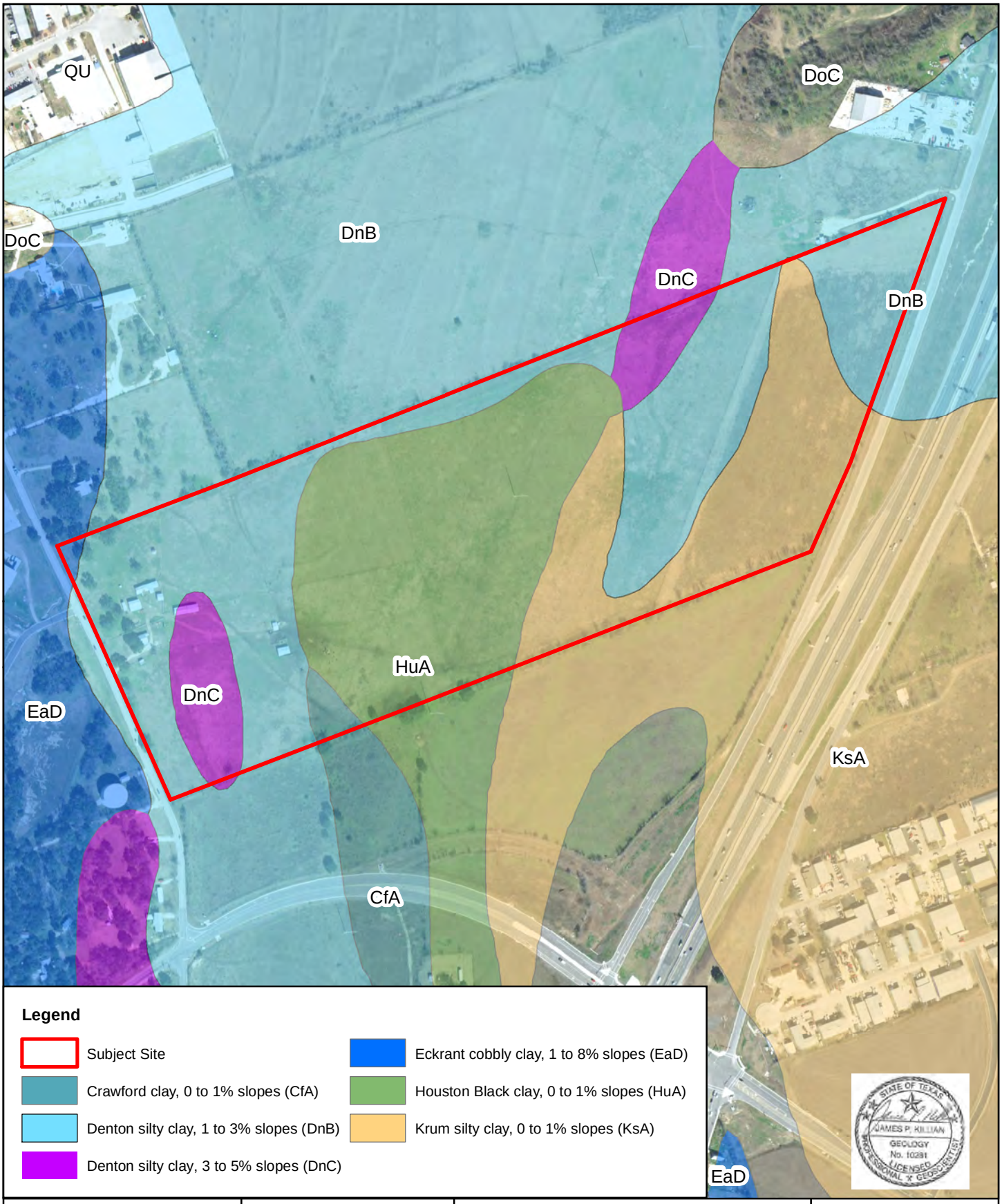
Attachment F, Figure 3

Site Topography Map
75-Acre Tract
Georgetown, Williamson County, Texas

N

0 600 1,200
Feet

160186- Holt Cat Georgetown\Graphics\160186A54GA_Topo.mxd



Legend

- Subject Site
- Crawford clay, 0 to 1% slopes (CfA)
- Denton silty clay, 1 to 3% slopes (DnB)
- Denton silty clay, 3 to 5% slopes (DnC)
- Eckrant cobbly clay, 1 to 8% slopes (EaD)
- Houston Black clay, 0 to 1% slopes (HuA)
- Krum silty clay, 0 to 1% slopes (KsA)

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10291
LICENSED
PROFESSIONAL GEOSCIENTIST

Horizon Environmental Services, Inc.

Date:	11-1-2016
Drawn:	GLS
HJN NO:	160186
Source:	NRCS, 2016; TNRIS, 2015

Attachment F, Figure 4

Site Soil Map
75- Acre Tract
Georgetown, Williamson County, Texas

N

0 250 500
Feet

160186 - Holt Cat Georgetown\Graphics\160186A05GA_Soil.mxd

Horizon
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ATTACHMENT G

SITE PHOTOGRAPHS

Horizon
Environmental Services, Inc.

PHOTO 1
View of subject site along Airport Road, location of buried inactive fault (F-1) in background, facing north

PHOTO 2
Opposite view along Airport Road, facing south

PHOTO 3
View of old homestead area with private water well (M-1) near unused rock cistern, facing northeast

PHOTO 4
View of second private water well (M-2, next to golf cart) at work shed near west central part of site, facing northwest

Horizon
Environmental Services, Inc.

ATTACHMENT H

ADDITIONAL DATA

Surface Soils, continued from GA worksheet, Table 1:

Soil Series Unit Names, Infiltration Characteristics & Thickness		
Soil Series Unit Name & Subgroup**	Group*	Thickness (feet)
Krum silty clay, 0-1% slopes (KsA)	D	4 to 6

*Soil Hydrologic Groups 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.
**Subgroup Classification – See Classification of Soil Series Table in County Soil Survey.

MODIFICATION OF A PREVIOUSLY APPROVED PLAN (TCEQ-0590)

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: **Stephen Lin, P.E**

Date: 08/31/2023

Signature of Customer/Agent:

Project Information

1. Current Regulated Entity Name: **Holt Cat Georgetown**
   Original Regulated Entity Name: **Holt Cat Georgetown**
   Regulated Entity Number(s) (RN): **109697664**
   Edwards Aquifer Protection Program ID Number(s): **11000585**
   ☒ The applicant has not changed and the Customer Number (CN) is: **601186745**
   ☐ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

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

3. A modification of a previously approved plan is requested for (check all that apply):

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

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

WPAP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	48.67	48.67, no changes
Type of Development	Commercial	Commercial, no changes
Number of Residential Lots	N/A	N/A no changes
Impervious Cover (acres)	26.09	**26.41**
Impervious Cover (%	53.6	**53.92**
Permanent BMPs	Sand Filter/VFS	Sand Filter/VFS
Other	N/A	N/A, no changes

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

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

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

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

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

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

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

ATTACHMENT A:
APPROVAL LETTERS / APPROVED MODIFICATION LETTERS

ID #	DATE	ITEM
11000585	MAY 26,2017	WPAP (ORIGINAL)
11002544	AUGUST 20,2021	WPAP MOD (#1)
11002716	DECEMBER 10,2021	WPAP MOD (#2)
11003404	FEBRUARY 17, 2023	WPAP MOD (#3)

2017052625 AFF Total Pages: 8

PAPE-DAWSON ENGINEERS
2000 NW Loop 410
San Antonio, TX 78213-2251

(1)

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Charles Stickland who, being duly sworn by me deposes and says:

(1) That my name is Charles Stickland and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on May 26, 2017.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in Williamson County, Texas, and the legal description of the property is as follows:
See Exhibit B attached hereto and made a part hereof

Charles Stickland
LANDOWNER-AFFIANT CHARLES STICKLAND

SWORN AND SUBSCRIBED TO before me, on this 2nd day of June, 2017.

NOTARY PUBLIC

THE STATE OF TX §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Charles Strickland 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 2nd day of June, 2017..

NOTARY PUBLIC

ELISA J. ELLINGTON
NOTARY PUBLIC
STATE OF TEXAS
My Comm. Expires 02-02-2019

Elisa J. Ellington
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 02-02-2019

Exhibit "A"

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 26, 2017

Mr. Charles C. Strickland
Holt Texas, Ltd, DBA Holt CAT
P.O. Box 207916
San Antonio, Texas 78220-7916

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Holt Cat; located 1.1 miles south of exit 265 along the western frontage road of IH 35, Georgetown, Texas

TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program ID No. 11000585; Regulated Entity No. RN109697664

Dear Mr. Strickland:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Application for the above-referenced project submitted to the Austin Regional Office by Pape-Dawson Engineers, Inc. on behalf of Holt Texas, Ltd. (DBA Holt CAT) on March 8, 2017. Final review of the WPAP was completed after additional material was received on May 17, 2017 and May 26, 2017. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed non-residential project will have an area of approximately 48.67 acres. It will include a commercial heavy equipment sales facility with three buildings, parking, drives, and associated appurtenances. The impervious cover will be 26.09 acres (53.6 percent). Project wastewater will be disposed of by conveyance to the existing San Gabriel Wastewater Treatment Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, a partial sedimentation/filtration basin and engineered vegetative filter strips, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 22,526 pounds of TSS generated from the 26.09 acres of impervious cover.

The individual treatment measures will consist of a partial sedimentation/filtration basin and engineered vegetative filter strips (VFS). The sedimentation/filtration basin is designed as a single chamber basin and will treat stormwater from 22.88 acres. The required TSS removal for the 22.88 acres is 18,661 pounds; the basin is designed to treat 18,888 pounds of TSS. The total required capture volume is 115,490 ft^3; the basin is designed to capture 209,524 ft^3. The required sand area is 11,549 ft^2 which includes an additional 20 percent to account for the single chamber design. The provided sand area is 18,478 ft^2. The VFS will be used to treat TSS from 4.1 acres (2.95 acres impervious cover). The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the Geologic Assessment included with the application, soils at the site include Crawford clay, Denton silty clay, Eckrant cobbly clay, and Houston black clay. The surficial units include Quaternary terrace deposits, Del Rio Clay, and Georgetown Formation. No sensitive features were identified. The Austin Regional Office site assessment conducted on April 25, 2017 revealed the site to be generally as described.

STANDARD CONDITIONS

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

3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. Two wells exist on the site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the Austin Regional Office within 30 days of site completion.

19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

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

Sincerely,

Shawn Stewart, Water Section Manager
Austin Region Office
Texas Commission on Environmental Quality

SS/jcs

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Matt Johnson, P.E.
Pape-Dawson Engineers, Inc.
2000 NW Loop 410
San Antonio, Texas 78213

Mr. Ed Polasek, Transportation Services Director, Georgetown Utility Systems, City of Georgetown
Mr. Terron Evertson, P.E., County Engineer, Williamson County
The Honorable Dan A. Gattis, County Judge, Williamson County
TCEQ Central Records, Building F, MC 212

EXHIBIT "B"

SITE KNOWN IN THE SURVEY OF 44.245 ACRE TRACT SITUATED IN THE DAVID WRIGHT LEAGUE, A-13, IN WILLIAMSON COUNTY, TEXAS, ALSO BEING WITHIN THE CORPORATE LIMITS OF THE CITY OF GEORGETOWN, AND BEING A PART OF THAT TRACT DESCRIBED A 75.330 ACRES IN A DEED FROM KENNETH GARRETT, ET UX, TO HOLT TEXAS, LTD., ET AL, DATED JANUARY 27, 2017 AND RECORDED IN DOCUMENT NO. 2017008885 OF THE WILLIAMSON COUNTY OFFICIAL PUBLIC RECORDS

FILED AND RECORDED
OFFICIAL PUBLIC RECORDS 2017052625

AFF Fee: $49.00
06/09/2017 04:17 PM MBARRICK

Nancy E. Rister, County Clerk
Williamson County, Texas

2021130404 AFF Total Pages: 7

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared MICHAEL PURYEAR WITH HOLT TEXAS LTD. who, being duly sworn by me, deposes and says:

(1) That my name is MICHAEL PURYEAR and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on AUGUST 20, 2021.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in WILLIAMSON County, Texas, and the legal description of the property is as follows:

SEE EXHIBIT "B" ATTACHED HERETO AND MADE A PART HEREOF

Michael Puryear

LANDOWNER-AFFIANT MICHEAL PURYEAR

SWORN AND SUBSCRIBED TO before me, on this 25th day of AUG, 2021.

Lucy M. Titzman

NOTARY PUBLIC

LUCY M. TITZMAN
Notary Public, State of Texas
Comm. Expires 07-02-2025
Notary ID 4097765

THE STATE OF TEXAS §

County of BEXAR §

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

GIVEN under my hand and seal of office on this 25 day of AUGUST, 2021.

Lucy M. Titzman

NOTARY PUBLIC

LUCY M TITZMAN

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 7-2-25

LUCY M. TITZMAN
Notary Public, State of Texas
Comm. Expires 07-02-2025
Notary ID 4097765

EXHIBIT A

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 20, 2021

Mr. Michael Puryear
Holt Texas Ltd. DBA Holt Cat
PO Box 207916
San Antonio, TX 78220

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Holt Cat Georgetown; Located at 2101 Airport Rd.; Georgetown, Texas

TYPE OF PLAN: Request for Modification of an Approved Water Pollution Abatement Plan (WPAP-MOD); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program ID No. 11002544; Regulated Entity No. RN109697664

Dear Mr. Puryear:

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

BACKGROUND

On May 26, 2017 a WPAP approval letter was issued for Holt Cat (EAPP ID: 11000585). The approval was for the construction of a 3-building heavy equipment sales facility with associated parking, drives, and associated appurtenances on 48.67 acres.

PROJECT DESCRIPTION

The proposed project will have an area of approximately 48.67 acres. The modification includes the addition of a track shop and rental facility with associated parking and a base yard for construction equipment storage. The impervious cover increase for this project will be 4.47 acres. The total impervious cover for the site after modification will be 19.12 acres (39.28 percent). Project wastewater will be disposed of by conveyance to the existing San Gabriel Wastewater Treatment Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, an existing sedimentation filtration basin and engineered vegetative filter strips (EAPP ID: 11000585), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be used to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 16,642 pounds of TSS generated from the 19.12 acres of impervious cover.

GEOLOGY

According to the Geologic Assessment included with the application, the surficial geologic unit underlying the site is the Georgetown Formation, Del Rio Clay, and Quaternary terrace deposits. There are no natural sensitive features on site. The Austin Regional Office site assessment conducted on July 20, 2021 revealed the site to be generally as described by the Geologic Assessment.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated May 26, 2017.

II. All sediment and/or media removed from the permanent BMP during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.

12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the Austin Regional Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

21. An Edwards Aquifer protection plan approval or extension will expire, and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

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

Sincerely,

Lillian Butler

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

LIB/rts

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

CC: Joseph Willrich P.E., BEFCO Engineering, Inc.

EXHIBIT "B"

SITE KNOWN IN THE SURVEY OF 44.245 ACRE TRACT SITUATED IN THE DAVID WRIGHT LEAGUE, A-13, IN WILLIAMSON COUNTY, TEXAS, ALSO BEING WITHIN THE CORPORATE LIMITS OF THE CITY OF GEORGETOWN, BEING A PART OF THAT TRACT DESCRIBED A 75.330 ACRES IN DEED FROM KENNETH GARRETT, ET UX, TO HOLT TEXAS, LTD., ET AL, DATED JANUARY 27, 2017 AND RECORDED IN DOCUMENT NO. 2017008885 OF THE WILLIAMSON COUNTY OFFICIAL PUBLIC RECORDS, AND BEING HOLT CAT SUBDIVISION – LOT 1 AND RECORDED IN DOCUMENT NO. 2018016666 OF THE WILLIAMSON COUNTY OFFICIAL PUBLIC RECORDS.

FILED AND RECORDED
OFFICIAL PUBLIC RECORDS 2021130404

AFF Fee: $45.00
08/27/2021 03:07 PM DLAM

Nancy E. Rister, County Clerk
Williamson County, Texas

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 10, 2021

Mr. Michael Puryear
Holt Texas, Ltd. DBA Holt Cat
P.O. Box 207916
San Antonio, Texas 78220

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Holt Cat Georgetown; Located at 2101 Airport Rd.; Georgetown, Texas

TYPE OF PLAN: Request for Modification of an Approved Water Pollution Abatement Plan (WPAP-MOD); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program ID No. 11002716; Regulated Entity No. RN109697664

Dear Mr. Puryear:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP-MOD for the above-referenced project submitted to the Austin Regional Office by BEFCO Engineering, Inc. on behalf of Holt Texas, Ltd. DBA Holt Cat on October 8, 2021. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected, and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

A Water Pollution Abatement Plan (WPAP) was issued by letter dated May 26, 2017 (EAPP ID No. 11000585). The plan included a sedimentation/filtration basin and engineered vegetative filter strips sized to treat 26.09 acres of impervious cover. The sedimentation/filtration basin is sized to treat 21.65 acres of impervious cover. A Modification of an Approved Water Pollution Abatement Plan (WPAP-MOD) was approved by letter dated August 20, 2021 (EAPP ID No. 11002544). The WPAP-MOD added 4.47 acres of imperious cover for a total of 17.19 acres of impervious cover to the sedimentation/filtration basin.

PROJECT DESCRIPTION

The proposed non-residential project will have an area of approximately 48.67 acres. It will include expansion of a base yard area. The approved impervious cover will be 26.09 acres (53.6 percent); 1.94 acres of new impervious cover will be conveyed to the sedimentation/filtration basin (EAPP ID No. 11000585). Project wastewater will be disposed of by conveyance to the existing San Gabriel Wastewater Treatment Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, a previously approved sedimentation/filtration basin and engineered vegetative filter strips (EAPP ID No. 11000585), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be used to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 22,526 pounds of TSS generated from the 26.09 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the Geologic Assessment included with the application, soils at the site include Crawford clay, Denton silty clay, Eckrant cobbly clay, and Houston black clay. The surficial units include Quaternary terrace deposits and Del Rio Clay and Georgetown Formation undivided. No sensitive features were identified in the Geologic Assessment. A site assessment for the review of the approved Modification (EAPP ID No. 11002544) was conducted on July 20, 2021; TCEQ determined the site to be generally as described by the Geologic Assessment.

SPECIAL CONDITIONS

I. This WPAP-MOD is subject to all Special and Standard Conditions listed in the WPAP and WPAP-MOD approval letters dated May 26, 2017 and August 20, 2021.

II. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

III. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive

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

13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the Austin Regional Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire, and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact James "Bo" Slone, P.G. of the Edwards Aquifer Protection Program of the Austin Region office at (512) 339-2929.

Sincerely,

Lillian Butler

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

LIB/jcs

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

Cc: Mr. Joseph G. Willrich, P.E., BEFCO Engineering, Inc.

2023015481 AFF Total Pages: 6

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared Michael Puryear who, being duly sworn by me, deposes and says:

(1) That my name is Michael Puryear and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on 02/17/2023.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in Williamson County, Texas, and the legal description of the property is as follows:

43.087 Acres, Lot 1 of the "HOLT CAT SUBDIVISION - LOT 1" Plat, filed in Williamson Co. as Doc. #2018016666.

Michael Puryear, SEC.
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this 20 day of FEB, 2023.

NOTARY PUBLIC

THE STATE OF TEXAS § AVENELL ATKINSON
Notary Public, State of Texas
Comm. Expires 05-12-2025
Notary ID 125547871

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared Michael Puryear 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 20 day of Feb 23.

NOTARY PUBLIC
Avenell Atkinson
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 5-12-25

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 17, 2023

Mr. Michael Puryear
Holt Texas, Ltd. DBA Holt Cat
P.O. Box 207916
San Antonio, Texas 78220

Re: Edwards Aquifer, Williamson County
NAME OF PROJECT: Holt Cat Georgetown; Located at 2101 Airport Rd.; Georgetown, Texas
TYPE OF PLAN: Request for Modification of an Approved Water Pollution Abatement Plan (WPAP-MOD); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program ID No. 11003404; Regulated Entity No. RN109697664

Dear Mr. Puryear:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP-MOD for the above-referenced project submitted to the Austin Regional Office by CDS Muery on behalf of Holt Cat on December 8, 2022. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

A Water Pollution Abatement Plan was approved by letter dated May 26, 2017 (EAPP ID No. 11000585), Two WPAP-MODs were approved by letters dated August 20, 2021 (EAPP ID No. 11002544) and December 10, 2021 (EAPP ID No.11002716).

PROJECT DESCRIPTION

The proposed non-residential project will have an area of approximately 48.67 acres. It will include the construction of a new building on existing impervious cover. The impervious cover will not increase and will remain 26.09 acres (53.6 percent). Project wastewater will be disposed of by conveyance to the existing San Gabriel Wastewater Treatment Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, an existing sedimentation/filtration basin (EAPP ID No. 11000585) and two engineered vegetative filter strips (EAPPID No. 11000585), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will continue to be used to treat stormwater runoff.

GEOLOGY

According to the Geologic Assessment included with the application, the site is surficially characterized by Quaternary Terrace deposits and Del Rio Clay/Georgetown Formation undivided. The TCEQ site assessment conducted on February 7, 2023 revealed the site to be generally as described.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated May 26, 2017 and subsequent WPAP-MODs dated August 20, 2021 and December 10, 2021.

II. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.

6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.

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

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

<u>During Construction:</u>

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.

12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

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

15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the Austin Regional Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact James "Bo" Slone, P.G. of the Edwards Aquifer Protection Program of the Austin Region office at (512) 339-2929.

Sincerely,

Lillian Butler

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

LIB/jcs

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

CDS Muery
(2) 100 NE Loop 410 Ste. 300
San Antonio TX 78216

FILED AND RECORDED
OFFICIAL PUBLIC RECORDS 2023015481

AFF Fee: $51.00
03/01/2023 09:34 AM OSALINAS

THE STATE OF TEXAS · WILLIAMSON COUNTY

Nancy E. Rister

Nancy E. Rister, County Clerk
Williamson County, Texas

2023015482 AFF Total Pages: 8

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared Michael Puryear who, being duly sworn by me, deposes and says:

(1) That my name is MICHAEL PURYEAR and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on 02/17/2023.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in Williamson County, Texas, and the legal description of the property is as follows:

43.087 Acres, Lot 1 of the "HOLT CAT SUBDIVISION - LOT 1" Plat, filed in Williamson Co. as Doc. #2018016666.

Michael Puryear, SEC.
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this 20 day of FEB, 2023.

NOTARY PUBLIC

THE STATE OF TEXAS §

County of BEXAR §

AVENELL ATKINSON
Notary Public, State of Texas
Comm. Expires 05-12-2025
Notary ID 125547871

BEFORE ME, the undersigned authority, on this day personally appeared Michael Puryear 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 20 day of Feb, 23.

NOTARY PUBLIC

Avenell Atkinson
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 5-12-25

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 17, 2023

Mr. Michael Puryear
Holt Texas, Ltd. DBA Holt Cat
P.O. Box 207916
San Antonio, Texas 78220

Re: Edwards Aquifer, Williamson County
NAME OF PROJECT: Holt Cat Georgetown; Located at 2101 Airport Rd.; Georgetown, Texas
TYPE OF PLAN: Request for Approval of an Aboveground Storage Tank Facility (AST); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program ID No. 11003405; Regulated Entity No. RN109697664

Dear Mr. Puryear:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the AST application for the above-referenced project submitted to the Austin Regional Office by CDS Muery on behalf of Holt Cat on December 8, 2022. As presented to the TCEQ, the AST Facility Plan proposed in the application was prepared to be in general compliance with the requirements of 30 TAC §213.5(e). Therefore, based on the applicant's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this approval letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer protection plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The project site is located on the Edwards Aquifer Recharge Zone. The proposed AST Facility Plan includes one 1,200-gallon double-walled steel UL-2085 fireguard tank. The tank consists of a primary tank within a sealed secondary tank. The outer tank dimensions will be 7.83 feet in width and 5.83 feet in length. The interstitial area between the two tanks will contain any product leaks from the primary tank. Additionally, the described AST is to be placed within the containment area with inside dimensions of 22 feet in length by 9 feet in width by 0.5 feet in depth as secondary containment for the piping and its associated volume. Any spillage will be directed to a convenient point within the containment structure for collection and recovery. Any stormwater accumulating inside the containment structure must be disposed of through an authorized waste disposal contractor.

Spill and overfill control for the tank and piping structures will be provided and is described in Attachment D of the application. The planned spill response that will take place at the facility is provided in Attachment E of the AST Facility Plan Application (Response Actions to Spills) and Attachment A of the Temporary Stormwater Section (enclosed) of the application.

GEOLOGY

According to the Geologic Assessment included with the application, the site is surficially characterized by Quaternary Terrace deposits and Del Rio Clay/Georgetown Formation undivided. The TCEQ site assessment conducted on February 7, 2023 revealed the site to be generally as described.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved AST Facility Plan is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved AST Facility Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Prior to commencing construction, the applicant shall submit any modifications to this approved AST Facility Plan required by some other regulating authority or desired by the applicant.
7. Modification to the activities described in the referenced AST Facility Plan, including Attachment "E" of the AST Facility Plan application (Response Actions to Spills), following the date of approval may require the submittal of an Edwards Aquifer Protection Plan application to modify this approval. The payment of appropriate fees and all information necessary must be provided for its review and approval prior to initiating construction of the modifications.
8. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated

activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.

9. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved AST Facility Plan, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
10. All borings with depths greater than or equal to 20 feet must be plugged with a non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

<u>During Construction:</u>

11. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. Attachment "E" of the AST Facility Plan application (Response Actions to Spills) shall be located on-site (copy enclosed).
19. In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly. The applicant must comply with 30 TAC Chapter 334, Subchapter D, pertaining to Release Reporting and Corrective Action.
20. During the life of the AST facility, the owner shall comply with all applicable provisions of 30 TAC §213.5(e). Additionally, the owner, Holt Cat shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume all responsibility for provisions and specific conditions of this approval.
21. An "as-built" site plan for the facility shall be drawn to scale and in sufficient detail to depict the specific locations and dimensions of all major components of the storage system. A copy of such "as-built" site plan and construction drawings, as well as operating instructions for all major system components shall be maintained in a secure location at the site of the proposed facility. This information shall be available for examination by TCEQ personnel upon request.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact James "Bo" Slone, P.G. of the Edwards Aquifer Protection Program of the Austin Region office at (512) 339-2929.

Sincerely,

Lillian Butler

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

LIB/jcs

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625
Attachment "E" of AST Facility Plan application (Response Actions to Spills)
Attachment "A" of the Temporary Stormwater Section

cc: Mr. Stephen E. Lin, P.E., CDS Muery

In the event of an accidental leak or spill:

- Spill must be contained and cleaned up immediately.
- Spills shall not be buried or washed with water.
- Contractor shall take action to contain spill. Contractor may use sand or other absorbent material stockpiled on site to absorb spill. Absorbent material to contain and absorb the spilled product.
- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms downgradient of the spill with sand or other absorbent material to contain and absorb the spilled product.
- Spill containment/absorbent materials along with impacted media must be collected and stored in such a way so as not to continue to affect additional media (soil/water). Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. The impacted media and cleanup materials should be covered with plastic sheeting and the edges weighed down with paving bricks or other similarly dense objects as the material is being accumulated. This will prevent the impacted media and cleanup materials from becoming airborne in windy conditions or impacting runoff during a rain event. The stockpiled materials should not be located within an area of concentrated runoff such as along a curb line or within a swale.
- Contaminated soils and cleanup materials will be sampled for waste characterization. When the analysis results are known the contaminated soils and cleanup materials will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.
- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a *significant hazardous/reportable quantity spill. Additional notifications as required by the type and amount of spill will* be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill, the contractor will be required to report significant or hazardous spills in reportable quantities to:

- **TCEQ Regional Office (512) 339-2929 (if during business hours: 8 AM to 5 PM)**
  Contractor shall reference TCEQ's guidelines on reportable quantities found here:
  https://www.tceq.texas.gov/response/spills/spill_rq.html
- Texas State Emergency Response Center (800) 832-8224 (if after hours)
- National Response Center at (800) 424-8802

Contaminated soils will be sampled for waste characterization. When the analysis results are known the contaminated soils will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations. Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 1.4.16. Contractor shall review this section.

FILED AND RECORDED
OFFICIAL PUBLIC RECORDS 2023015482

AFF Fee: $59.00
03/01/2023 09:34 AM OSALINAS

THE STATE OF TEXAS WILLIAMSON COUNTY

Nancy E. Rister

Nancy E. Rister, County Clerk
Williamson County, Texas

CDS Muery
(2) 100 NE Loop 410 ste 300
San Antonio TX 78216

ATTACHMENT B:
NARRATIVE OF PROPOSED MODIFICATION

Holt Cat Georgetown is an existing commercial heavy construction equipment sales and service dealership including associated parking lots, drive aisles and construction equipment storage base yards. The site is located at 2101 Airport Road, Georgetown, Williamson County, Texas 78628. Most of the site is developed, and any undeveloped areas were mass graded for future development. The site lies within the Brazos River Basin, entirely within the Edwards Aquifer Recharge Zone, and does not contain the Federal Emergency Management Agency (FEMA) 100-year floodplain. One naturally occurring sensitive geological feature, a fault, was identified in the Geologic Assessment and is shown on subsequent site plan(s). Upgradient off-site stormwater from the north was identified in the original WPAP and is intercepted by an earthen channel and routed around the site. The earthen channel was sized to capture and convey the stormwater runoff for the 25-year storm event at non-erosive velocities that are less than six (6) feet per second.

The following is a summary of the site's history in relation to the Edwards Aquifer Protection Program:

- A Water Pollution Abatement Plan (WPAP) was approved for a total of 26.09-acres of impervious cover, or 53.6% of the 48.67-acre project limits, and totaled 19.12-acres of immediate infrastructure to be constructed. This allowed for future development of impervious cover subsequent to the original WPAP. Future developments listed to include a track shop and rental facility building, to be located on the south side of the parcel, as well as a full gravel base yard. As such, Permanent Best Management Practices (PBMPs) structures were constructed with the original WPAP and sized to treat up to 26.09-acres of impervious cover and was approved on May 26, 2017 (EAPP ID No. 11000585).

- A Sewage Collection System (SCS) was approved on July 10, 2017 (EAPP ID #11000671) for the construction of over 1,400 LF of sewer line for an expected domestic wastewater flow of 5,000 gallons per day. (Note: This submittal does not require utility improvements and therefore, no modifications to the approved Sewage Collection System Plan (SCS) are currently proposed). Potable water service is provided by the City of Georgetown. Wastewater is disposed of by the San Gabriel wastewater treatment plant.

- A modification of the original WPAP was approved on August 20, 2021 (EAPP ID #11002544) which was for the construction of a new track shop and rental facility (mentioned above) and included site concrete pavement and gravel base yard for site parking, circulation, and storage of construction equipment. This project added 4.47-acres of impervious cover within a 5.6-acre limit of construction.

- A second modification (EAPP ID# 11002716) was approved on December 10, 2021, for the expansion of the construction equipment gravel base yard. The gravel base yard added an additional impervious cover of 1.94-acres within a 2.2-acre limit of construction.

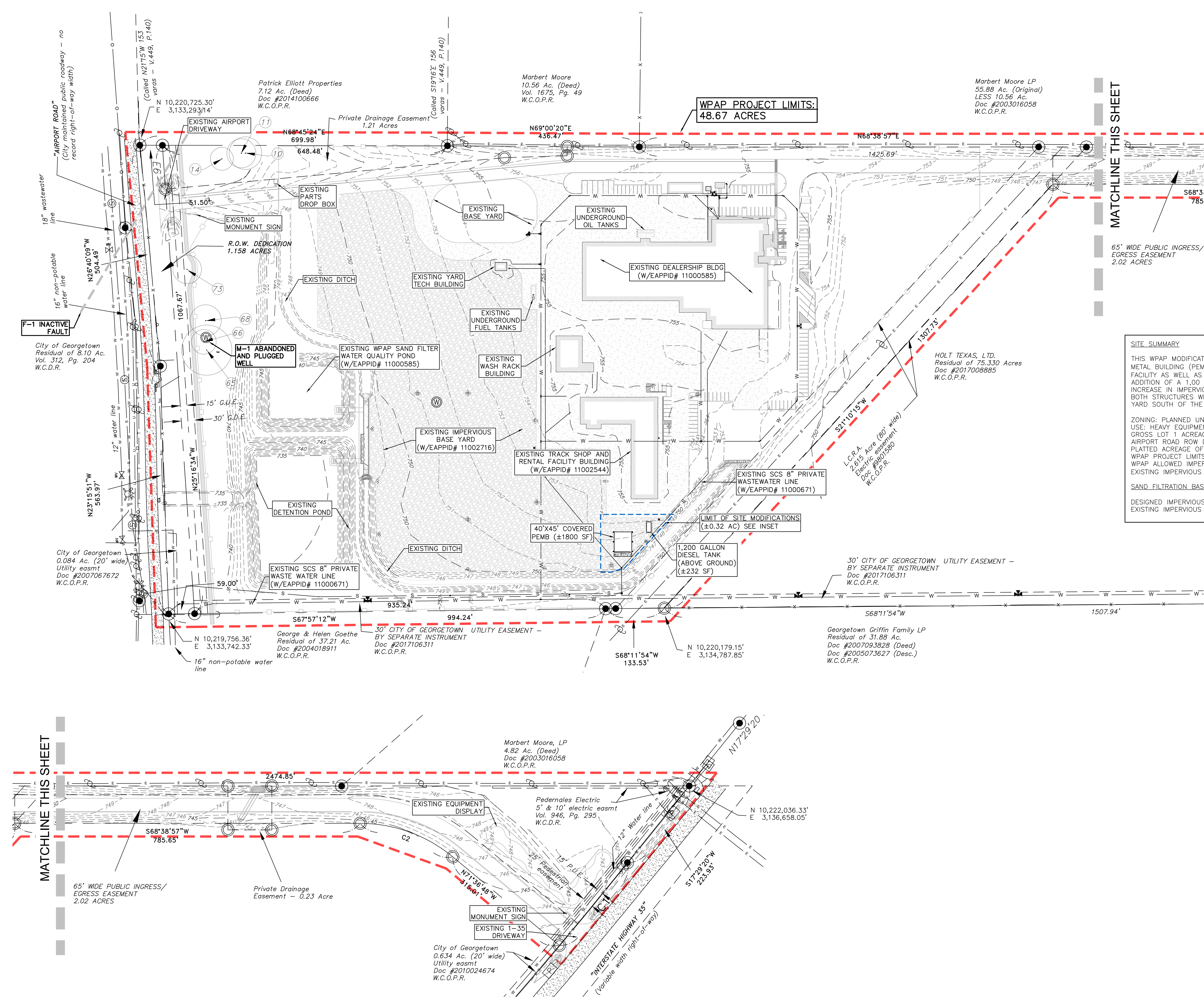
- A third modification, consisting of EAPP ID# 11003404 and EAPP ID# 11003405, was approved on February 17, 2023, which was for the construction of a Pre-Engineered Metal Building (PEMB) and a 1,200-gallon Above Ground Storage Tank (AST). These additions did not increase the site impervious cover.

The original WPAP approval included the construction of one (1) Sand Filter Basin and two (2) fifteen- foot (15') engineered vegetative filter strips to meet Permanent Best Management Practices (PBMPs) for the site. These PBMPs were installed with the original construction and are currently in operation at the project site. According to the original WPAP, all PBMPs were designed in accordance with TCEQ's Technical Guidance Manual RG-348 (2005) to remove 80% of the increase in total Suspended Solids (TSS) required by TCEQ and 85% per City of Georgetown guidelines.

The Sand Filter Basin was designed for a watershed area of 22.88-acres (Watershed "C") with 21.65-acres of impervious cover within the watershed. Based on the original WPAP approval and the two subsequent modifications, the current existing impervious cover discharging to the basin is 19.13-acres and includes the 12.72-acres of impervious cover within Watershed "C" that was built with the original construction project, the 4.47-acres of impervious cover associated with the first approved modification, and the 1.94-acres from the second modification. The third modification to the project site did not increase the impervious cover on the site.

The current addition is for the construction of 49 additional parking spaces, located southeast of the existing dealership building, and will increase the impervious cover by 0.32-acres. Therefore, the total existing and proposed impervious cover applied to the sand filter basin increases to 19.45-acres, which is below the 21.65-acres the existing sand /filter basin was originally designed for.

ATTACHMENT C:
CURRENT SITE PLAN OF APPROVED PROJECT



SITE SUMMARY

THIS WPAP MODIFICATION IS FOR THE ADDITION OF A PRE–ENGINEERED METAL BUILDING (PEMB) TO BE LOCATED SOUTH OF THE TRACK CENTER FACILITY AS WELL AS AN ABOVE GROUND STORAGE TANK (AST) FOR ADDITION OF A 1,00 GALLON DIESEL FUEL TANK. THERE IS A NET–ZERO INCREASE IN IMPERVIOUS COVER ASSOCIATED WITH THIS MODIFICATION AS BOTH STRUCTURES WILL BE CONSTRUCTED WITHIN IMPERVIOUS GRAVEL YARD SOUTH OF THE TRACK SHOP.

ZONING: PLANNED UNIT DEVELOPMENT ORD. #2017–07
USE: HEAVY EQUIPMENT SALES AND REPAIR

GROSS LOT 1 ACREAGE:	44.26 ACRES
AIRPORT ROAD ROW DEDICATION:	1.158 ACRES
PLATTED ACREAGE OF LOT 1:	43.09 ACRES
WPAP PROJECT LIMITS:	48.67 ACRES
WPAP ALLOWED IMPERVIOUS COVER:	26.09 ACRES
EXISTING IMPERVIOUS COVER (EXISTING SITE PLAN)	19.13 ACRES

SAND FILTRATION BASIN

DESIGNED IMPERVIOUS COVER (PER EAPPID# 11000585):	21.65 ACRES
EXISTING IMPERVIOUS COVER TO SAND FILTER POND:	19.13 ACRES

LEGEND

(concrete pattern)	EXISTING CONCRETE PAVEMENT
(gravel pattern)	EXISTING GRAVEL BASE MATERIAL

NO	DATE	REVISION

CDS Muery F-1733

STEPHEN S. LIN 108721 LICENSED PROFESSIONAL ENGINEER 11/21/22

DESIGNED BY

DRAWN BY AR

REVIEWED BY SL

DATE OCTOBER 2022

CDS muery ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

GEORGETOWN, TEXAS

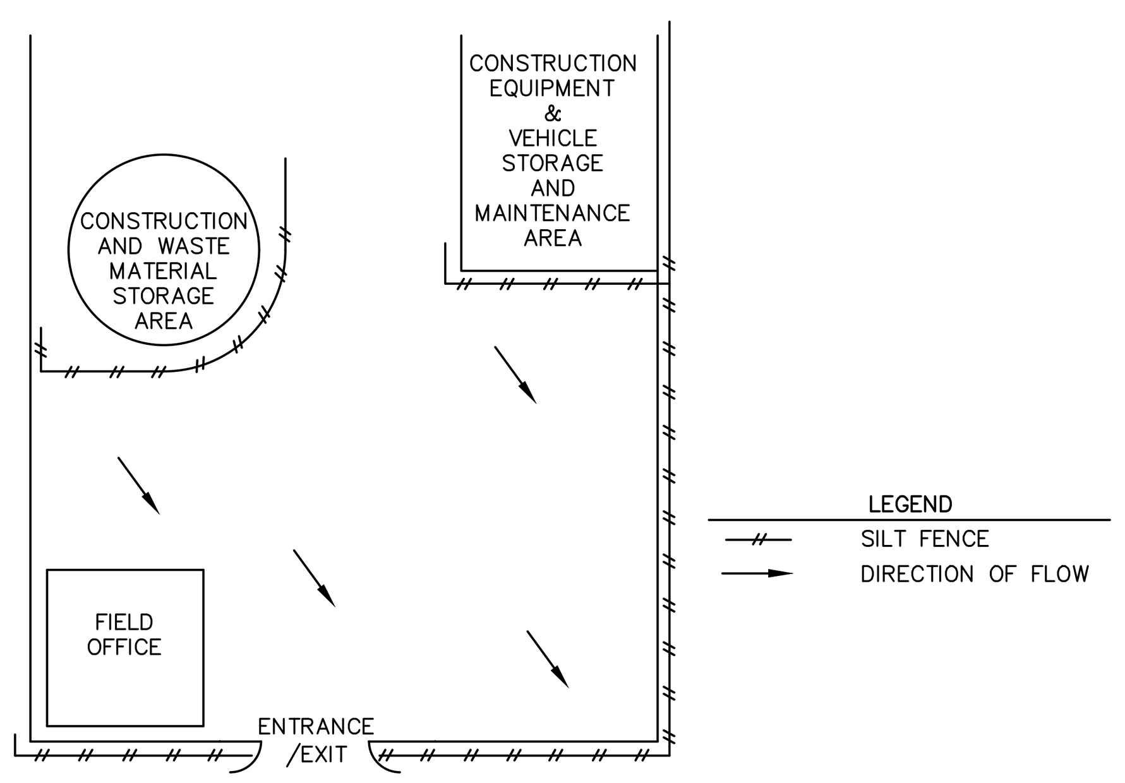
HOLT CAT GEORGETOWN PEMB TEST STAND

TCEQ SITE PLAN

EXHIBIT

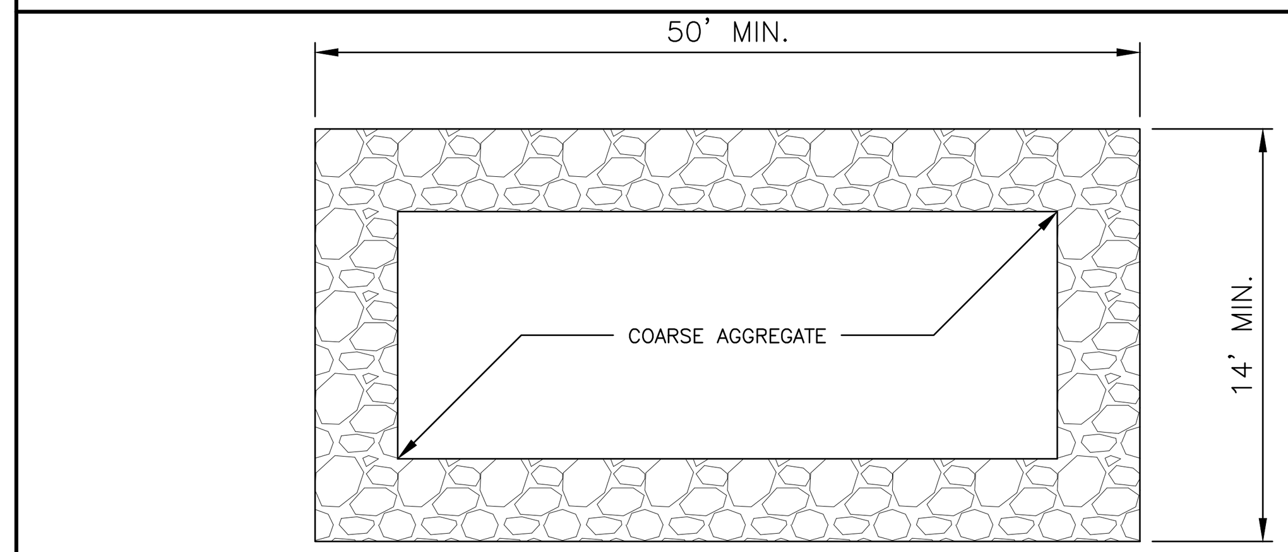
HOLT CAT

Date: Nov 21, 2022, 5:31pm User ID: abelardo.ramos
File: F:\2022\22279 PEMB Equipment Test Shelter and Fuel Tank\Civil 3D\Dwg\Engineer\EXHIBITS\TCEQ.dwg

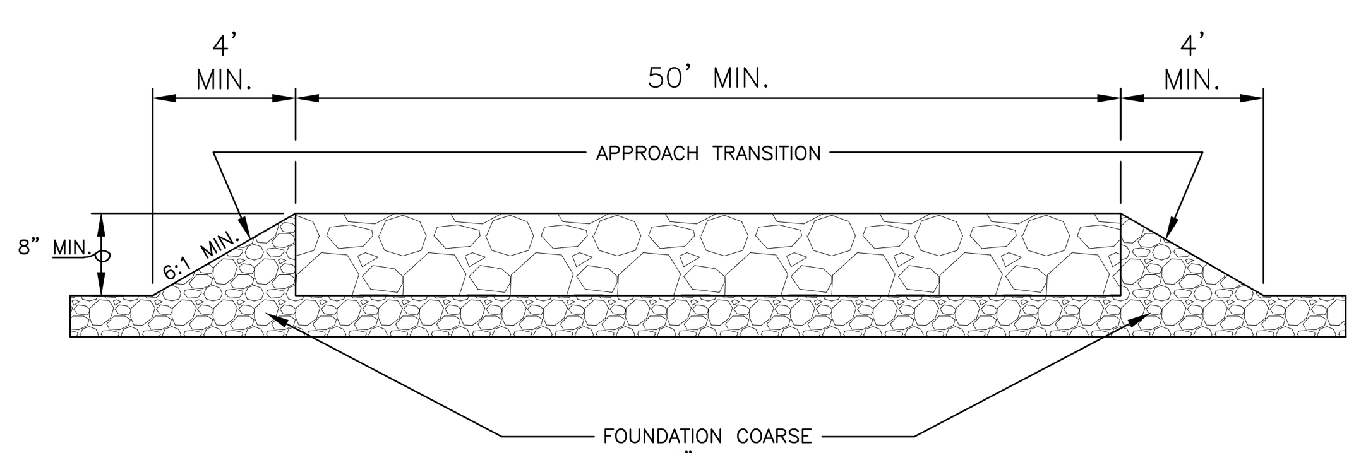


EQUIPMENT STAGING AREA

NOT TO SCALE



PLAN



PROFILE

GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS. BUT NOT LESS THAN 50'.

   THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".

   THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.

   THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.

   THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.

   THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

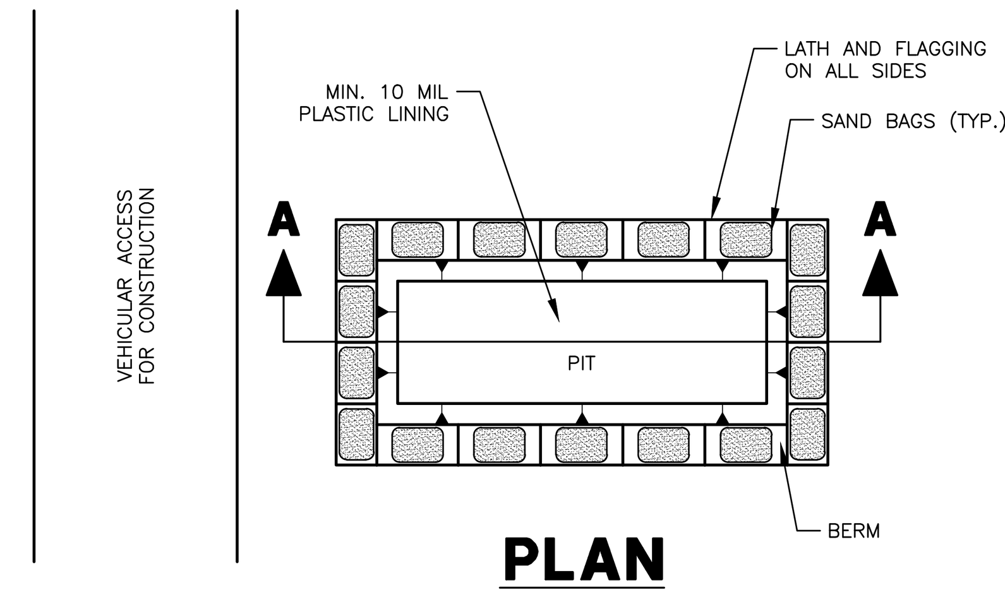
CONSTRUCTION ENTRANCE / EXIT (TYPE 1)

NOT TO SCALE

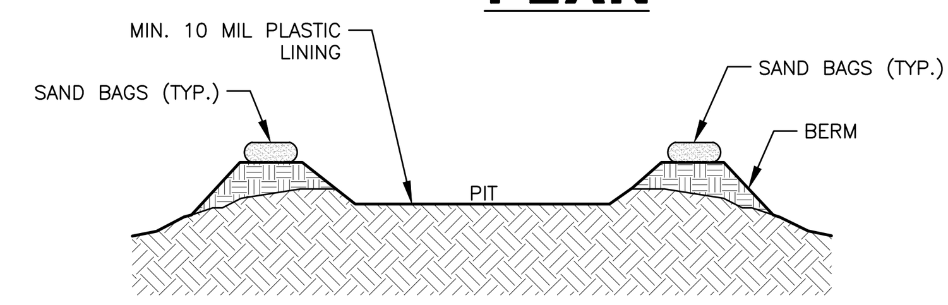
1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND/OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL.
3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE SW3P PLANS.
4. SIDE SLOPES SHOULD BE 2:1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDESLOPES OF 6:1 OR FLATTER.
5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4' INTO EXISTING GROUND.
7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE. THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3/4" DIA. REBAR STAKES.
10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK,ETC.).
11. DETAILS SHOWN ARE TYPICAL, SUBJECT TO CONTRACTOR'S SW3P PLAN REQUIREMENTS.

SWPPP GENERAL NOTES

NOT TO SCALE



PLAN



SECTION A-A

GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

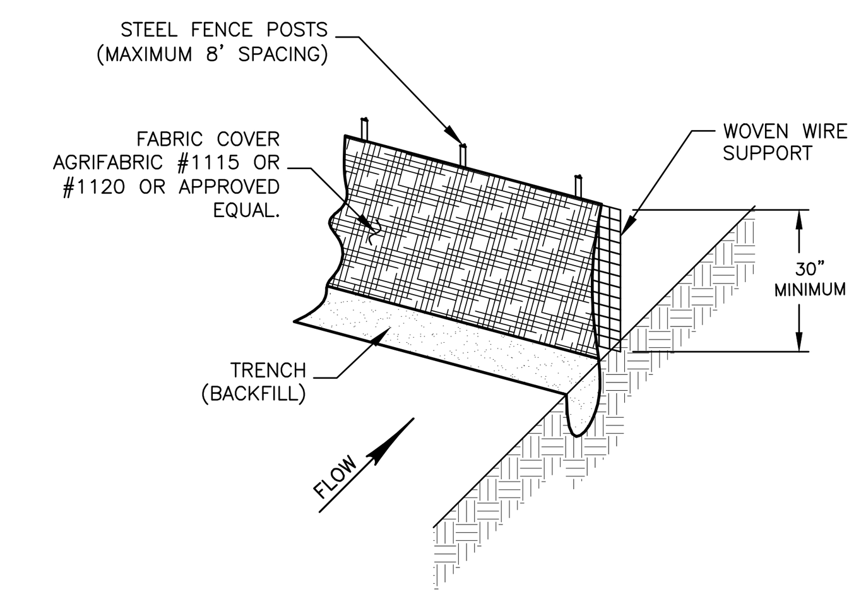
PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

MAINTENANCE

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.
2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT

NOT TO SCALE



GENERAL NOTES

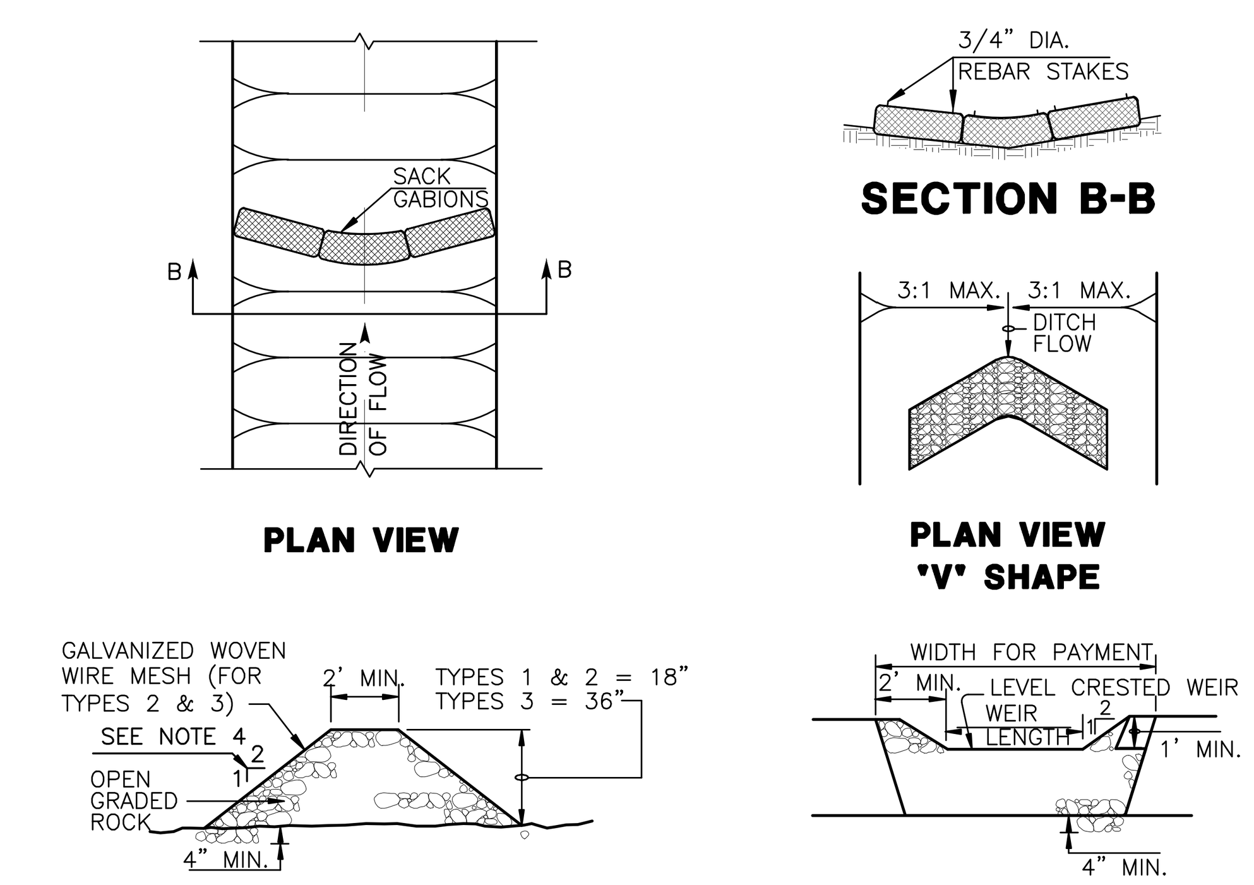
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH SHOULD BE A MINIMUM OF 6 INCHES DEEP AND 4–8 INCHES WIDE TO ALLOW FOR THE SILT FENCE TO BE LAID IN THE GROUND AND BACKFILLED.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SEDIMENT TRAPPED BY THIS PRACTICE SHALL BE DISPOSED OF IN AN APPROVED SITE IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES AND DISPOSED OF IN AN APPROVED SPOIL SITE OR AS IN NO. 6 ABOVE.

SILT FENCE

NOT TO SCALE

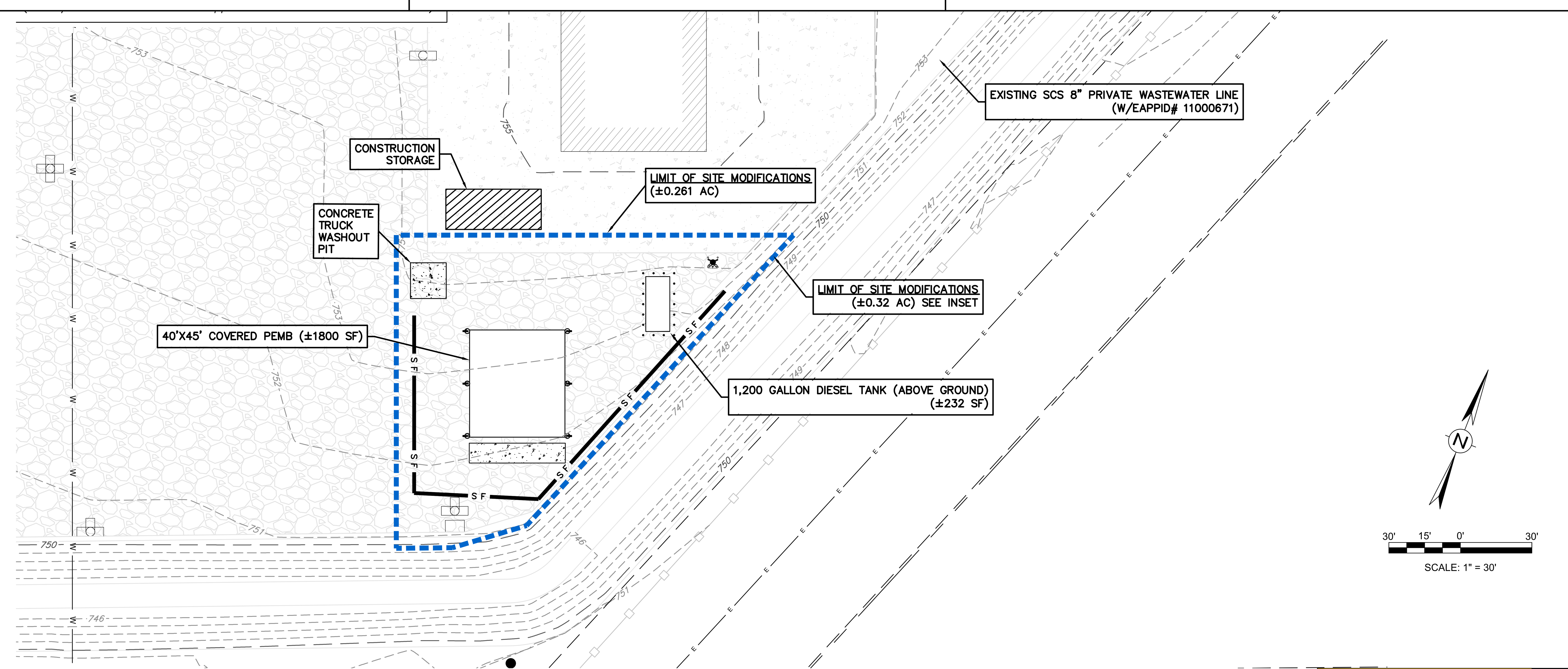
ROCK FILTER DAM USAGE GUIDELINES

1. ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND/OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THROUGH RATE OF 60 GPM/FT OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.
2. TYPE 1 (18" HIGH WITH NO WIRE MESH): TYPE 1 MAY BE USED AT THE TOE OF SLOPES. AROUND INLETS, IN SMALL DITCHES. AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROX. 8 FT./SEC. OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR DIRECTED BY THE ENGINEER.
3. TYPE 2 (18" HIGH WITH WIRE MESH): TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.
4. TYPE 3 (36" HIGH WITH WIRE MESH): TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.
5. TYPE 4 (SACK GABIONS): TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.



ROCK FILTER DAM

NOT TO SCALE



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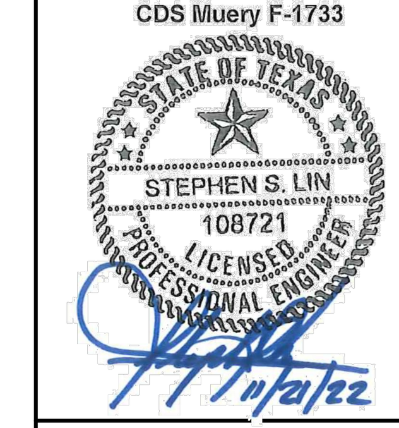
CDS Muery F-1733



DESIGNED BY

DRAWN BY
AR

REVIEWED BY
SL

DATE
OCTOBER 2022

CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

GEORGETOWN, TEXAS

HOLT CAT GEORGETOWN PEMB TEST STAND

EROSION & SEDIMENT CONTROL PLAN

EXHIBIT

Date: Nov 21, 2022, 5:33pm User ID: abelardo.ramos
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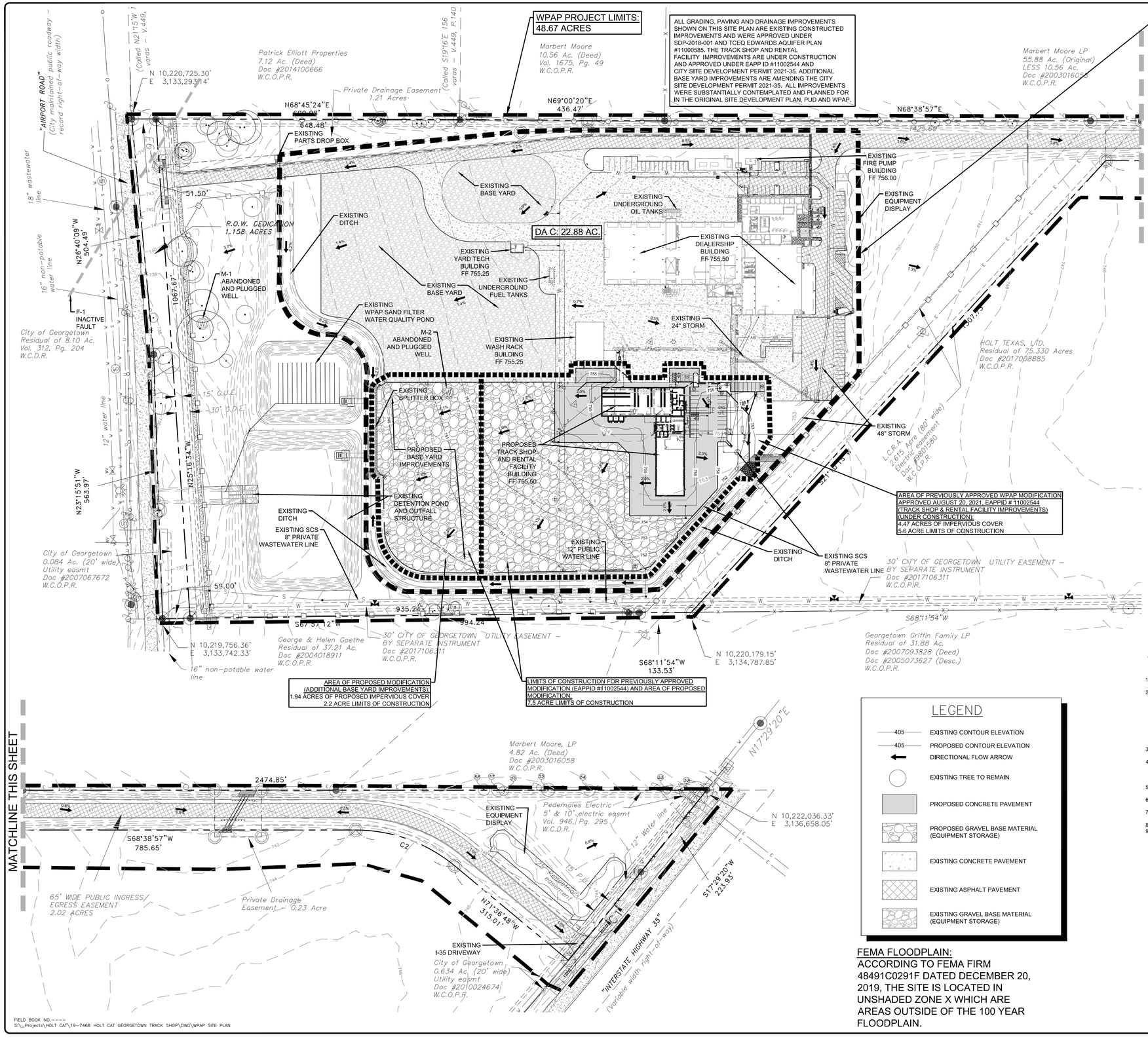

SITE SUMMARY

ZONING: PLANNED UNIT DEVELOPMENT ORD. # 2017-07
USE:HEAVY EQUIPMENT SALES AND REPAIR

GROSS LOT 1 ACREAGE:	44.245 ACRES
AIRPORT ROAD ROW DEDICATION:	1.158 ACRES
PLATTED ACREAGE OF LOT 1:	43.087 ACRES
WPAP PROJECT LIMITS:	48.67 ACRES
WPAP ALLOWED IMPERVIOUS COVER (ORIGINAL APPROVAL):	26.09 ACRES
*EXISTING IMPERVIOUS COVER (ORIGINAL SITE PLAN):	14.65 ACRES
IMPERVIOUS COVER OF PREVIOUSLY APPROVED WPAP MODIFICATION (TRACK SHOP AND RENTAL FACILITY IMPROVEMENTS) (APPROVED 8/20/2021 EAPPID #11002544)	4.47 ACRES
TOTAL EXISTING IMPERVIOUS COVER:	19.12 ACRES
IMPERVIOUS COVER OF AREA OF PROPOSED MODIFICATION (ADDITIONAL BASE YARD IMPROVEMENTS):	1.94 ACRES
TOTAL EXISTING AND PROPOSED IMPERVIOUS COVER:	21.06 ACRES

WPAP PERMANENT WQ POND SUMMARY (DRAINAGE AREA C):

WQ POND DESIGNED IMPERVIOUS COVER:	21.65 ACRES
*EXISTING IMPERVIOUS COVER TO POND (ORIGINAL SITE PLAN):	12.72 ACRES
*EXISTING UNCAPTURED IMPERVIOUS COVER:	0.26 ACRES
IMPERVIOUS COVER OF PREVIOUSLY APPROVED WPAP MODIFICATION (TRACK SHOP AND RENTAL FACILITY IMPROVEMENTS) (APPROVED 8/20/2021 EAPPID #11002544) TO POND:	4.47 ACRES
TOTAL EXISTING IMPERVIOUS COVER TO POND:	17.19 ACRES
IMPERVIOUS COVER OF AREA OF PROPOSED MODIFICATION (ADDITIONAL BASE YARD IMPROVEMENTS) TO POND:	1.94 ACRES
TOTAL EX. & PROP. PROPOSED IMPERVIOUS COVER TO POND:	19.13 ACRES
FUTURE AVAILABLE IMPERVIOUS COVER TO POND:	2.26 ACRES

EXISTING WPAP WQ POND IS SIZED FOR PROPOSED PROJECT. IT IS ALSO SIZED FOR FUTURE 2.26 ACRES OF ADDITIONAL IMPERVIOUS COVER.

*14.65 ACRES OF EXISTING IMPERVIOUS COVER CONSISTS OF AREAS CAPTURED BY THE EXISTING SAND FILTER BASIN, EXISTING ENGINEERED VEGETATIVE FILTER STRIPS OR ARE UNCAPTURED AREAS. 12.72 ACRES OF EXISTING IMPERVIOUS COVER IS ROUTED THROUGH THE WPAP SAND FILTER BASIN. 1.67 ACRES OF EXISTING IMPERVIOUS COVER IS TREATED BY ENGINEERED VEGETATIVE FILTER STRIPS (AREAS OUTSIDE OF DRAINAGE AREA C). 0.26 ACRES OF EXISTING IMPERVIOUS COVER NEAR DRIVEWAY INTERSECTIONS ARE NOT CAPTURED\TREATED; THEREFORE, 0.26 ACRES OF IMPERVIOUS COVER IS DEDUCTED FROM FUTURE AVAILABLE IMPERVIOUS COVER TO POND ACREAGE TO ACCOUNT FOR OVERTREATMENT.

ORIGINAL WPAP APPROVAL NOTE:

REFERENCE ORIGINAL WPAP APPROVED SITE PLAN (TCEQ ID #11000585) FOR LOCATION OF VEGETATIVE FILTER STRIPS, DELINEATION OF DRAINAGE AREAS A, B, D AND E, SAND FILTER BASIN DESIGN AND POLLUTANT LOAD REMOVAL CALCULATIONS. NO CHANGES TO THESE ELEMENTS ARE PROPOSED WITH THIS MODIFICATION. THE ONLY CHANGES MADE BY THIS MODIFICATION ARE WITHIN THE APPROXIMATE 2.2 ACRE LIMITS OF CONSTRUCTION SHOWN ON THE SITE PLAN ASSOCIATED WITH ADDITIONAL BASE YARD IMPROVEMENTS. TRACK SHOP AND RENTAL FACILITY IMPROVEMENTS WERE APPROVED BY TCEQ ON 8/20/2021, EAPPID #11002544 AND ARE UNDER CONSTRUCTION.

SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

1. TEMPORARY BMP'S WILL BE MAINTAINED UNTIL THE SITE IMPROVEMENTS ARE COMPLETED AND THE SITE HAS BEEN STABILIZED, INCLUDING SUFFICIENT VEGETATION BEING ESTABLISHED.
2. DURING CONSTRUCTION, TO THE EXTENT PRACTICAL, CONTRACTOR SHALL MINIMIZE THE AREA OF SOIL DISTURBANCE. AREAS OF DISTURBED SOIL SHALL BE REVEGETATED TO STABILIZE SOIL USING SOLID SOD IN A STAGGERED PATTERN - REFER TO SECTION 1.3.11 IN TCEQ'S TECHNICAL GUIDANCE MANUAL RG-348 (2005). SOD SHOULD BE USED IN CHANNELS AND ON SLOPES >15%. THE CONTRACTOR MAY SUBSTITUTE THE USE OF SOD WITH THE PLACEMENT OF TOPSOIL AND A FRIABLE SEED BED WITH PROTECTIVE MATTING OR HYDRAULIC MULCH ALONG WITH WATERING UNTIL VEGETATION IS ESTABLISHED. APPLICATIONS AND PRODUCTS SHALL BE THOSE APPROVED BY TXDOT AS OF FEBRUARY 2001 AND IN COMPLIANCE WITH THE TGM RG-348 (2005). SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER AND SHOULD BE IN COMPLIANCE WITH TGM RG-348 (2005) GUIDELINES. IRRIGATION MAY BE REQUIRED IN ORDER TO ESTABLISH SUFFICIENT VEGETATION.
3. FOR DISTURBED AREAS WHERE INSUFFICIENT SOIL EXISTS TO ESTABLISH VEGETATION, CONTRACTOR SHALL PLACE A MINIMUM OF 6 INCHES OF TOPSOIL PRIOR TO REVEGETATION.
4. EXISTING PERMANENT BMP'S FOR THIS SITE INCLUDE ONE (1) SAND FILTER BASIN AND ENGINEERED VEGETATIVE FILTER STRIPS. THIS EXISTING PERMANENT BMPS HAVE BEEN DESIGNED IN ACCORDANCE WITH TGM RG-348 (2005) TO REMOVE 80% OF THE INCREASE IN TOTAL SUSPENDED SOLIDS (TSS) REQUIRED BY TCEQ AND 85% PER CITY OF GEORGETOWN GUIDELINES.
5. TYPICAL SLOPES ON IMPERVIOUS COVER RANGE FROM 0.5% TO 3.0%. LANDSCAPED AND REVEGETATED AREAS HAVE SLOPES UP TO 3:1.
6. SILT FENCING WHERE APPROPRIATE WILL BE MAINTAINED UNTIL UTILITY, PAVING AND BUILDING IMPROVEMENTS ARE COMPLETED.
7. IF NEEDED, ENERGY DISSIPATORS TO REDUCE EROSION WILL BE PROVIDED AT POINTS OF CONCENTRATED DISCHARGE WHERE EXCESSIVE VELOCITIES MAY BE ENCOUNTERED.
8. CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION FOR SOIL STABILIZATION PRIOR TO SITE CLOSEOUT.
9. NO NEW PERMANENT BMPS ARE PROPOSED.

FEMA FLOODPLAIN:
ACCORDING TO FEMA FIRM 48491C0291F DATED DECEMBER 20, 2019, THE SITE IS LOCATED IN UNSHADED ZONE X WHICH ARE AREAS OUTSIDE OF THE 100 YEAR FLOODPLAIN.

STATE OF TEXAS
JOSEPH G. WILLRICH
98415
LICENSED
PROFESSIONAL ENGINEER
9-21-21

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Texas Registered Engineering Firm F-2011

2021-35-SDP

HOLT CAT

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HOLT CAT GEORGETOWN
TRACK SHOP & RENTAL FACILITY
2101 AIRPORT RD. GEORGETOWN, TEXAS 78628

REVISION:
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2.
3.

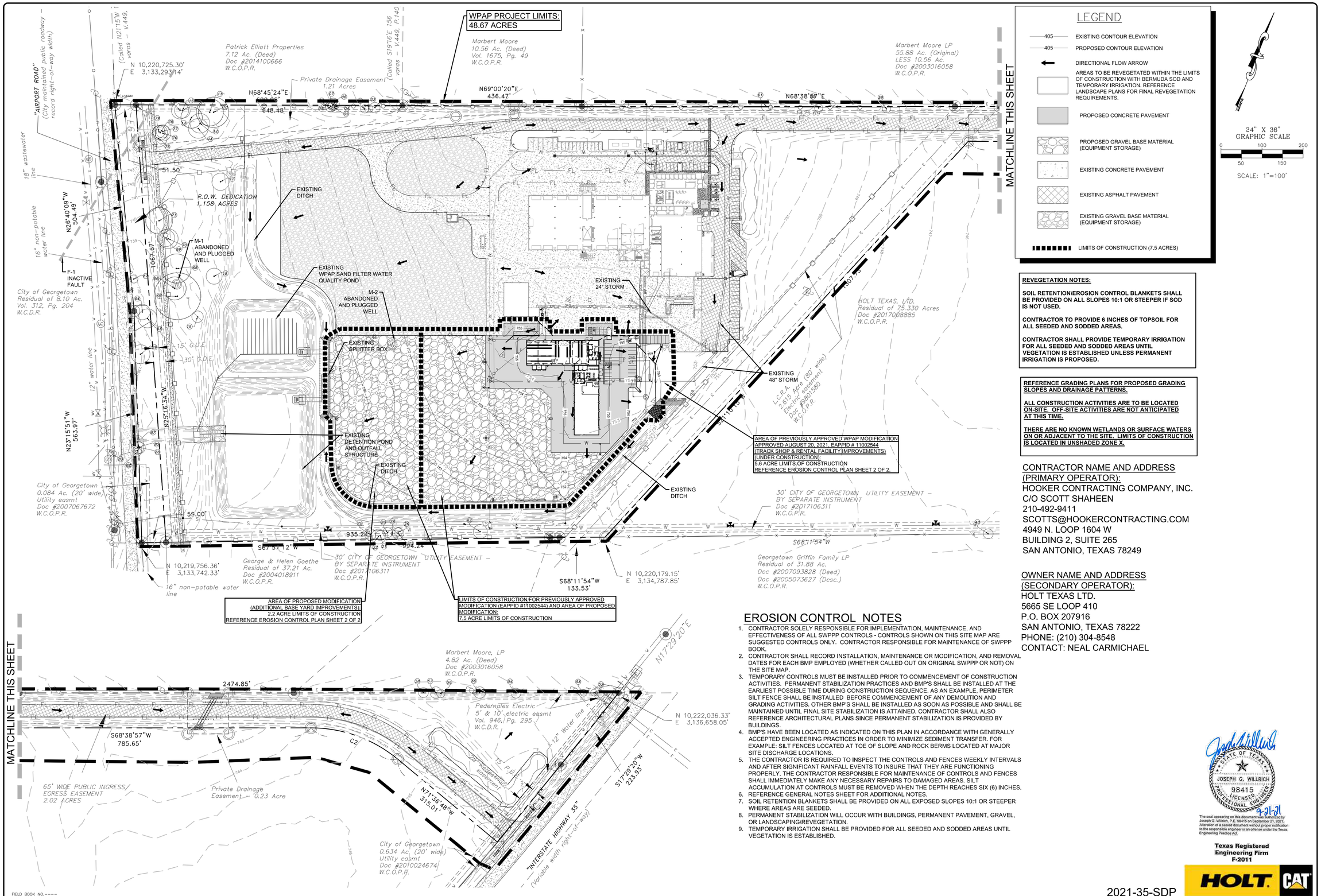
DRAWN BY: JGW
CHECKED BY: JGW
BEFCO JOB NO: 19-7468
PLOT SCALE 1" = 100

SHEET TITLE
WPAP SITE PLAN MODIFICATION

DATE ISSUED: 9/21/21

SHEET
2
OF .

FIELD BOOK NO.-----
S:_Projects\HOLT CAT\19-7468 HOLT CAT GEORGETOWN TRACK SHOP\DWG\WPAP SITE PLAN



LEGEND

- 405 — EXISTING CONTOUR ELEVATION
- 405 — PROPOSED CONTOUR ELEVATION
- DIRECTIONAL FLOW ARROW
- AREAS TO BE REVEGETATED WITHIN THE LIMITS OF CONSTRUCTION WITH BERMUDA SOD AND TEMPORARY IRRIGATION. REFERENCE LANDSCAPE PLANS FOR FINAL REVEGETATION REQUIREMENTS.
- PROPOSED CONCRETE PAVEMENT
- PROPOSED GRAVEL BASE MATERIAL (EQUIPMENT STORAGE)
- EXISTING CONCRETE PAVEMENT
- EXISTING ASPHALT PAVEMENT
- EXISTING GRAVEL BASE MATERIAL (EQUIPMENT STORAGE)
- LIMITS OF CONSTRUCTION (7.5 ACRES)

24" X 36"
GRAPHIC SCALE
0 50 100 150 200
SCALE: 1"=100'

REVEGETATION NOTES:

SOIL RETENTION\EROSION CONTROL BLANKETS SHALL BE PROVIDED ON ALL SLOPES 10:1 OR STEEPER IF SOD IS NOT USED.

CONTRACTOR TO PROVIDE 6 INCHES OF TOPSOIL FOR ALL SEEDED AND SODDED AREAS.

CONTRACTOR SHALL PROVIDE TEMPORARY IRRIGATION FOR ALL SEEDED AND SODDED AREAS UNTIL VEGETATION IS ESTABLISHED UNLESS PERMANENT IRRIGATION IS PROPOSED.

REFERENCE GRADING PLANS FOR PROPOSED GRADING SLOPES AND DRAINAGE PATTERNS.

ALL CONSTRUCTION ACTIVITIES ARE TO BE LOCATED ON-SITE. OFF-SITE ACTIVITIES ARE NOT ANTICIPATED AT THIS TIME.

THERE ARE NO KNOWN WETLANDS OR SURFACE WATERS ON OR ADJACENT TO THE SITE. LIMITS OF CONSTRUCTION IS LOCATED IN UNSHADED ZONE X.

EROSION CONTROL NOTES

1. CONTRACTOR SOLELY RESPONSIBLE FOR IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL SWPPP CONTROLS - CONTROLS SHOWN ON THIS SITE MAP ARE SUGGESTED CONTROLS ONLY. CONTRACTOR RESPONSIBLE FOR MAINTENANCE OF SWPPP BOOK.
2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL DATES FOR EACH BMP EMPLOYED (WHETHER CALLED OUT ON ORIGINAL SWPPP OR NOT) ON THE SITE MAP.
3. TEMPORARY CONTROLS MUST BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. PERMANENT STABILIZATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING CONSTRUCTION SEQUENCE. AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY DEMOLITION AND GRADING ACTIVITIES. OTHER BMP'S SHALL BE INSTALLED AS SOON AS POSSIBLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE ARCHITECTURAL PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY BUILDINGS.
4. BMP'S HAVE BEEN LOCATED AS INDICATED ON THIS PLAN IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE: SILT FENCES LOCATED AT TOE OF SLOPE AND ROCK BERMS LOCATED AT MAJOR SITE DISCHARGE LOCATIONS.
5. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE CONTRACTOR RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
6. REFERENCE GENERAL NOTES SHEET FOR ADDITIONAL NOTES.
7. SOIL RETENTION BLANKETS SHALL BE PROVIDED ON ALL EXPOSED SLOPES 10:1 OR STEEPER WHERE AREAS ARE SEEDED.
8. PERMANENT STABILIZATION WILL OCCUR WITH BUILDINGS, PERMANENT PAVEMENT, GRAVEL, OR LANDSCAPING\REVEGETATION.
9. TEMPORARY IRRIGATION SHALL BE PROVIDED FOR ALL SEEDED AND SODDED AREAS UNTIL VEGETATION IS ESTABLISHED.

CONTRACTOR NAME AND ADDRESS
(PRIMARY OPERATOR):
HOOKER CONTRACTING COMPANY, INC.
C/O SCOTT SHAHEEN
210-492-9411
SCOTTS@HOOKERCONTRACTING.COM
4949 N. LOOP 1604 W
BUILDING 2, SUITE 265
SAN ANTONIO, TEXAS 78249

OWNER NAME AND ADDRESS
(SECONDARY OPERATOR):
HOLT TEXAS LTD.
5665 SE LOOP 410
P.O. BOX 207916
SAN ANTONIO, TEXAS 78222
PHONE: (210) 304-8548
CONTACT: NEAL CARMICHAEL

STATE OF TEXAS
JOSEPH G. WILLRICH
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2101 AIRPORT RD. GEORGETOWN, TEXAS 78628

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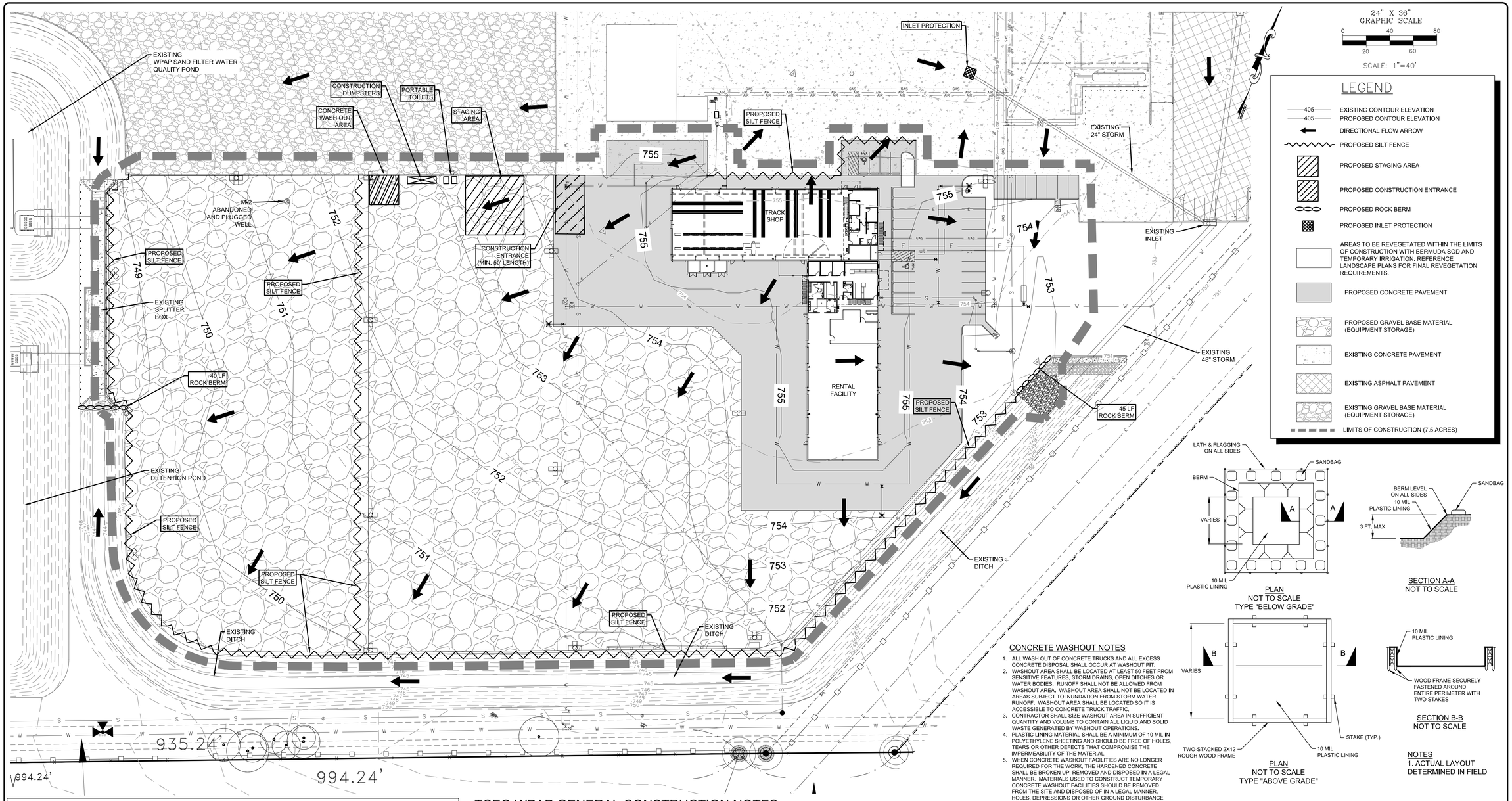
CHECKED BY: JGW
BEFCO JOB NO: 19-7468
PLOT SCALE 1" = 100

SHEET TITLE
EROSION CONTROL PLAN
SHEET 1 OF 2 (SWPPP)
DATE ISSUED: 9/21/21

SHEET
31
OF 40

FIELD BOOK NO.-----
S:_Projects\HOLT CAT\19-7468 HOLT CAT GEORGETOWN TRACK SHOP\DWG\EROSION CONTROL PLAN



24" X 36" GRAPHIC SCALE

0 40 80

20 60

SCALE: 1"=40'

LEGEND

- 405 EXISTING CONTOUR ELEVATION
- 405 PROPOSED CONTOUR ELEVATION
- DIRECTIONAL FLOW ARROW
- PROPOSED SILT FENCE
- PROPOSED STAGING AREA
- PROPOSED CONSTRUCTION ENTRANCE
- PROPOSED ROCK BERM
- PROPOSED INLET PROTECTION
- AREAS TO BE REVEGETATED WITHIN THE LIMITS OF CONSTRUCTION WITH BERMUDA SOD AND TEMPORARY IRRIGATION. REFERENCE LANDSCAPE PLANS FOR FINAL REVEGETATION REQUIREMENTS.
- PROPOSED CONCRETE PAVEMENT
- PROPOSED GRAVEL BASE MATERIAL (EQUIPMENT STORAGE)
- EXISTING CONCRETE PAVEMENT
- EXISTING ASPHALT PAVEMENT
- EXISTING GRAVEL BASE MATERIAL (EQUIPMENT STORAGE)
- LIMITS OF CONSTRUCTION (7.5 ACRES)

PLAN
NOT TO SCALE
TYPE "BELOW GRADE"

SECTION A-A
NOT TO SCALE

PLAN
NOT TO SCALE
TYPE "ABOVE GRADE"

SECTION B-B
NOT TO SCALE

NOTES
1. ACTUAL LAYOUT DETERMINED IN FIELD

CONCRETE WASHOUT NOTES

1. ALL WASH OUT OF CONCRETE TRUCKS AND ALL EXCESS CONCRETE DISPOSAL SHALL OCCUR AT WASHOUT PIT.
2. WASHOUT AREA SHALL BE LOCATED AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES. RUNOFF SHALL NOT BE ALLOWED FROM WASHOUT AREA. WASHOUT AREA SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF. WASHOUT AREA SHALL BE LOCATED SO IT IS ACCESSIBLE TO CONCRETE TRUCK TRAFFIC.
3. CONTRACTOR SHALL SIZE WASHOUT AREA IN SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND SOLID WASTE GENERATED BY WASHOUT OPERATIONS.
4. PLASTIC LINING MATERIAL SHALL BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
5. WHEN CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHALL BE BROKEN UP, REMOVED AND DISPOSED IN A LEGAL MANNER. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL MANNER. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY REMOVAL OF WASHOUT AREA SHOULD BE BACKFILLED AND REPAIRED.

TEMPORARY BMP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

FIELD BOOK NO.=---
S:_Projects\HOLT CAT\19-7468 HOLT CAT GEORGETOWN TRACK SHOP\DWG\EROSION CONTROL PLAN SHEET 2 OF 2

TCEQ WPAP GENERAL CONSTRUCTION NOTES

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.
3. If any sensitive feature(s) (caves, solution cavity, sink hole, etc.) is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. Construction activities may not be resumed until the TCEQ has reviewed and approved the appropriate protective measures in order to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality.
4. No temporary or permanent hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the approved plans and manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.
6. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.
7. Sediment must be removed from the sediment traps or sedimentation basins not later than, when it occupies 50% of the basin's design capacity.
8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.
10. If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
11. The following records shall be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.
12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
    C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

CONCRETE WASHOUT DETAIL

N.T.S.

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

2021-35-SDP

STATE OF TEXAS
JOSEPH G. WILLRICH
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REVISION:
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DRAWN BY: JGW
CHECKED BY: JGW

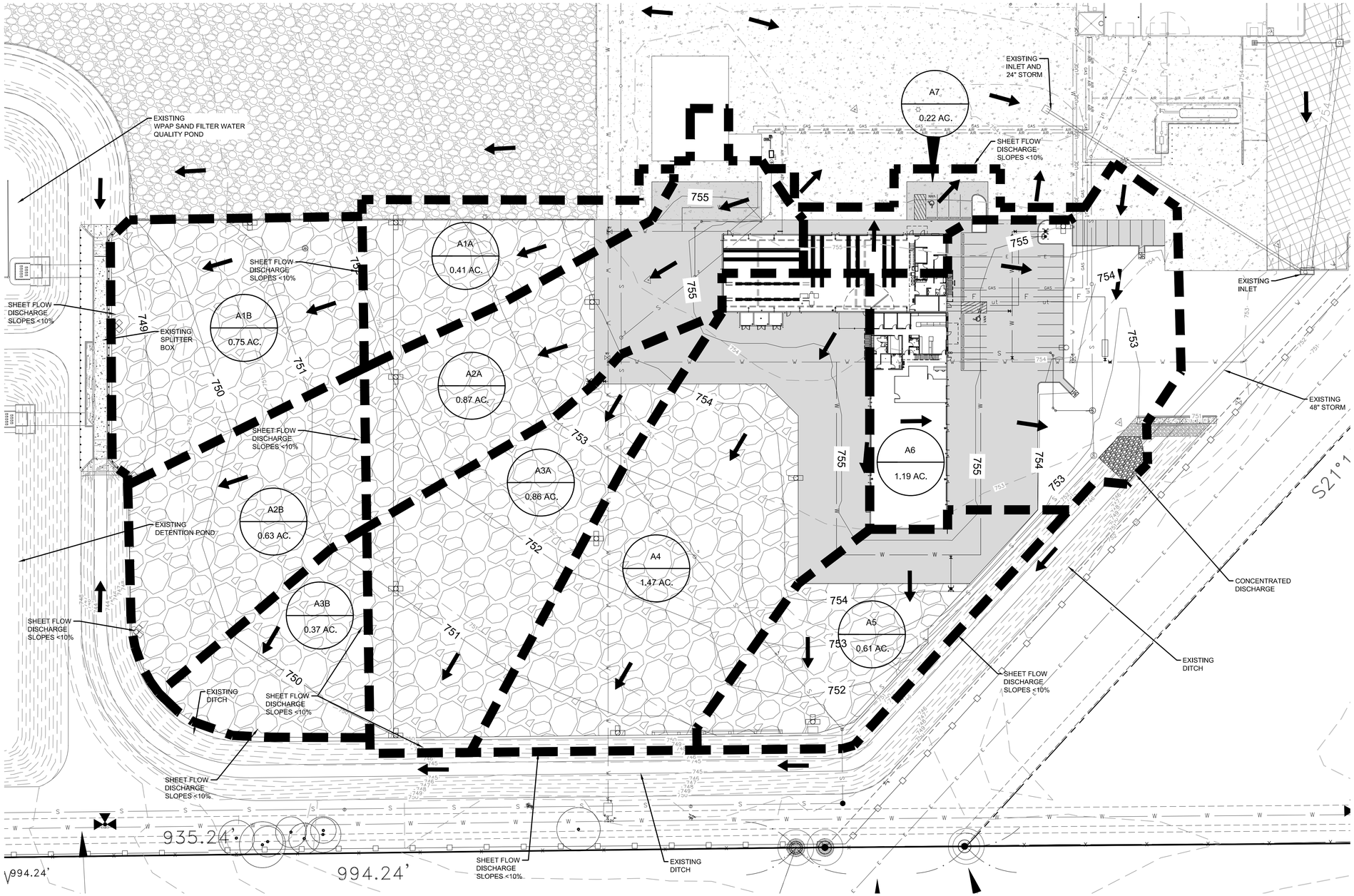
BEFCO JOB NO: 19-7468

PLOT SCALE 1" = 40

SHEET TITLE
EROSION CONTROL PLAN SHEET 2 OF 2 (SWPPP)

DATE ISSUED: 9/21/21

SHEET
32
OF 40



LEGEND

- 405 — EXISTING CONTOUR ELEVATION
- 405 — PROPOSED CONTOUR ELEVATION
- DIRECTIONAL FLOW ARROW
- DRAINAGE AREA
- PROPOSED CONCRETE PAVEMENT
- PROPOSED GRAVEL BASE MATERIAL (EQUIPMENT STORAGE)
- EXISTING CONCRETE PAVEMENT
- EXISTING ASPHALT PAVEMENT
- EXISTING GRAVEL BASE MATERIAL (EQUIPMENT DISPLAY)

24" X 36"
GRAPHIC SCALE
0 40 80
20 60
SCALE: 1"=40'

2021-35-SDP

FIELD BOOK NO.----
S:_Projects\HOLT CAT\19-7468 HOLT CAT GEORGETOWN TRACK SHOP\DWG\WPAP DAM

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PLOT SCALE
1" = 40

SHEET TITLE
EROSION CONTROL PLAN
DRAINAGE AREA MAP
(SWPPP)

DATE ISSUED: 9/21/21

SHEET
33
OF 40

JOSEPH G. WILLRICH
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9-21-21

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HOLT CAT

EROSION CONTROL & SEDIMENTATION NOTES (SWPPP)

1. IF DISTURBING MORE THAN 5 ACRES, PRIMARY OPERATOR (CONTRACTOR) SHALL SUBMIT A NOTICE OF INTENT (NOI) TO TCEQ IMMEDIATELY PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES IF SUBMITTED ELECTRONICALLY OR TEN DAYS BEFORE IF SUBMITTING PAPER COPY. PRIMARY OPERATOR IS RESPONSIBLE FOR RETAINING PROOF THAT THE NOI WAS SUBMITTED TO TCEQ (PROOF MUST CONSIST OF CERTIFIED MAIL WITH RETURN RECEIPT).

2. TCEQ TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) CONSTRUCTION GENERAL PERMIT TXR150000, LANDSCAPE PLANS, GEOTECHNICAL INVESTIGATION, AND CIVIL ENGINEERING PLANS AND SPECIFICATIONS ARE HEREBY INCORPORATED INTO THIS SWPPP. CONTRACTOR SHALL OBTAIN AND KEEP A CURRENT COPY OF THESE DOCUMENTS AT THE CONSTRUCTION SITE.

3. ALL EROSION AND SEDIMENTATION CONTROLS MUST BE DESIGNED, INSTALLED AND MAINTAINED TO RETAIN SEDIMENT ON-SITE TO THE EXTENT PRACTICABLE.

4. ALL CONTROL MEASURES MUST BE SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES.

5. OFF-SITE ACCUMULATIONS OF SEDIMENT ESCAPING PROJECT SITE MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS. FOR EXAMPLE, SEDIMENTATION WITHIN STREETS ADJACENT TO THE PROJECT SITE MUST BE REMOVED PRIOR TO RAINFALL EVENTS. ALL FINES IMPOSED FOR TRACKING ONTO PUBLIC ROADS SHALL BE PAID BY THE CONTRACTOR, IN ANY EVENT SILT SHALL ALWAYS BE REMOVED SUCH THAT PONDING IN A STREET IS PREVENTED.

6. CONTRACTOR MUST REMOVE SEDIMENT FROM ALL APPLICABLE CONTROLS WHEN DESIGN SILT STORAGE CAPACITY HAS BEEN REDUCED BY 50%.

7. CONTRACTOR SHALL ENSURE THAT ALL LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS ARE PREVENTED FROM BECOMING POLLUTANT SOURCES.

8. OFF-SITE MATERIAL STORAGE AREAS USED SOLELY FOR THIS PROJECT, INCLUDING DIRT STOCKPILES AND BORROW AREAS (AS APPLICABLE), MUST BE PREVENTED FROM BECOMING POLLUTANT SOURCES BY INSTALLATION OF BMP'S.

9. CONTRACTOR SHALL ENSURE THAT EXISTING VEGETATION IS PRESERVED WHERE ATTAINABLE.

10. DISTURBED PORTIONS OF SITE MUST BE STABILIZED. STABILIZATION PRACTICES MUST BE INITIATED WITHIN 14 DAYS IN PORTIONS OF THE SITE WHERE CONSTRUCTION HAS BEEN EITHER TEMPORARILY OR PERMANENTLY CEASED, UNLESS EXCEPTED WITHIN THE TPDES PERMIT.

11. CONTRACTOR MUST MAINTAIN RECORDS OF DATES IN THE SWPPP OF WHEN MAJOR GRADING ACTIVITIES OCCUR, WHEN CONSTRUCTION ACTIVITIES EITHER TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES ARE INITIATED.

12. CONTRACTOR SHALL ENSURE THAT SWPPP IS CONSISTENT WITH SEDIMENT AND EROSION SITE PLANS, STORM WATER PERMITS, AND STORM WATER MANAGEMENT PLANS APPROVED BY STATE, TRIBAL, OR LOCAL OFFICIALS. UPDATES TO SWPPP ARE REQUIRED UPON WRITTEN NOTICE TO PERMITTEE OF CHANGES APPLICABLE TO STORM WATER PERMITS, SEDIMENT AND EROSION CONTROL PLANS, OR STORM WATER MANAGEMENT PLANS BY SUCH OFFICIALS.

13. ALL EROSION AND SEDIMENTATION CONTROL MEASURES AND ANY OTHER PROTECTIVE MEASURES IDENTIFIED IN THE SWPPP MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. WHEN INSPECTIONS IDENTIFY CONTROLS OPERATING INEFFECTIVELY, THE CONTROLS SHALL BE MAINTAINED PRIOR TO THE NEXT RAINFALL EVENT OR AS NECESSARY TO MAINTAIN EFFECTIVENESS OF THE CONTROL, OR AS SOON AS PRACTICABLE.

14. CONTRACTOR SHALL INSPECT DISTURBED AREAS, MATERIAL STORAGE AREAS EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND VEHICLE ENTRY AND EXIT AREAS AT LEAST ONCE EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT OF 0.5 INCHES OR GREATER OR EVERY SEVEN DAYS ON THE SAME DAY OF THE WEEK.

15. CONTRACTOR SHALL INSPECT STABILIZED AREAS AND AREAS WHERE RUNOFF IS UNLIKELY DUE TO FROZEN OR ARID WEATHER CONDITIONS AT LEAST ONCE PER MONTH.

16. CONTRACTOR SHALL INSPECT ACCESSIBLE DISCHARGE LOCATIONS (OR NEARBY DOWNSTREAM LOCATIONS IF DISCHARGE POINT IS NOT ACCESSIBLE) IN ORDER TO ASCERTAIN WHETHER OR NOT EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS.

17. STRUCTURAL BMP'S SHOULD NOT, TO THE DEGREE ATTAINABLE, BE PLACED WITHIN FLOODPLAINS.

18. BASED ON INSPECTION RESULTS, REVISIONS TO SWPPP MUST BE MADE WITHIN 7 CALENDAR DAYS OF THE INSPECTION. NEW OR MODIFIED CONTROL MEASURES MUST BE INSTALLED PRIOR TO THE NEXT RAINFALL EVENT, OR AS SOON AS PRACTICABLE.

19. REPORTS SUMMARIZING THE SCOPE OF ALL INSPECTIONS, INCLUDING NAME AND QUALIFICATIONS OF INSPECTOR, DATE OF INSPECTION, AND MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE SWPPP (INCLUDING LOCATION OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS, LOCATION OF CONTROLS THAT NEED TO BE MAINTAINED, LOCATIONS WHERE CONTROLS ARE INADEQUATE OR ARE OPERATING IMPROPERLY, AND LOCATIONS WHERE ADDITIONAL CONTROLS ARE NEEDED) MUST BE SIGNED BY THE INSPECTOR PER 30 TEXAS ADMINISTRATIVE CODE (TAC) SECTION 305.128, AND RETAINED WITHIN THE SWPPP FOR AT LEAST 3 YEARS FROM THE DATE THE SITE IS FINALLY STABILIZED. REPORTS THAT DO NOT IDENTIFY INCIDENTS OF NON-COMPLIANCE SHALL CONTAIN A CERTIFICATION STATING THAT THE SITE IS IN COMPLIANCE WITH THE SWPPP AND THE GENERAL PERMIT. THE CONTRACTOR SHALL CERTIFY AS FOLLOWS:

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

20. CONTRACTOR SHALL IDENTIFY ALL SOURCES OF ALLOWABLE NON-STORM WATER THAT WILL BE COMBINED WITH STORM WATER AT THE SITE (EXCEPT FIRE-FIGHTING ACTIVITIES) AND ENSURE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR NON-STORM WATER COMPONENT(S) OF DISCHARGE.

21. CONTRACTOR SHALL ENSURE THAT THE INDIVIDUAL SIGNING THE SWPPP MAKES THE CERTIFICATION UNDER PART VI.G.2.d OF THE GENERAL PERMIT. THIS CERTIFICATION MUST APPEAR WITHIN THE SWPPP.

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED, BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

22. CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (NOT) TO TCEQ WHEN THE SITE NO LONGER HAS ANY STORM WATER DISCHARGES ASSOCIATED WITH AN INDUSTRIAL ACTIVITY AS DEFINED WITHIN 40 CFR 122.26(b)(14), OR WHEN THE CONTRACTOR IS NO LONGER DEFINED AS THE SITE OPERATOR.

REVEGETATION REQUIREMENTS

The work of Hydraulic Seeding shall be governed by the provisions of Texas Department of Transportation Item 164 Seeding For Erosion Control, Item 166 Fertilizer and Item 168 Vegetative Watering) except as noted below. Block sodding shall be covered by TxDOT Item 162. Contractor to provide adequate topsoil prior to placement of seeding and sod to ensure establishment.

From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 3 pounds per 1000 square feet. From September 15 to March 1, seeding shall be a combination of 1 pound per 1000 square feet of unhulled Bermuda and 7 pounds per 1000 square feet of Winter Rye. Seed shall have a purity of 95% with 85% germination.

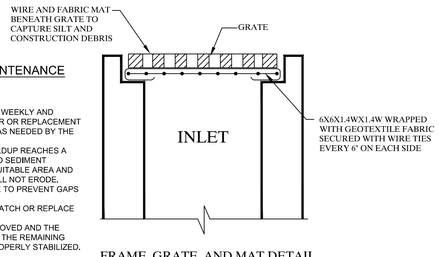
Fertilizer shall be a pelleted or granular slow release with an analysis of 15-15-15 to be applied once at planting and once during the period of establishment at a rate of 1.5 pounds per 1000 square feet.

Mulch type shall be hay, straw or mulch applied at a rate of 45 pounds per 1000 square feet, with self-tackifier at a rate of 1.4 pounds per 1000 square feet.

The seeded and sodded area shall be irrigated or sprinkled in a manner that will not erode the soil, but will sufficiently soak the soil to a depth of six inches. The irrigation or sprinkling shall occur at a minimum ten-day interval during the first two months. Rainfall occurrences of 1/2 inch or more shall postpone the watering schedule for one week. Contractor to provide all water\temporary irrigation.

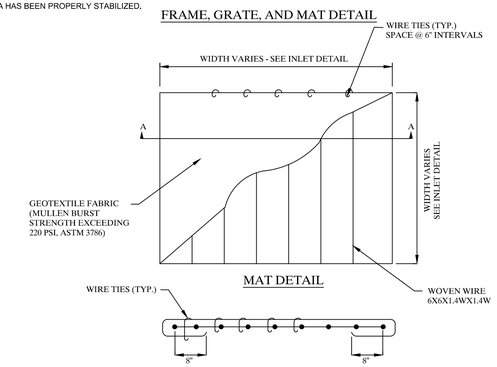
Seeded restoration shall be acceptable when the grass has grown at least 1-1/2 inches high with 95% even coverage.

Revegetation shall be by sod unless directed otherwise by Owner.



INSPECTION AND MAINTENANCE GUIDELINES:

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.



FRAME, GRATE, AND MAT DETAIL

MAT DETAIL

SECTION A-A

GRATE INLET PROTECTION DETAIL

N.T.S.

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

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

* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW.

** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES

REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: EC01
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

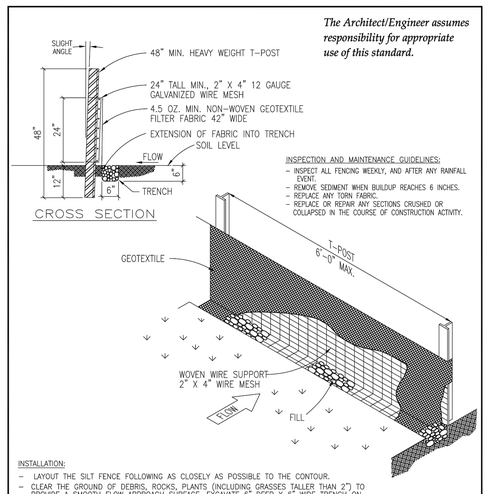
NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SWSP) THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS.

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARD'S AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100lb/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 82% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS : RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1–1/2 INCHES HIGH WITH 95% *COVERAGE*, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED–ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'–4') BEHIND THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.
20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES

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



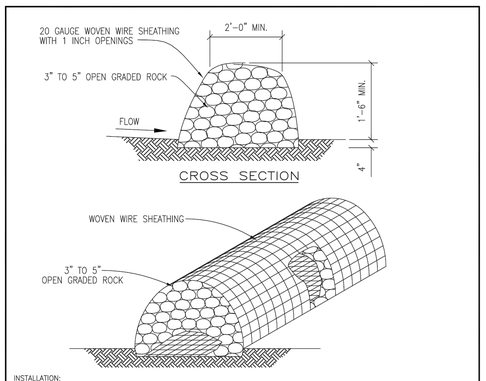
INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

INSTALLATION:
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T–POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T–POST WITH 11 1/2 GAUGE GALVANIZED T–POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SILT FENCE DETAIL

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



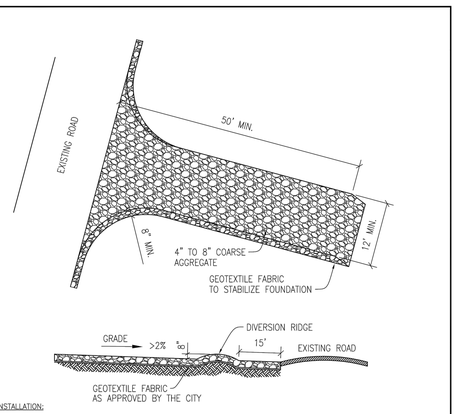
INSTALLATION:
- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
ROCK BERM DETAIL

REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: EC03
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



INSTALLATION:
- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

INSPECTIONS AND MAINTENANCE GUIDELINES:
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS–OF–WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY.
- WHEN WASHING IS REQUIRES, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STABILIZED CONSTRUCTION ENTRANCE

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

BEFCO ENGINEERING, INC.
P. O. Box 615
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(979) 968-6474 TBPE F-2011

HOLT CAT GEORGETOWN
TRACK SHOP & RENTAL FACILITY
2101 AIRPORT RD. GEORGETOWN, TEXAS 78628

REVISION:
1.
2.
3.

DRAWN BY: JGW
CHECKED BY: JGW

BEFCO JOB NO: 19-7468

PLOT SCALE 1" = NTS

SHEET TITLE
CONSTRUCTION DETAILS SHEET 1 (SWPPP)

DATE ISSUED: 9/21

SHEET
34
OF 40

JOSEPH G. WILLRICH
98415
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
9-21-21

The seal appearing on this document was authorized by Joseph G. Willrich, P.E. 98415 on September 21, 2021. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas. Engineering Practice Act.

Texas Registered Engineering Firm F-2011

2021-35-SDP

WATER POLLUTION ABATEMENT PLAN APPLICATION (TCEQ-0584)

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: Stephen Lin, P.E

Date: 08/31/2023

Signature of Customer/Agent:

Regulated Entity Name: Holt Cat Georgetown

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property):48.67

3. Estimated projected population:0

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

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	114,081	÷ 43,560 =	2.62
Parking	992,843	÷ 43,560 =	22.79
Other paved surfaces	43,502	÷ 43,560 =	1.00
Total Impervious Cover	1,150,426	÷ 43,560 =	26.41

Total Impervious Cover 26.41 **÷ Total Acreage** 48.67 **X 100 =** 54.26**% Impervious Cover**

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

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

For Road Projects Only

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

7. Type of project:

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

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

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

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

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

10. Length of pavement area: _____ feet.

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

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

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

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

100 % Domestic	5,000 Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day
TOTAL gallons/day _____	

15. Wastewater will be disposed of by:

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

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

☒ Sewage Collection System (Sewer Lines):

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

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

☒ The sewage collection system will convey the wastewater to the San Gabriel WWTP (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" = 100'.

18. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☒ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRM 48491C0291F DATED 12/20/2019 shows all areas of the site to be in Unshaded zone X which are areas outside the 100-year foodplain

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 2 (#) 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

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

- Erosion of soil due to grading activities
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings
- Hydrocarbons from asphalt paving operations (not applicable to this project)
- Trash and litter from construction activities
- Concrete truck washout
- Potential overflow/spills from portable toilets

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

- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings
- Dirt and dust which may fall off vehicles and construction equipment
- Miscellaneous trash and litter

ATTACHMENT B:
VOLUME AND CHARACTER OF STORMWATER

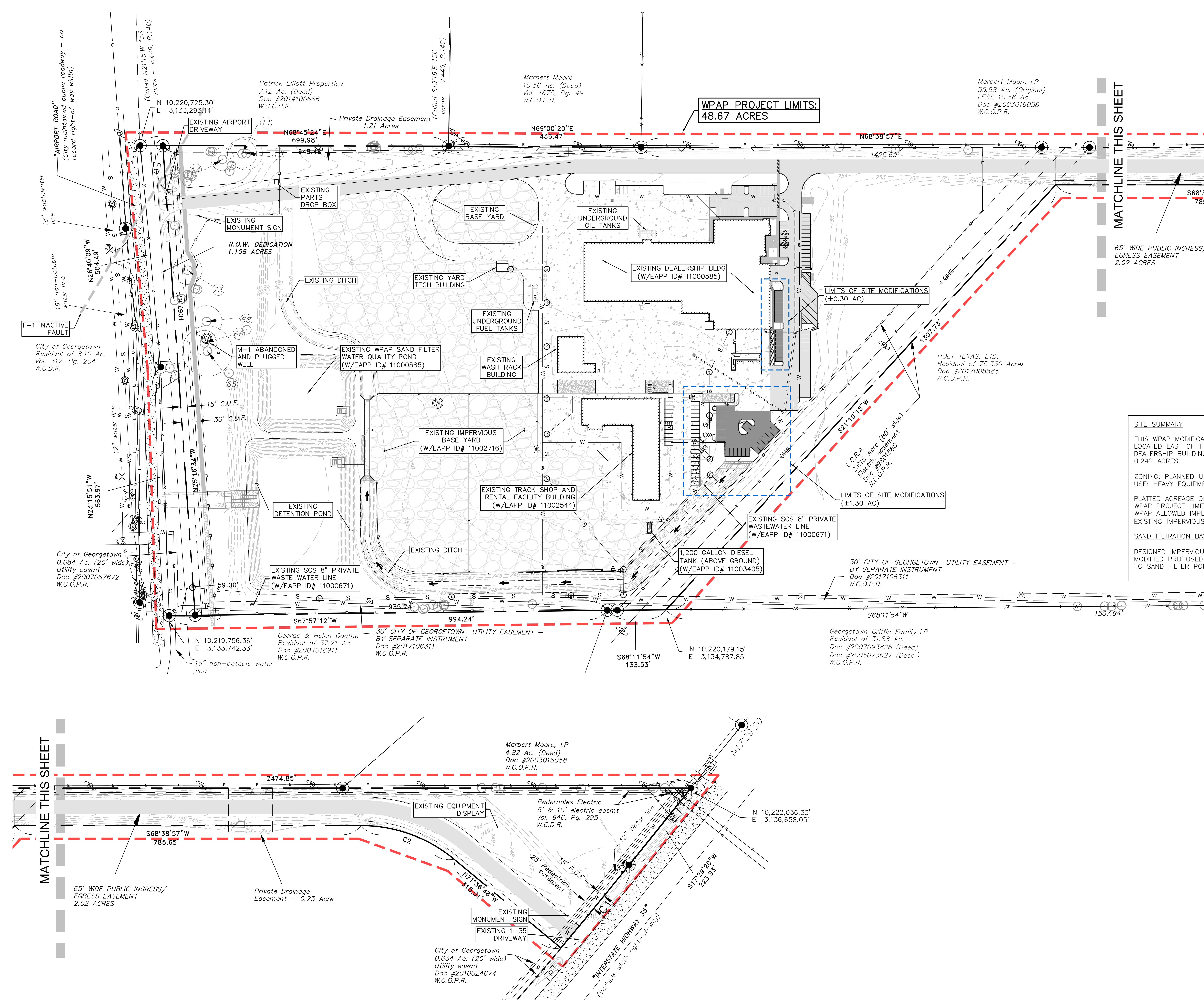
The additional parking spaces does not exceed the original impervious area coverage assumed in the original WPAP Application/Report. Per the original WPAP application, during the 25-year storm event, the overall project will generate approximately 163 CFS based on a Runoff Coefficient of 0.92. The Coefficient Values are from City of Georgetown's Unified Development Code, specifically, Table 3-1, for the Rational Method.

ATTACHMENT C:
SUITABILITY LETTER FROM AUTHORIZED AGENT

(THIS SECTION IS NOT APPLICABLE)

ATTACHMENT D:
EXCEPTION TO THE REQUIRED GEOLOGIC ASSESSMENT

(THIS SECTION IS NOT APPLICABLE)



LEGEND

	EXISTING CONCRETE PAVEMENT
	EXISTING GRAVEL BASE MATERIAL
	PROPOSED CONCRETE PAVEMENT
→	FLOW ARROW

SITE SUMMARY

THIS WPAP MODIFICATION IS FOR THE ADDITION OF PARKING AREAS TO BE LOCATED EAST OF THE TRACK CENTER FACILITY AND EAST OF THE DEALERSHIP BUILDING. THERE IS A NET INCREASE OF 10,550 S.F. OR 0.242 ACRES.

ZONING: PLANNED UNIT DEVELOPMENT ORD. #2017-07
USE: HEAVY EQUIPMENT SALES AND REPAIR

PLATTED ACREAGE OF LOT 1:	43.09 ACRES
WPAP PROJECT LIMITS:	48.67 ACRES
WPAP ALLOWED IMPERVIOUS COVER:	26.09 ACRES
EXISTING IMPERVIOUS COVER (EXISTING SITE PLAN)	19.13 ACRES

SAND FILTRATION BASIN

DESIGNED IMPERVIOUS COVER (PER EAPP ID# 11000585):	21.65 ACRES
MODIFIED PROPOSED IMPERVIOUS COVER TO SAND FILTER POND:	19.37 ACRES

NO	DATE	REVISION

CDS Muery F-1733

STATE OF TEXAS
STEPHEN S. LIN
108721
LICENSED
PROFESSIONAL ENGINEER
09/11/2023

DESIGNED BY

DRAWN BY
RA

REVIEWED BY
SL

DATE
AUGUST 2023

CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

GEORGETOWN, TEXAS
HOLT CAT GEORGETOWN PEMB TEST STAND

TCEQ
SITE PLAN

EXHIBIT

HOLT CAT

Date: Sep 20, 2023, 11:35am User ID: royd.arenas
File: P:\JOBS\2023\23175 HOLT Georgetown Parking Addition\Engineering\Site Design\TCEQ\WPAP\PDF\Working\2023 08 22 – TCEQ SITE PLAN.dwg

TEMPORARY STORMWATER SECTION
(TCEQ-0602)

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: Stephen Lin, P.E

Date: 08/31/2023

Signature of Customer/Agent:

Regulated Entity Name: Holt Cat Georgetown

Project Information

Potential Sources of Contamination

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

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

   ☒ The following fuels and/or hazardous substances will be stored on the site: Diesel, gasoline for constructon equipment located in Construction Staging Area

   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: Pecan Branch

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 the event of an accidental leak or spill:

- Spill must be contained and cleaned up immediately.
- Spills shall not be buried or washed with water.
- Contractor shall take action to contain spill. Contractor may use sand or other absorbent material stockpiled on site to absorb spill. Absorbent material to contain and absorb the spilled product.
- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms downgradient of the spill with sand or other absorbent material to contain and absorb the spilled product.
- Spill containment/absorbent materials along with impacted media must be collected and stored in such a way so as not to continue to affect additional media (soil/water). Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. The impacted media and cleanup materials should be covered with plastic sheeting and the edges weighed down with paving bricks or other similarly dense objects as the material is being accumulated. This will prevent the impacted media and cleanup materials from becoming airborne in windy conditions or impacting runoff during a rain event. The stockpiled materials should not be located within an area of concentrated runoff such as along a curb line or within a swale.
- Contaminated soils and cleanup materials will be sampled for waste characterization. When the analysis results are known the contaminated soils and cleanup materials will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.
- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a significant hazardous/reportable quantity spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill, the contractor will be required to report significant or hazardous spills in reportable quantities to:

- **TCEQ Regional Office (512) 339-2929 (if during business hours: 8 AM to 5 PM)**
  Contractor shall reference TCEQ's guidelines on reportable quantities found here:
  https://www.tceq.texas.gov/response/spills/spill_rq.html
- Texas State Emergency Response Center (800) 832-8224 (if after hours)
- National Response Center at (800) 424-8802

Contaminated soils will be sampled for waste characterization. When the analysis results are known the contaminated soils will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations. Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 1.4.16. Contractor shall review this section.

ATTACHMENT B:
POTENTIAL SOURCES OF CONTAMINATION

Potential sources of contamination for this project include:

- **Drippings from vehicles, both construction and non-construction related**
  Preventative Measure: Vehicle maintenance, when possible and if needed, shall be performed within the construction staging area.

- **Leaks or spills of petroleum products, oil, and substances listed under 40 CFR parts 110, 117, and 302 that are used and/or stored temporarily on site within the project area.**
  Preventative Measure: Contractor to oversee the enforcement of proposer spill prevention and control measures and ensure that hazardous materials and wastes shall be stored in covered and locked containers. Spills clean up materials shall be store on site where it can be accessible upon accidental spillage. Spill procedures shall be incorporated into regularly scheduled onsite safety meetings.

- **Grading and excavation activities: Stormwater runoff has the potential to be contaminated during the construction process with related excavation and site grading.**
  Preventative Measure: Use of TBMP measures such as, but not limited to, silt fencing, rock berms, or filter dams.

- **Building materials: Materials include, but not limited to, concrete, wood, mortar, and paint among other materials.**
  Preventative measures: Construction debris shall be monitored daily by the site contractor, disposed of in proper trash receptacles, and collected weekly. Trash receptacles shall be placed throughout the construction site for proper trash disposal.

- **Trash and debris: These may include household trash items such as paper bags, cups, plastic ware, and food items.**
  Preventative measures: Trash and debris shall be disposed of in proper trash receptacles and collected weekly. Trash receptacles shall be placed throughout the construction site for proper trash disposal.

ATTACHMENT C:
SEQUENCE OF MAJOR ACTIVITIES

The following is the general sequence of major activities for this project:

1. Install temporary erosion control measures. (±0.25 acres)
2. Site grading and excavation for new parking lot (± 0.15 acres)
3. Construction and striping of the 49 additional parking spaces.

For each of the items above, the necessary Temporary BMPs (TBMPs) and erosion control measures will be in-place prior to major construction activities such as grading, utility installation, and roadway construction. Following construction activities, soil stabilization controls will be implemented, and temporary measures will be removed as needed on an individual basis.

Total disturbed area due to the proposed construction will be approximately 0.40 acres. The total impervious area will increase by 0.32-ac from 19.13-acres to 19.45-acres discharging to the existing sand filtration pond.

ATTACHMENT D:
TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

The following are descriptions of how the Temporary BMP measures will prevent pollution to surface waters, groundwater, or upgradient drainage:

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:**

No upgradient water will flow across the site. The original project intercepted upgradient water through earthen channels and graded/routed such flows around the site. The proposed modification area is interior to the existing site and does not have upgradient water flowing across it.

b. **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:**

Prior to site work beginning, the clearing and grading contractor will be responsible for the installation of all on-site control measures. The methodology for pollution prevention of on-site stormwater will include: (1) erection of silt fences along the downgradient boundary of construction activities for temporary erosion and sedimentation controls, (2) installation of rock berms with silt fencing downgradient from areas of concentrated stormwater flow for temporary erosion control (if needed), (3) installation of construction staging area(s), and (4) installation of a stabilized construction entrance/exit to reduce the sediment leaving the project area from vehicles.

The construction contractor will be responsible for the installation of all remaining on-site control measures that includes installation of the concrete truck washout pit(s), as construction phasing warrants. Temporary BMP measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site/project limits, they will not enter surface streams and/or sensitive features.

c. **Description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer:**

There are no naturally occurring sensitive features observed on the project limits, and no surface streams on, or adjacent to, the project limits. The Temporary BMPs utilized are adequate for the drainage areas served.

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features.

d. **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:**

There are no naturally occurring sensitive features observed on the site/project limits and no surface streams on, or adjacent to, the project limits. The Temporary BMPs utilized are adequate for the drainage areas served.

ATTACHMENT E:
REQUEST TO TEMPOARILY SEAL A FEATURE

(THIS SECTION NOT APPLICABLE)

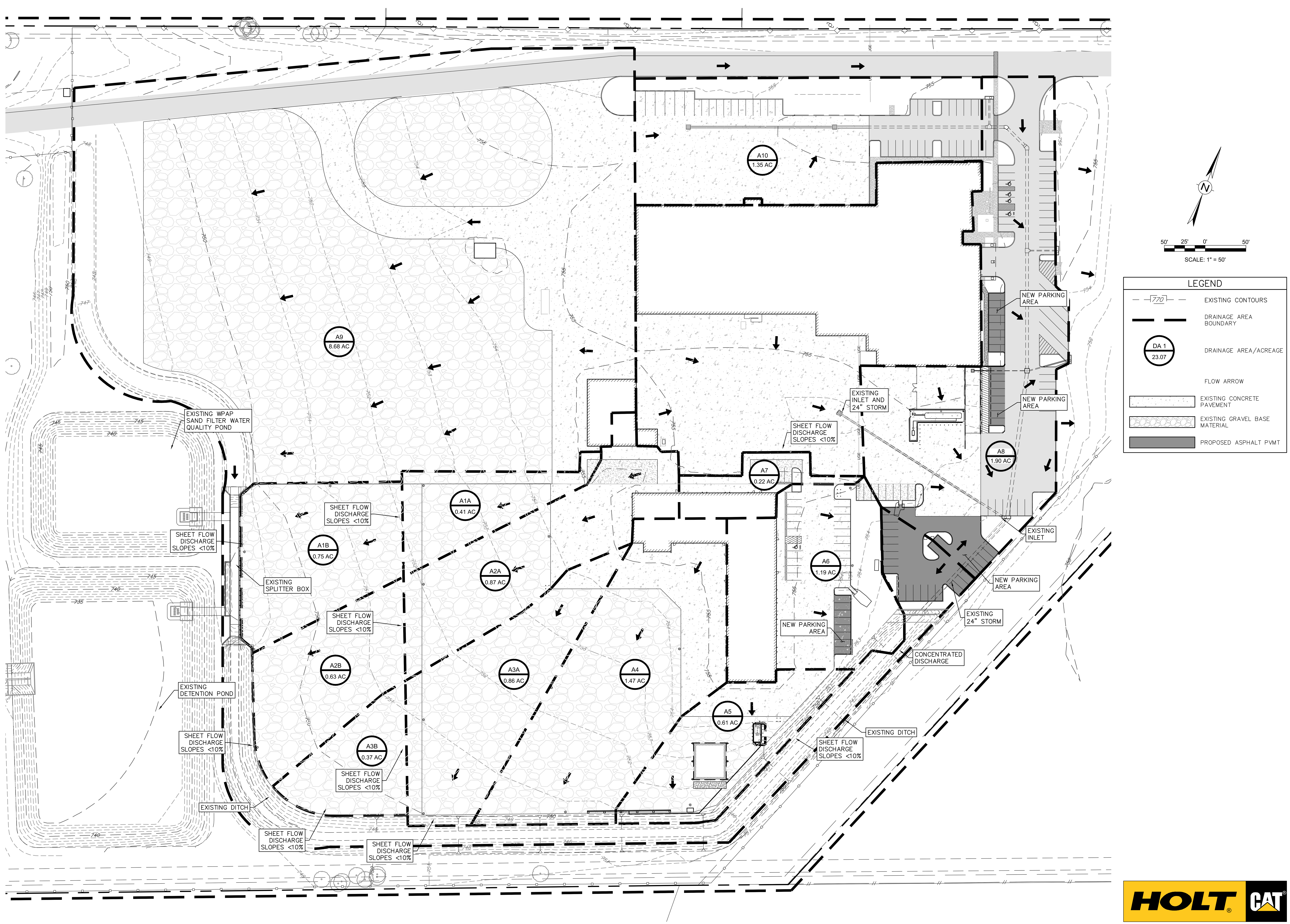
ATTACHMENT F:
STRUCTURAL PRACTICES

Temporary structural practices include:

- Silt Fencing: To be placed along the down gradient boundary of the limits of construction activities.
- Rock Berms: If needed, to serve as a secondary barrier to silt fencing and is to be placed in areas of concentrated flows, where indicated on construction plans, such as proposed channels and drainage swales.
- Construction Entrance/Exit: Will be placed to limit migration of sediment from the construction area as construction traffic enters and exits the limits of construction area and/or the site.
- Concrete Washout-Pits: To contain and control affected runoff from cement delivery trucks.

Please note that this site is not located within a studied floodplain and is not exposed to potential flooding that may occur during heavy rainfall periods. Therefore, site inundation is not expected to adversely impact proposed TBMP structures.

ATTACHMENT G:
DRAINAGE AREA MAPS



NO	DATE	REVISION

STATE OF TEXAS
STEPHEN S. LIN
108721
LICENSED
PROFESSIONAL ENGINEER
09/01/2023

DESIGNED BY

DRAWN BY
AR

REVIEWED BY
SL

DATE
OCTOBER 2022

CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

2101 AIRPORT ROAD, GEORGETOWN, TEXAS 78628

HOLT GEORGETOWN PARKING EXPANSION

DRAINAGE AREA MAP

EXHIBIT

Date: Sep 01, 2023, 11:18am User ID: royd.arenas
File: P:\JOBS\2023\123175 HOLT Georgetown Parking Addition\Engineering\Site Design\TCEQ\WPAP\PDF\Working\DA-MAP.dwg

ATTACHMENT H:
TEMPORARY SEDIMENT POND

(THIS SECTION NOT APPLICABLE)

ATTACHMENT I:
INSPECTIONS AND MAINTENANCE FOR BMP'S

Silt Fencing

1. Inspect all fencing weekly, and after any rainfall events.
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 re-vegetated. The fence itself should be disposed of in an approved landfill.

Rock Berms

1. Inspection should be made weekly and after each rainfall event by the responsible party. For installation in streambeds, additional daily inspections should be made.
2. Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
3. Repair any loose wire sheathing.
4. The berm should be reshaped as needed during inspection.
5. The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
6. The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

Temporary Construction Entrance/Exit

1. The entrance(s) should be maintained in a condition, which will prevent transfer of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
2. When necessary, wheels should be cleaned and sediment removed prior to entrance onto public right-of-way.
3. When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
4. All sediment should be prevented from entering any storm, drain, ditch or water course by using approved methods.

Concrete Washout Areas

1. To help reduce storm water pollution from concrete washes, ensure the following:
    a. Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
    b. Avoid mixing excess amounts of fresh concrete.
    c. Perform washout of concrete trucks in designated areas only.
    d. Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
    e. Do not allow excess concrete to be dumped onsite, except in designated areas.
2. Materials used to construct concrete washout facilities should be removed from the site and disposed of.
3. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
4. Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed of properly.
5. When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of.
6. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired. If any sediment escapes the site during construction activities, off-site accumulations must be removed to minimize offsite impacts to water quality. An inspection form has been attached.

ATTACHMENT J:

SCHEULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Interim on-site stabilization measures will be on-going. Soil disturbances should be limited to the smallest area and shortest duration of time practical. As soon as practical, all disturbed soil shall be stabilized as per project specifications in accordance with TCEQ's Technical Guidance Manual (TGM) RG-348. Project stabilization practices will include, but not limited to, the use of sod, erosion control blankets and seeding.

Stabilization measures are to be completed as soon as practicable at locations where construction activities have temporarily or permanently ceased. Bare soils are to be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days.

Newly planted vegetation will be protected from construction traffic.

The project is scheduled for completion in the 2024 calendar year. During construction, Temporary BMPs will be implemented. All disturbed areas will be permanently stabilized as indicated on Site Plan by pavements, building foundations, or vegetative cover. Temporary BMPs may only be removed after all upgradient disturbed soils are permanently stabilized and all upgradient Permanent BMPs indicated in this WPAP are in working condition. (Note: for this modification, an existing sand filtration basin was constructed in the original WPAP and is in place and currently in operable condition).

PERMANENT STORMWATER SECTION
(TCEQ-0600),

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Stephen Lin, P.E

Date: 08/31/2023

Signature of Customer/Agent

Regulated Entity Name: Holt Cat Georgetown

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 A:
20% OR LESS IMPERVIOUS COVER WAIVER

(THIS SECTION IS NOT APPLICABLE)

ATTACHMENT B:
BMPS FOR UPGRADIENT STORMWATER

The proposed modification is located within the interior of the existing site. No upgradient water will cross the proposed modification area. The original project intercepted upgradient water through earthen channels and was routed around the site to the "low" at the west side of the property.

The original WPAP designed and constructed one (1) Sand Filter Basin "A" and two (2) fifteen-foot (15') engineered vegetative filter strips (VFS) as the Permanent Best Management Practices (PBMPs) for this site. All PBMPs were designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in TSS required by TCEQ and 85% per City of Georgetown guidelines. No changes are proposed to these existing permanent BMPs. This modification will produce a 0.32-acres increase in impervious cover and will continue to use the Sand Filtration Basin as its Permanent BMP measure. As the existing sand filter system was designed to treat 21.65 acres of impervious cover and this modification will bring the total impervious cover treated by the pond to 19.45-acres.

ATTACHMENT C:
BMPS FOR ON-SITE STORMWATER

The original WPAP designed and constructed one (1) Sand Filter Basin "A" and two (2) fifteen-foot {15') engineered vegetative filter strips (VFS) as the Permanent Best Management Practices (PBMPs) for this site. All PBMPs were designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in TSS required by TCEQ and 85% per City of Georgetown' guidelines. No changes are proposed to these existing permanent BMPs.

Based on the original WPAP approval (EAPP ID# 11000585), the existing Sand Filter Basin was designed for a watershed area of 22.88-acres with 21.65-acres of impervious cover (Watershed "C"). The first phase of the development included 12.72-acres of impervious cover within Watershed "C" that was built with the original construction project. When the Track Shop was constructed, an additional 4.47-acres of impervious cover was added with the first modification (EAPP ID# 11002544). The second modification was 1.94-acres of additional gravel base and was approved with (EAPP ID# 11002716). In the last and third approved modification (EAPP ID# 11003404) did not increase impervious cover with the construction of a PEMB building and the addition of a 1,200-gallon diesel fuel tank on a concrete pad. The total existing impervious cover to the sand filter basin is 19.13-acres which is below the 21.65-acres the sand filter basin was designed and approved for originally. The new modification will be for the construction of new 49 parking spaces and will add 0.32-acres of impervious of cover to the site, increasing the total area of impervious cover to the Water Quality Basin to 19.45-acres.

ATTACHMENT D:
BMPS FOR SURFACE STREAMS

There are no surface streams or sensitive features within the modification project limits. The original WPAP resulted in the construction of one (1) Sand Filtration Basin "A" and two (2) fifteen-foot (15') engineered vegetative filter strips (VFS) as the Permanent Best Management Practices (PBMPs) for this site. All PBMPs were designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in TSS required by TCEQ and 85% per City of Georgetown guidelines. No changes are proposed to these existing permanent BMPs.

ATTACHMENT E:
REQUEST TO SEAL FEATURES

(THIS SECTION IS NOT APPLICABLE)

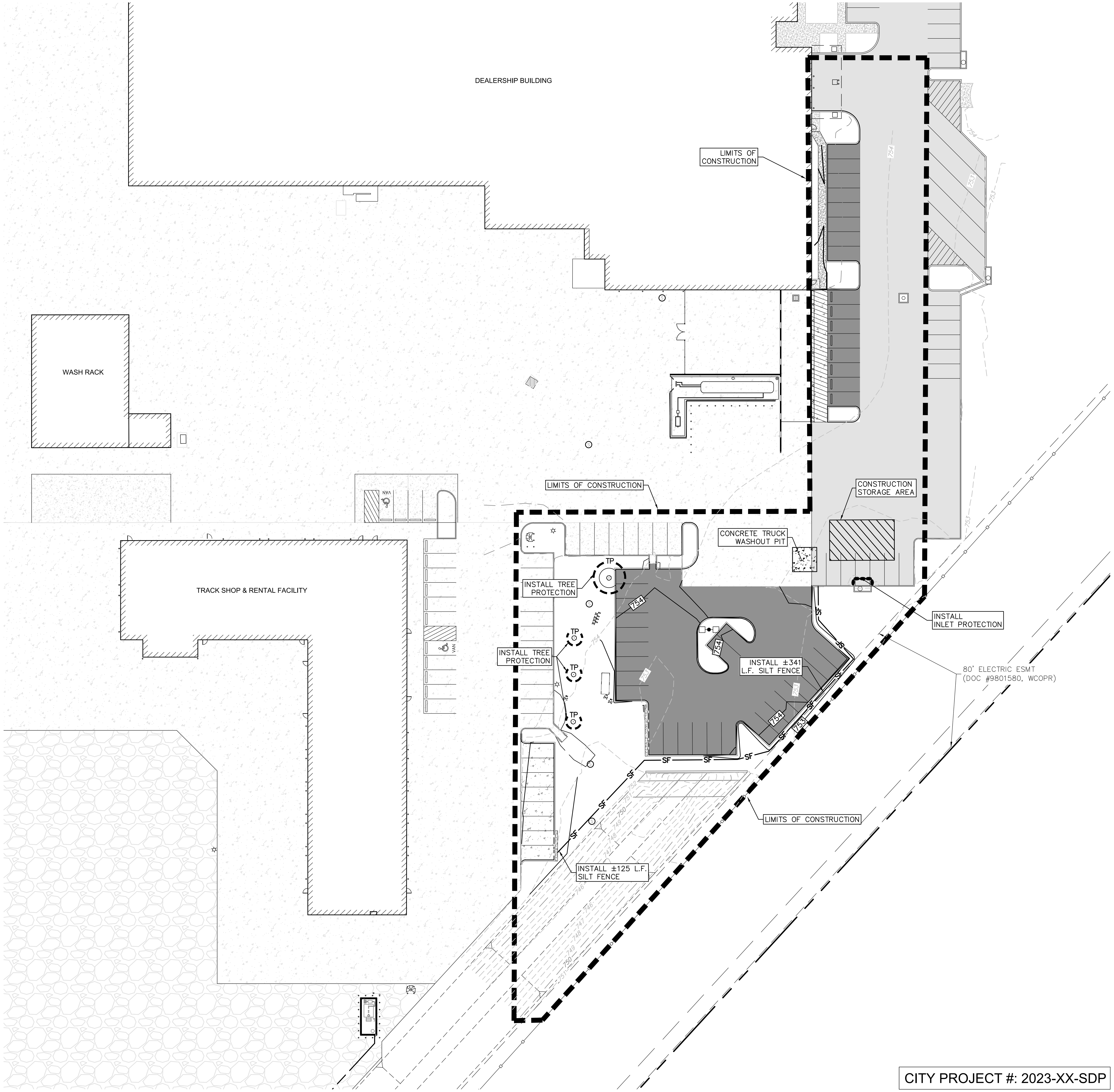
ATTACHMENT F:
CONSTRUCTION PLANS

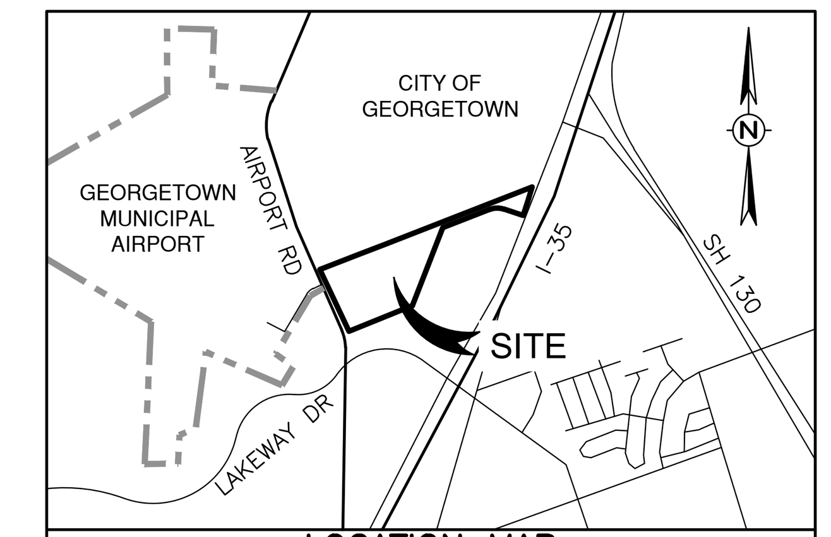
The original WPAP designed and constructed one (1) Sand Filtration Basin "A" and two (2) fifteen-foot (15') engineered vegetative filter strips (VFS) as the Permanent Best Management Practices (PBMPs) for this site. All PBMPs were designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in TSS required by TCEQ and 85% per City of Georgetown guidelines. No changes are proposed to these existing permanent BMPs.

Based on the original WPAP approval (EAPP ID# 11000585), the existing Sand Filter Basin was designed for a watershed area of 22.88-acres with 21.65-acres of impervious cover (Watershed "C"). The first phase of the development included 12.72-acres of impervious cover within Watershed "C" that was built with the original construction project. When the Track Shop was constructed, an additional 4.47-acres of impervious cover was added with the first modification (EAPP ID# 11002544). The second approved modification was 1.94-acres of additional gravel base and was approved with (EAPP ID# 11002716). The Third approved modification (EAPP ID# 11003404) did not increase the net impervious cover for a PEMB building and the addition of a 1,200-gallon diesel fuel tank on a concrete pad. The total existing impervious cover to the sand filter basin is 19.13-acres. The current modification will be for the construction of 49 new parking spaces and will add 0.32-acres of impervious of cover to the site, increasing the total area of impervious over to 19.45-acres. This is still well below the 21.65-ac area of impervious cover being treated by the existing sand filtration pond.

Since improvements or modifications to the existing sand filter basin is not required, the following documents are included in Attachment F:

- TCEQ Site Plan (shows proposed modification improvement within Watershed "C").
- Erosion and Sedimentation Control Plan and Details and TCEQ Construction Notes (proposed modification improvements within Watershed "C").
- Design Calculation (TSS removal spreadsheet calculation) from the original WPAP application (EAPP ID# 11000585).
- Erosion Control Plan, Details and TCEQ construction Notes from the original WPAP application.
- Permanent WPAP Plan Details from the original WPAP application.





LOCATION MAP
(NOT TO SCALE)

SCALE: 1" = 30'

LEGEND

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
		SETBACK LINE
881	882	CONTOURS
	SF	SILT FENCE
		FLOW ARROW
		CURB INLET PROTECTION
		RETAINING WALL
		LIMITS OF CONSTRUCTION (±86,238 S.F.)
	TP	TREE PROTECTION
		STABILIZED CONSTRUCTION ENTRANCE (FIELD LOCATE)
		CONSTRUCTION STORAGE AREA (FIELD LOCATE)
		CONCRETE TRUCK WASHOUT PIT (FIELD LOCATE)

NOTE:
1. CONTRACTOR IS RESPONSIBLE FOR MINIMIZING CONSTRUCTION DEBRIS, SILT, OR MATERIAL FROM TRACKING ONTO ADJACENT PAVED AREAS.
2. CONTRACTOR TO REFERENCE C0.1 GENERAL NOTES FOR SW3P NOTES.
3. CONTRACTOR SHALL COORDINATE WITH HOLT PROJECT MANAGER AND ON-SITE FACILITIES MANAGER FOR PATH OF CONSTRUCTION EQUIPMENT, DELIVERIES, AND VEHICLES TO, FROM AND THROUGH THE PROJECT LIMITS AND THE HOLT CAMPUS.

CITY PROJECT #: 2023-XX-SDP

HOLT CAT

NO	DATE	REVISION

CDS Muery F-1733

STATE OF TEXAS
STEPHEN S. LIN
108723
LICENSED PROFESSIONAL ENGINEER
09/19/2023

DESIGNED BY SL
DRAWN BY PL
REVIEWED BY SL
DATE SEPTEMBER 2023

CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

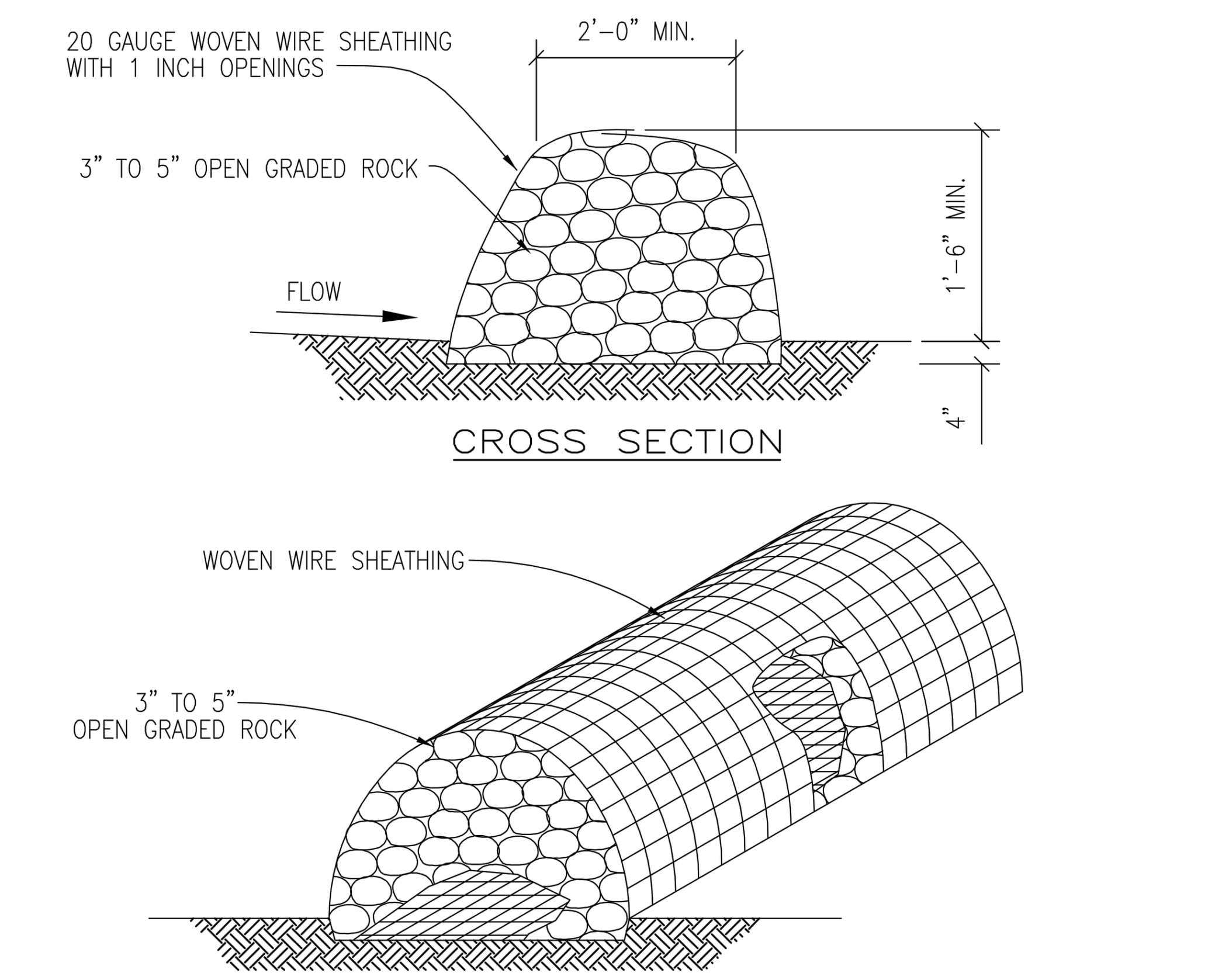
HOLT GEORGETOWN PARKING LOT ADDITION

2101 AIRPORT ROAD, GEORGETOWN, TEXAS 78628

EROSION CONTROL PLAN

C1.0

Date: Sep 20, 2023, 1:27pm User ID: ahmad.rashed
File: P:\JOBS\23175 HOLT Georgetown Parking Addition\Civil 3D\Dwg\Engineer\EROS-123175.dwg



INSTALLATION:

- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

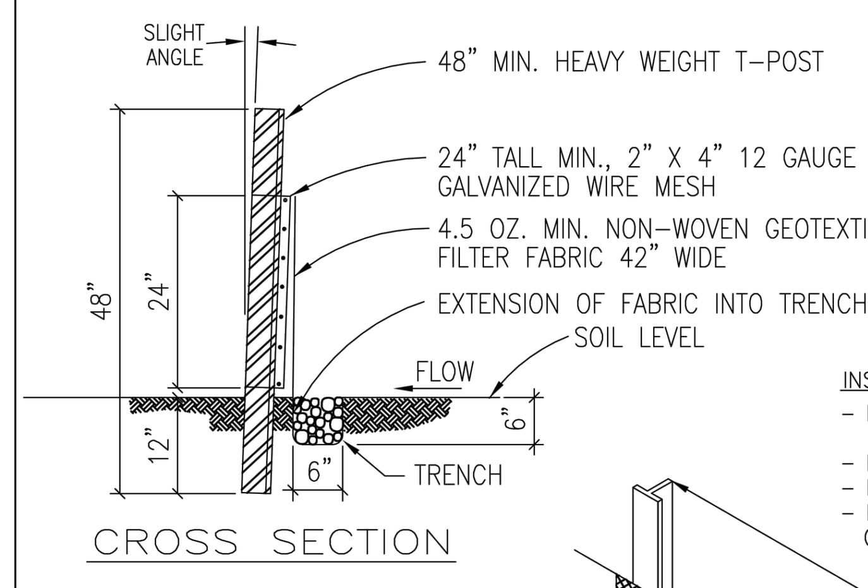
INSPECTION AND MAINTENANCE GUIDELINES:

- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

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

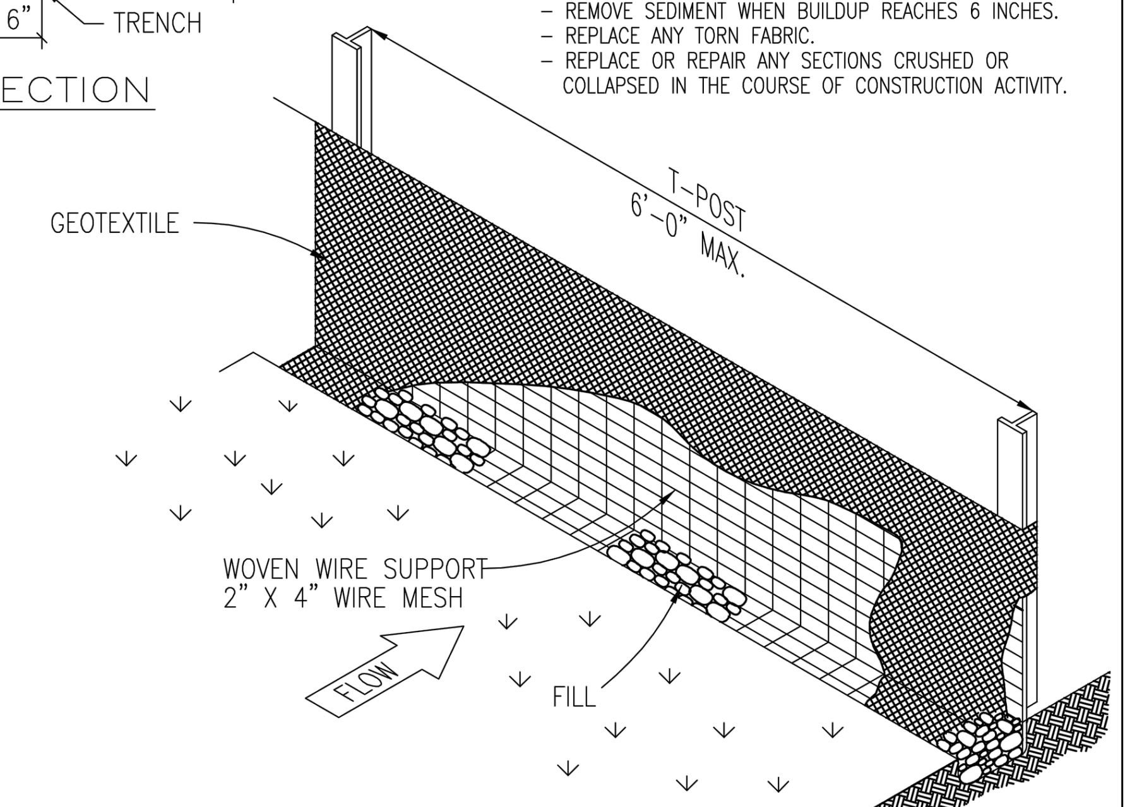
GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS ROCK BERM DETAIL	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: EC03	SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

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



INSPECTION AND MAINTENANCE GUIDELINES:

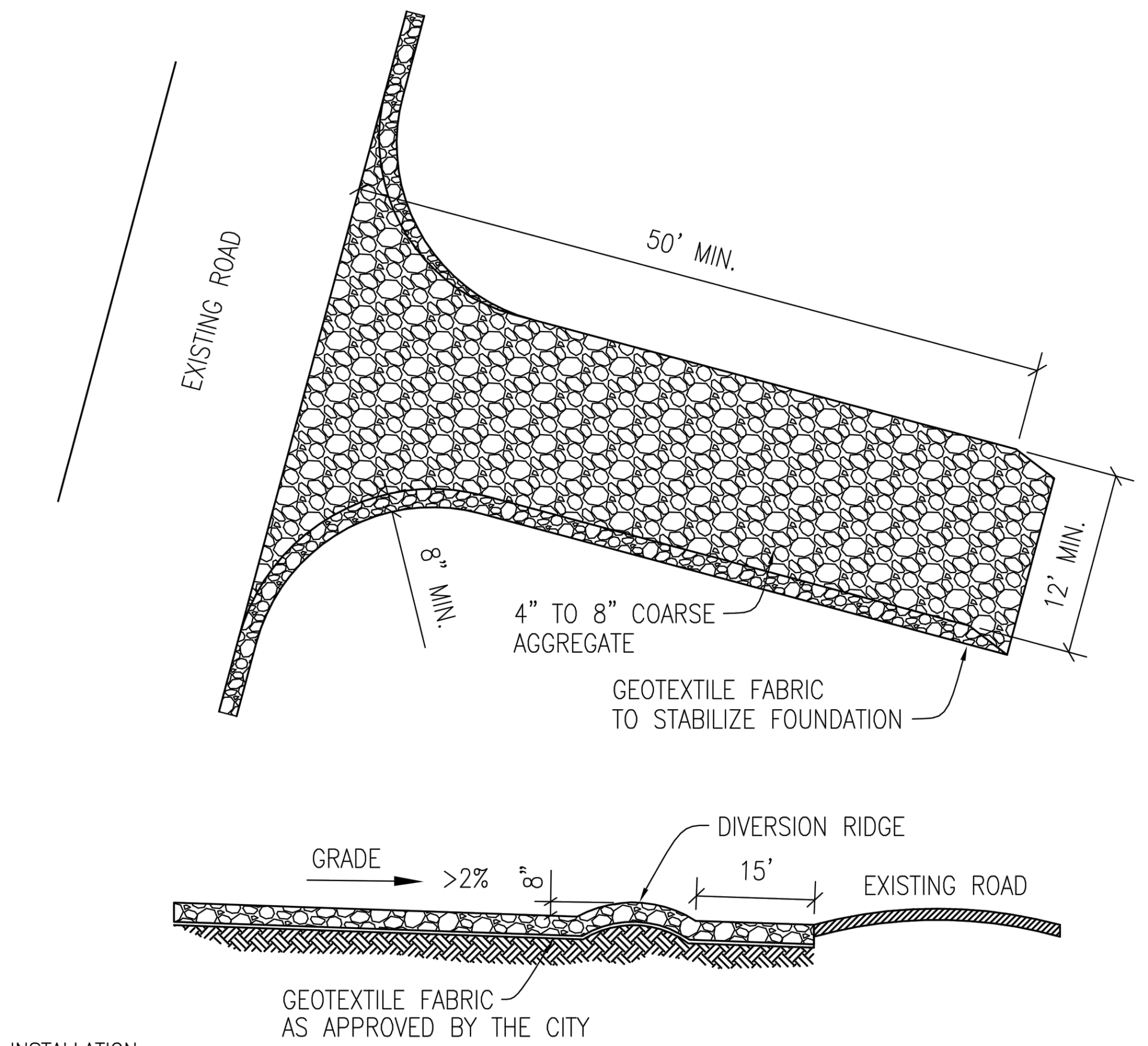
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.



INSTALLATION:

- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS SILT FENCE DETAIL	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: EC02	SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB



INSTALLATION:

- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

INSPECTIONS AND MAINTENANCE GUIDELINES:

- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

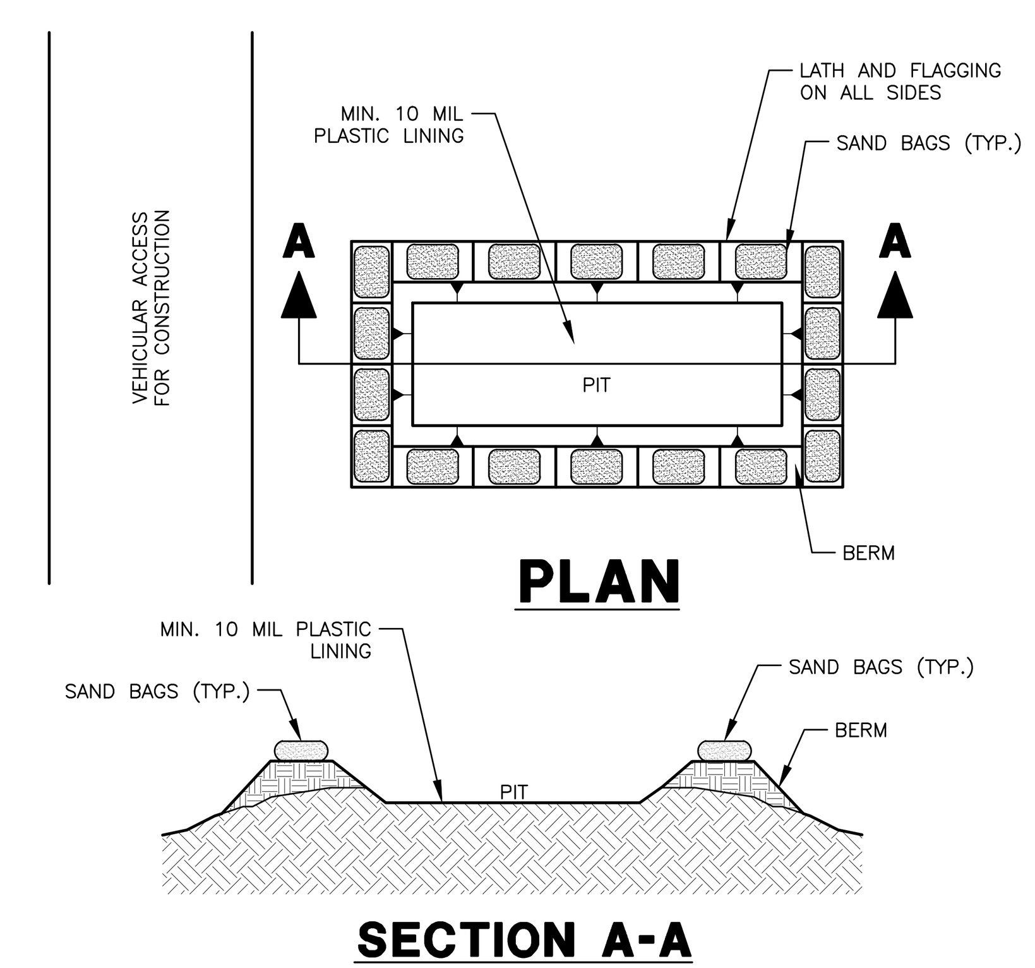
The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STABILIZED CONSTRUCTION ENTRANCE	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: EC06	SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND/OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL.
3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE SW3P PLANS.
4. SIDE SLOPES SHOULD BE 2:1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDESLOPES OF 6:1 OR FLATTER.
5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4' INTO EXISTING GROUND.
7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE. THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3/4" DIA. REBAR STAKES.
10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK,ETC.).
11. DETAILS SHOWN ARE TYPICAL, SUBJECT TO CONTRACTOR'S SW3P PLAN REQUIREMENTS.

SWPPP GENERAL NOTES

NOT TO SCALE



GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

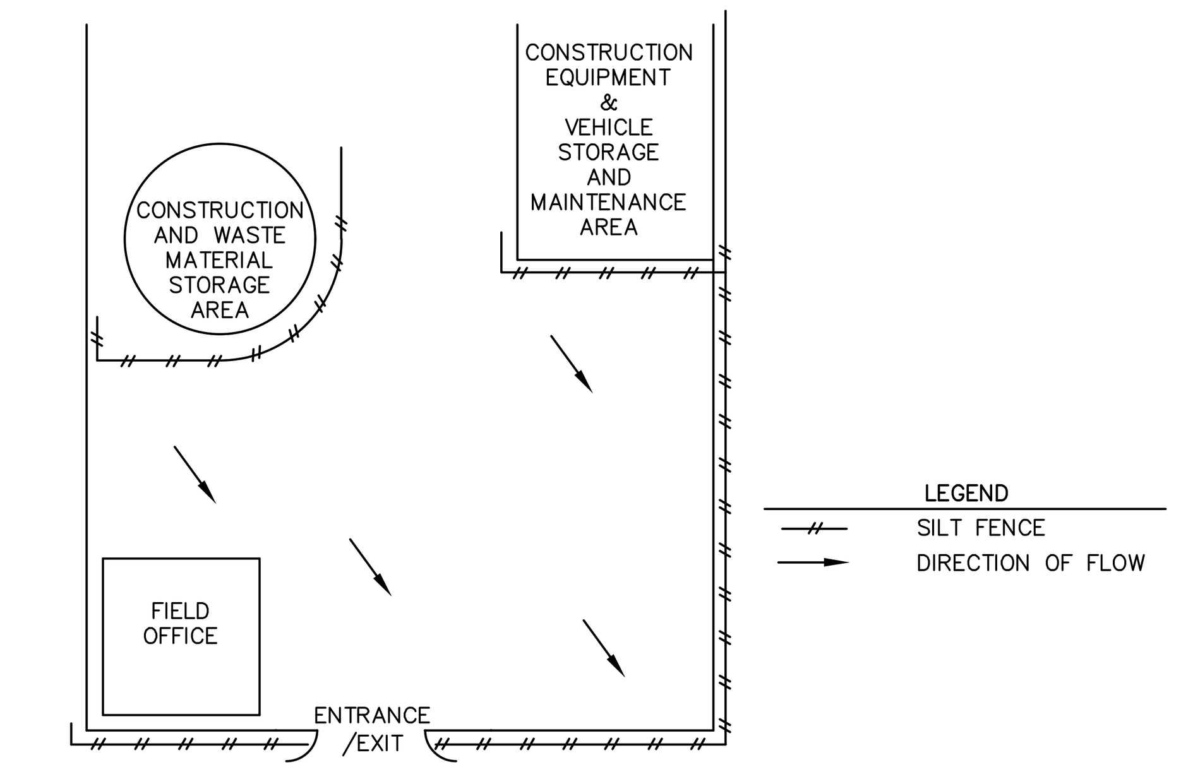
PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

MAINTENANCE

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.
2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT

NOT TO SCALE



EQUIPMENT STAGING AREA

NOT TO SCALE

CITY PROJECT #: 2023-XX-SDP

HOLT CAT

NO	DATE	REVISION

CDS Muery F-1733

STATE OF TEXAS STEPHEN S. LIN 108721 LICENSED PROFESSIONAL ENGINEER 09/19/2023

DESIGNED BY SL

DRAWN BY PL

REVIEWED BY SL

DATE SEPTEMBER 2023

CDS muery ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

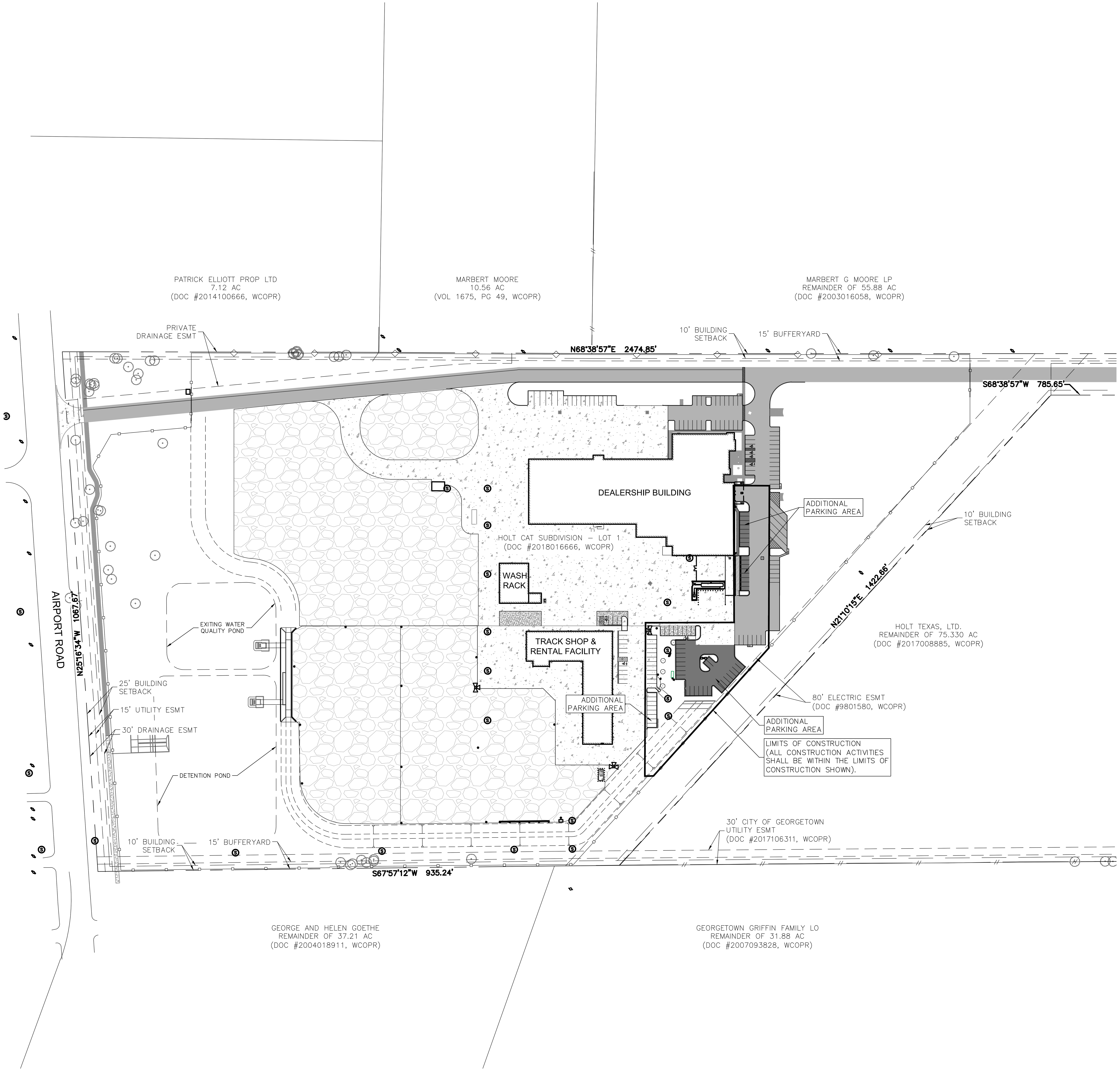
2101 AIRPORT ROAD, GEORGETOWN, TEXAS 78628

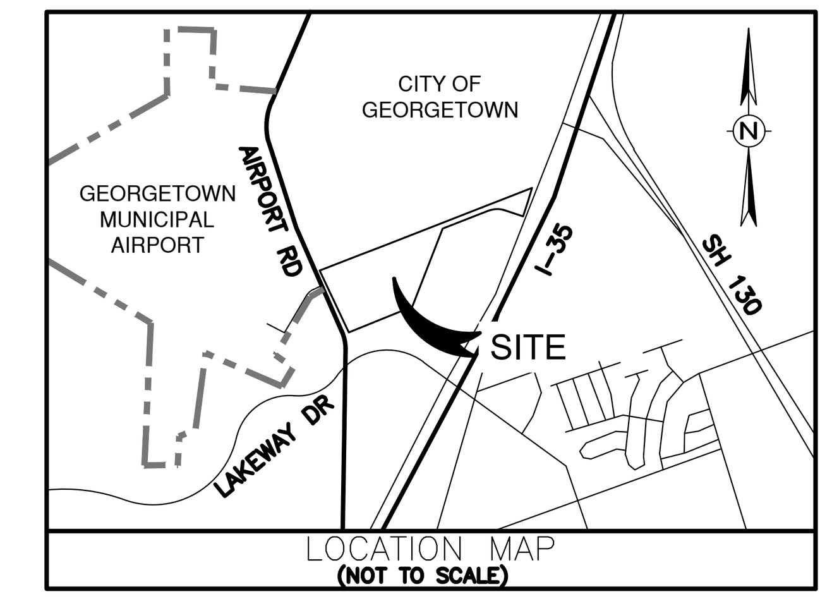
HOLT GEORGETOWN PARKING LOT ADDITION

EROSION CONTROL DETAILS

EXHIBIT

Date: Sep 20, 2023, 10:00am User ID: royd.arenas
File: P:\JOBS\2023\123175 HOLT Georgetown Parking Addition\Engineering\Site Design\TCEQ\WPAP\PDF\Working\DTEC-123175.dwg





LEGEND

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
		SETBACK LINE
OHE	OHE	OVERHEAD UTILITY
		EDGE OF PAVEMENT
		FIRE HYDRANT
		WATER METER, VALVE
		SANITARY SEWER MANHOLE
	CO	CLEAN OUT
	UP	UTILITY/POWER POLE
		GUY WIRE
		LIGHT POLE
		GAS VALVE, GAS METER
		SIGN, DOUBLE SIGN
		IRRIGATION VALVE
		TREE
		BENCHMARK
		CONTROL SYMBOL

NO	DATE	REVISION

CDS Muery F-1733

STATE OF TEXAS
STEPHEN S. LIN
108721
LICENSED
PROFESSIONAL ENGINEER
09/19/2023

DESIGNED BY
SL

DRAWN BY
PL

REVIEWED BY
SL

DATE
SEPTEMBER 2023

CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

2101 AIRPORT ROAD, GEORGETOWN, TEXAS 78628

HOLT GEORGETOWN PARKING LOT ADDITION

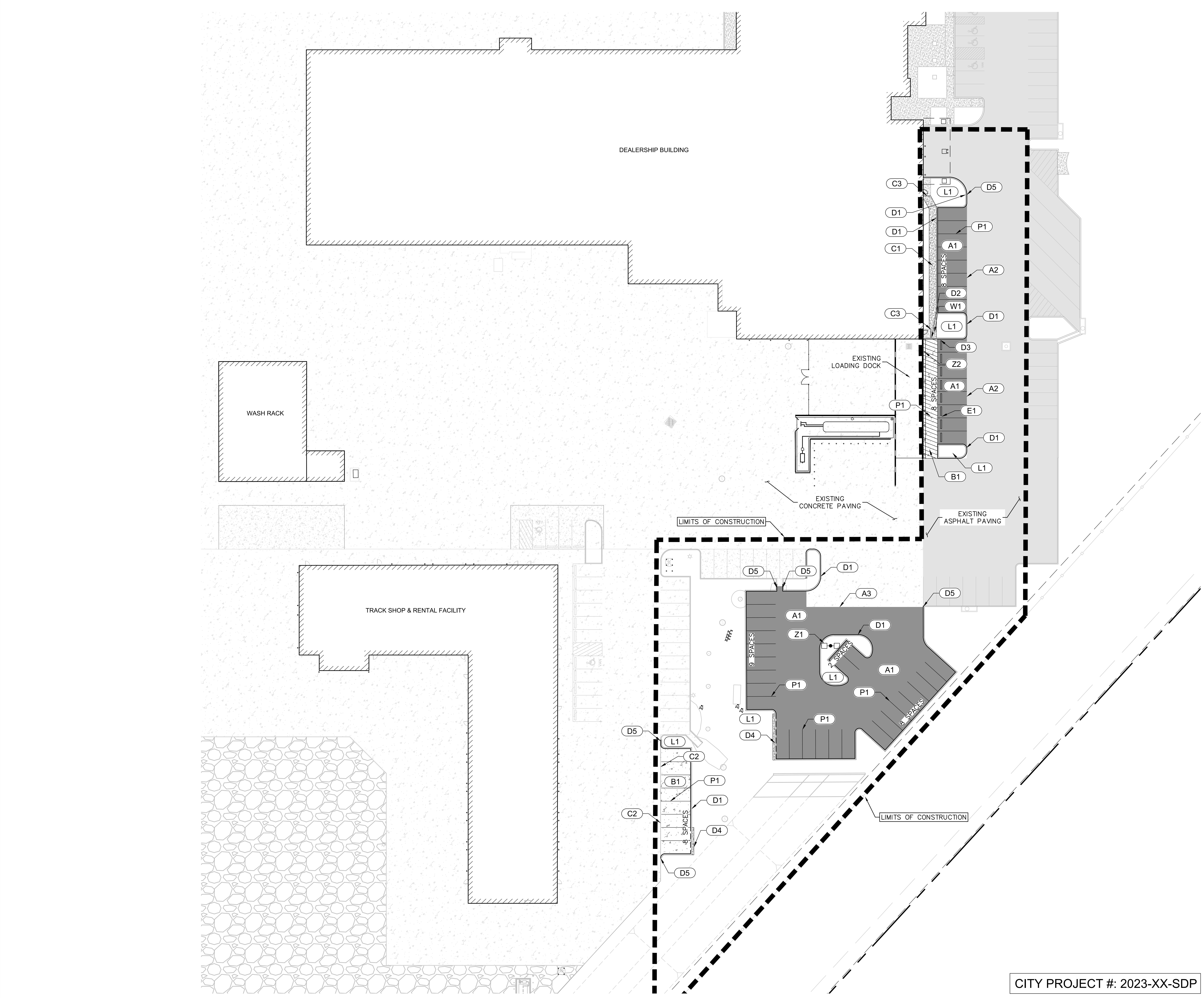
OVERALL SITE PLAN

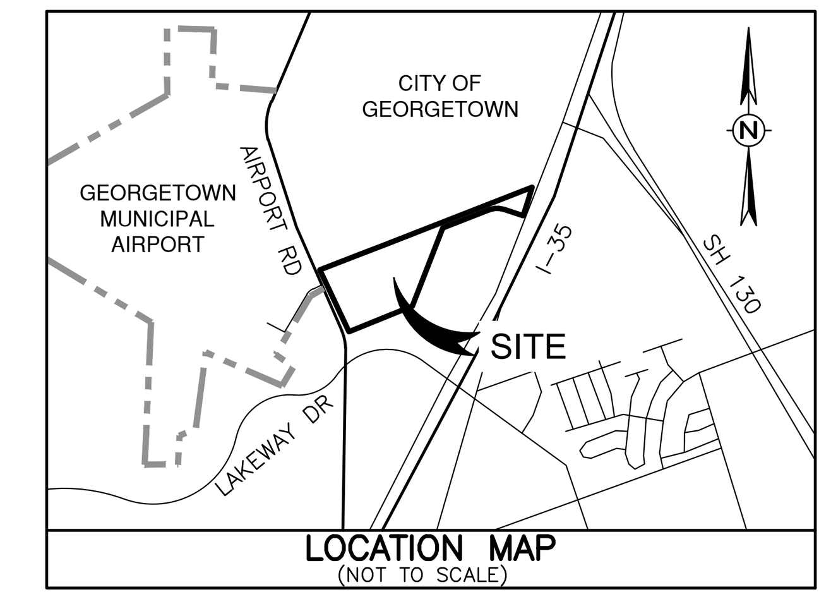
C3.0

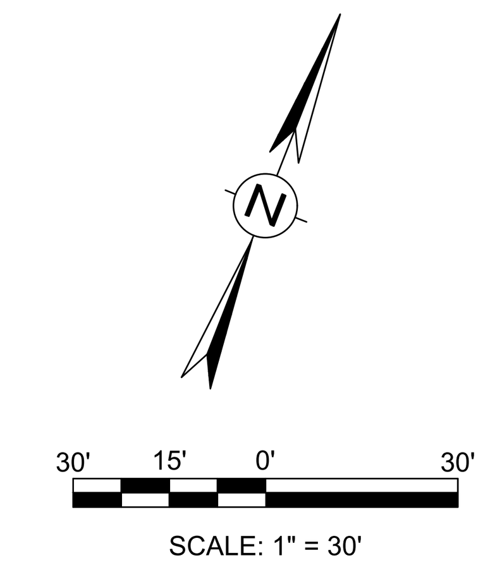
CITY PROJECT #: 2023-XX-SDP

HOLT CAT

Date: Sep 20, 2023, 10:02am User ID: royd.arenas
File: P:\JOBS\2023\123175 HOLT Georgetown Parking Addition\Civil 3D\Dwg\Engineer\OVSP-123175.dwg







KEYNOTES

A1	ASPHALT PVMT: MEDIUM DUTY (SEE SHT. –)
A2	ASPHALT/ASPHALT PAVEMENT JUNCTURE (SEE SHT. –)
A3	ASPHALT/CONCRETE PAVEMENT JUNCTURE (SEE SHT. –)
B1	CONCRETE PVMT: LIGHT DUTY (SEE SHT. C3.6)
B2	CONCRETE PVMT: MEDIUM DUTY (SEE SHT. C3.6)
C1	CONCRETE SIDEWALK/CURB COMBINATION (SEE SHT. C3.6)
C2	CONCRETE/CONCRETE PAVEMENT JUNCTURE (SEE SHT. C3.4)
C3	SIDEWALK TO EXISTING SIDEWALK JUNCTURE (SEE SHT. C3.6)
D1	CURB: STANDARD STAND-UP CURB (6" HIGH) (SEE SHT. C3.4)
D2	CURB: STANDARD FLUSH CURB (SEE SHT. C3.4)
D3	CURB: TRANSITION CURB (SEE SHT. C3.6)
D4	SAWTOOTH CURBING WITH 18" RIPRAP (SEE SHEET C3.4)
D5	TIE TO EXISTING CONCRETE CURBING (SEE SHEET C3.4)
E1	PRECAST CONCRETE WHEEL STOP (TYP.) (SEE SHT. C3.6)
L1	LANDSCAPE AREA (SEE LANDSCAPE SHEET)
P1	PVMT MRKG: 4" WIDE PAINTED WHITE STRIPE (SEE SHT. CC3.6)
W1	WHEELCHAIR RAMP (SEE SHT. C3.7)
Z1	LIGHT POLE (SEE MEP SHEETS)
Z2	INSTALL METAL BEAM GUARD FENCE WITH I-BEAM STEEL POST (SEE SHEET C3.5)

LEGEND

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
		SETBACK LINE
—OHE—	—OHE—	OVERHEAD UTILITY
		EDGE OF PAVEMENT
		FIRE HYDRANT
		WATER METER, VALVE
		SANITARY SEWER MANHOLE
		LIGHT POLE
		SIGN
		TREE
		CONCRETE WALK/FLATWORK
		CONCRETE PVMT
		ASPHALT PVMT

CITY PROJECT #: 2023-XX-SDP

HOLT CAT

NO	DATE	REVISION

CDS Muery F-1733

STATE OF TEXAS
STEPHEN S. LIN
108721
LICENSED PROFESSIONAL ENGINEER
09/19/2023

DESIGNED BY SL

DRAWN BY PL

REVIEWED BY SL

DATE SEPTEMBER 2023

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ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

2101 AIRPORT ROAD, GEORGETOWN, TEXAS 78628

HOLT GEORGETOWN PARKING LOT ADDITION

KEYNOTE PLAN (BASE BID)

C3.1

Date: Sep 20, 2023, 10:02am User ID: royd.arenas
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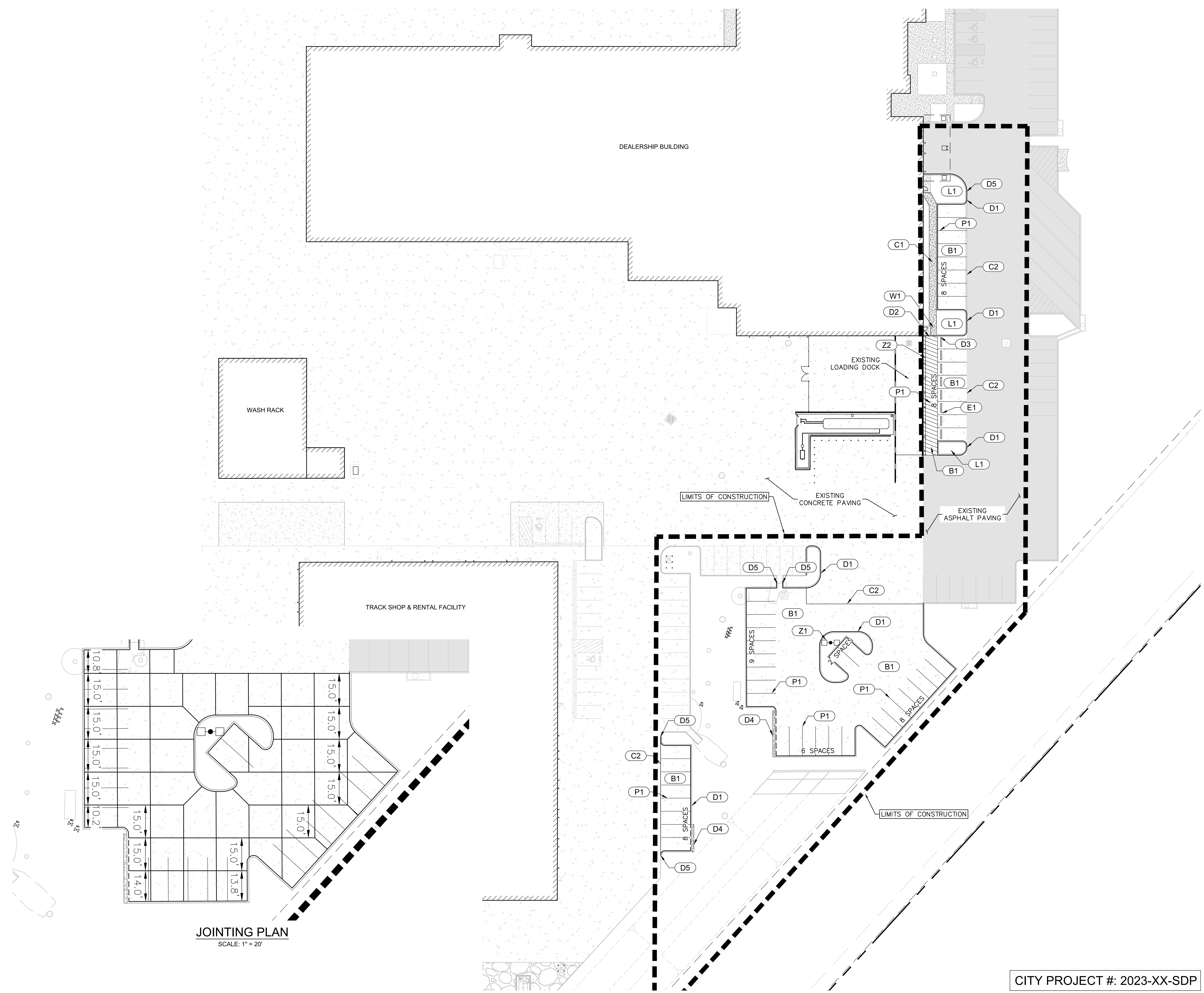

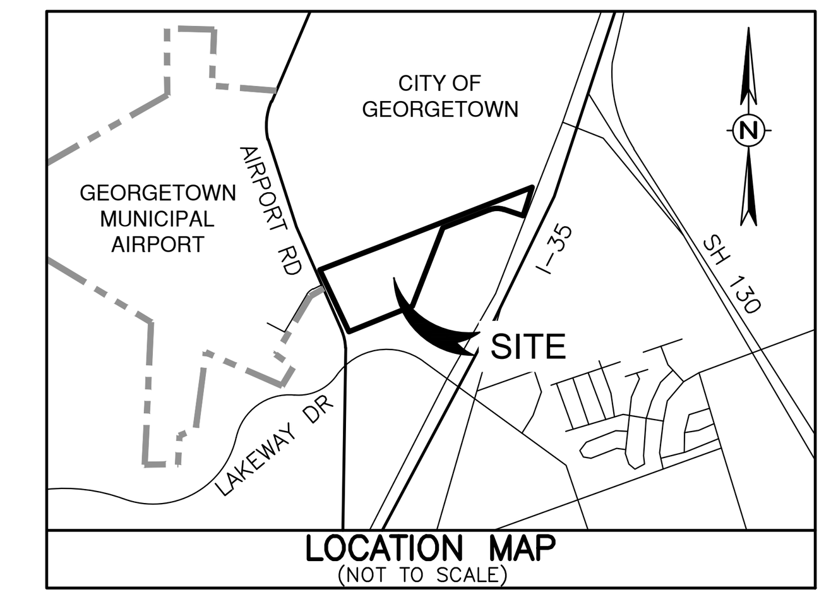

30' 15' 0' 30'

SCALE: 1" = 30'

KEYNOTES

A1	ASPHALT PVMT: MEDIUM DUTY (SEE SHT. –)
A2	ASPHALT/ASPHALT PAVEMENT JUNCTURE (SEE SHT. –)
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Z1	LIGHT POLE (SEE MEP SHEETS)
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LEGEND

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
		SETBACK LINE
OHE	OHE	OVERHEAD UTILITY
		EDGE OF PAVEMENT
		FIRE HYDRANT
		WATER METER, VALVE
		SANITARY SEWER MANHOLE
		LIGHT POLE
		SIGN
		TREE
		PROPOSED CONCRETE WALK/FLATWORK
		PROPOSED CONCRETE PVMT
	DEJ	DOWELED EXPANSION JOINT
	DCJ	DOWELED CONSTRUCTION JOINT
	IJ	ISOLATION JOINT
	EJ	EXPANSION JOINT
	CJ	CONTRACTION JOINT

CITY PROJECT #: 2023-XX-SDP

HOLT CAT

NO	DATE	REVISION

CDS Muery F-1733

STATE OF TEXAS
STEPHEN S. LIN
108721
LICENSED
PROFESSIONAL ENGINEER
09/19/2023

DESIGNED BY SL

DRAWN BY PL

REVIEWED BY SL

DATE SEPTEMBER 2023

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100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

HOLT GEORGETOWN PARKING LOT ADDITION

2101 AIRPORT ROAD, GEORGETOWN, TEXAS 78628

KEYNOTE PLAN (ALT. NO. 1)

C3.2

Date: Sep 20, 2023, 11:22am User ID: royd.arenas
File: P:\JOBS\2023\123175 HOLT Georgetown Parking Addition\Civil 3D\Dwg\Engineer\KEYN– ALT1–123175.dwg

TCEQ POLLUTANT LOAD AND REMOVAL CALCULATIONS / SPREADSHEET

CDS MUERY HAS REVIEWED THE ORIGINAL WPAP PULLUTANT LOAD AND REMOVAL CALCULATIONS PREPARED BY PAPE DAWSON ENGINEERS AS PART OF EAPP ID# 11000585 AND THE CALCUATIONS ARE IN SUBSTANTIAL CONFORMACE TO THE TCEQ AND CITY OF GEORGETOWN REQUIREMENTS. THE ORIGINAL CALCULATIONS ARE ATTACHED.

POLLUTANT LOAD AND REMOVAL CALCULATIONS

HOLTCAT GEORGETOWN

Treatment Summary by Watershed

Watershed	Total Watershed Area (ac.)	Existing Impervious Cover (ac.)	Proposed Impervious Cover (ac.)	PBMP	Required TSS Removal Annually (lbs)	TSS Removed Annually (lbs) TCEQ	*TSS Removed Annually (lbs) Georgetown
Uncaptured A	0.14		0.14	Overtreatment Water Quality Basin "A"	122		
B	0.32		0.32	15' Engineered VFS	279	279	279
C	22.88	0.21	21.65	Water Quality Basin "A"	18,661	18,888	20,068
D	3.78		2.63	15' Engineered VFS	2,289	2,289	2,289
Uncaptured E	0.12		0.12	Overtreatment Water Quality Basin "A"	104		
TOTAL	**27.24**	**0.21**	**24.86**	---	**21,455**	**21,455**	**22,636**

* Basin has been designed to treat 85% of TSS generated per City of Georgetown guidelines [(85%/80%) * TCEQ TSS Removed Annually]

Water Quality Basin Summary for TCEQ

Basin	Designed Capture Volume (cf)	Required Volume (cf)	Excess Volume Capacity (cf)	Designed Sand Area (sf)	Required Sand Area (sf)	Excess Sand Area (sf)
A	199,274	115,490	83,784	18,005	9,624	8,381

Design for 85% removal required by City of Georgetown

Basin	Designed Capture Volume (cf)	Required Volume (cf)	Excess Volume Capacity (cf)	Designed Sand Area (sf)	Required Sand Area (sf)	Excess Sand Area (sf)
A	199,274	184,784	14,490	18,005	15,399	2,606

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Holt CAT Georgeto
Date Prepared: 3/1/2017

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 spr

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 i
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 * =	48.67	acres
Predevelopment impervious area within the limits of the plan * =	0.21	acres
Total post-development impervious area within the limits of the plan* =	26.09	acres
Total post-development impervious cover fraction * =	0.54	
P =	32	inches

$L_{M\ TOTAL\ PROJECT}$ = **22526** lbs.

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

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

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

Drainage Basin/Outfall Area No. =	Basin A	
Total drainage basin/outfall area =	22.88	acres
Predevelopment impervious area within drainage basin/outfall area =	0.21	acres
Post-development impervious area within drainage basin/outfall area =	21.65	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.95**	
$L_{M\ THIS\ BASIN}$ =	**18661**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	Sand Filter	
Removal efficiency =	89	percent

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:

A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	22.88	acres
A_I =	21.65	acres
A_P =	1.23	acres
L_R =	21353	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	18888	lbs.
F =	0.88	

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

Rainfall Depth =	1.50	inches
Post Development Runoff Coefficient =	0.77	
On-site Water Quality Volume =	96241	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	19248	
Total Capture Volume (required water quality volume(s) x 1.20) =	115490	cubic feet

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.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin =	NA	cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate =	**0.1**	in/hr	Enter determined permeability rate or assu
Irrigation area =	**NA**	square feet	
	NA	acres	

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 =	**NA**	cubic feet

9. Filter area for Sand Filters — Designed as Required in RG-348 — Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	**115490**	cubic feet	
Minimum filter basin area =	**5347**	square feet	
Maximum sedimentation basin area =	**48121**	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	**12030**	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	**115490**	cubic feet	
Minimum filter basin area =	**9624**	square feet	
Maximum sedimentation basin area =	**38497**	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	**2406**	square feet	For maximum water depth of 8 feet

10. Bioretention System — Designed as Required in RG-348 — Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin =	**NA**	cubic feet

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Holt CAT Georgeto
Date Prepared: 3/1/2017

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
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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
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 * =	48.67	acres
Predevelopment impervious area within the limits of the plan * =	0.21	acres
Total post-development impervious area within the limits of the plan* =	26.09	acres
Total post-development impervious cover fraction * =	0.54	
P =	32	inches

$L_{M\ TOTAL\ PROJECT}$ = **22526** lbs.

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

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

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

Drainage Basin/Outfall Area No. = Basin A-85%

Total drainage basin/outfall area =	22.88	acres
Predevelopment impervious area within drainage basin/outfall area =	0.21	acres
Post-development impervious area within drainage basin/outfall area =	21.65	acres
Post-development impervious fraction within drainage basin/outfall area =	0.95	
$L_{M\ THIS\ BASIN}$ =	18661	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Sand Filter
Removal efficiency = 89 percent

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:

A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	22.88	acres
A_I =	21.65	acres
A_P =	1.23	acres
L_R =	21353	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	20068	lbs.
F =	0.94	

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

Rainfall Depth =	2.40	inches
Post Development Runoff Coefficient =	0.77	
On-site Water Quality Volume =	153986	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	30797	
Total Capture Volume (required water quality volume(s) x 1.20) =	184784	cubic feet

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.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin =	NA	cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate =	**0.1**	in/hr	Enter determined permeability rate or assu
Irrigation area =	**NA**	square feet	
	NA	acres	

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 =	**NA**	cubic feet

9. Filter area for Sand Filters — Designed as Required in RG-348 — Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	**184784**	cubic feet	
Minimum filter basin area =	**8555**	square feet	
Maximum sedimentation basin area =	**76993**	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	**19248**	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	**184784**	cubic feet	
Minimum filter basin area =	**15399**	square feet	
Maximum sedimentation basin area =	**61595**	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	**3850**	square feet	For maximum water depth of 8 feet

10. Bioretention System — Designed as Required in RG-348 — Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin =	**NA**	cubic feet

TEMPORARY BMP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

GENERAL NOTES

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.

2. LOCATIONS OF CONSTRUCTION ENTRANCE/EXITS, CONCRETE WASHOUT PITS, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARDS TO BE DETERMINED IN THE FIELD.

3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.

4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.

5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.

6. CONTRACTOR, TO THE EXTENT PRACTICAL, SHALL MINIMIZE THE AMOUNT OF AREA DISTURBED. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

7. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.

8. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED.

9. ALL TEMPORARY BMPs WILL BE REMOVED ONCE WATERSHED IS STABILIZED.

10. MUD OR DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO EXISTING STREETS SHALL BE REMOVED IMMEDIATELY BY HAND OR MECHANICAL BROOM SWEEPING.

11. PRIOR TO INITIATION OF SUBSEQUENT PHASES OF CONSTRUCTION, TEMPORARY BMPs INCLUDING SILT FENCING, CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND CONSTRUCTION STAGING AREA SHALL BE FIELD LOCATED AS APPROPRIATE FOR THE AREA OF CONSTRUCTION.

12. TEMPORARY POLLUTION ABATEMENT MEASURES SHOWN ON THE PLAN ARE FOR THE OVERALL DEVELOPMENT. TEMPORARY BMPs MAY REQUIRE ADJUSTMENT BASED ON PHASING OF CONSTRUCTION OF THE DEVELOPMENT. RECORDS OF ADJUSTMENTS AND REVISIONS SHALL BE MAINTAINED AS APPROPRIATE.

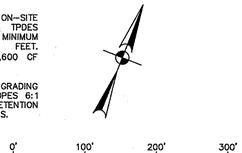
13. TEMPORARY BMPs SHOWN ON THIS SHEET ARE FOR GRAPHICAL PURPOSES AND MAY NOT BE TO SCALE. BMPs SHALL BE LOCATED WITHIN THE PROJECT LIMITS.

14. UPON COMPLETION OF THE PROJECT AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES.

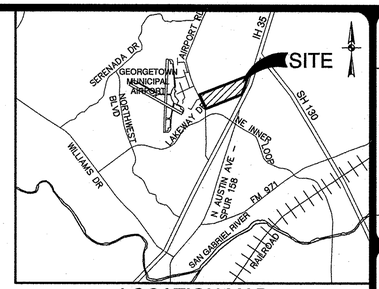
15. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND REMOVAL OF TEMPORARY POLLUTION ABATEMENT MEASURES THAT CONFLICT WITH SITE IMPROVEMENTS SUCH AS LANDSCAPING AND FENCES SO AS TO PREVENT SEDIMENT FROM ESCAPING THE PROJECT SITE.

16. CONTRACTOR TO CONSTRUCT AN ON-SITE TEMPORARY SEDIMENT BASIN PER TPDES REQUIREMENTS. BASIN SHALL HAVE A MINIMUM STORAGE CAPACITY OF 86,000 CUBIC FEET. (WATERSHED AREA OF 23.63 ACRES) X (3,600 CF STORAGE PER ACRE DRAINED) = 86,000 CF.

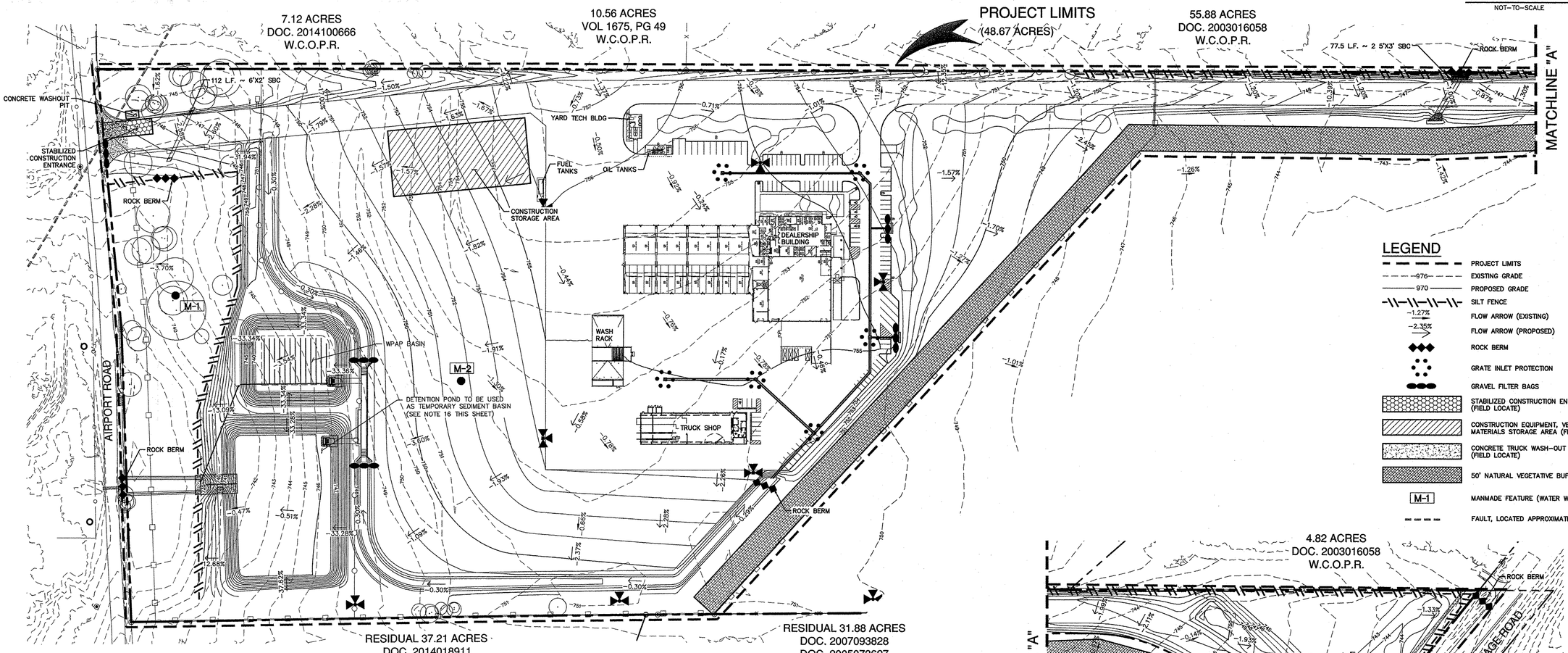
17. AS SOON AS PRACTICAL, FOLLOWING FINE GRADING ACTIVITIES, ALL EARTHEN CHANNELS AND SLOPES 6:1 OR STEEPER SHALL BE LINED WITH SOIL RETENTION BLANKETS PER TXDOT STANDARD SPECIFICATIONS.

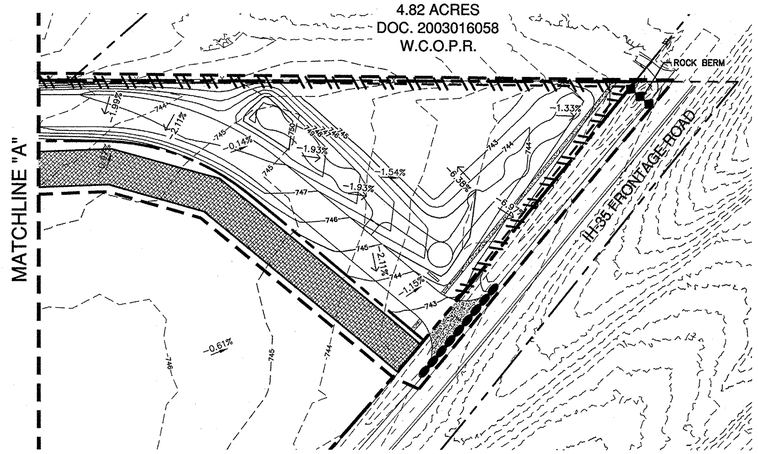


SCALE: 1"= 100'



LOCATION MAP
NOT-TO-SCALE





LEGEND

- PROJECT LIMITS
- 976 EXISTING GRADE
- 970 PROPOSED GRADE
- SILT FENCE
- -1.27% FLOW ARROW (EXISTING)
- -2.35% FLOW ARROW (PROPOSED)
- ROCK BERM
- GRATE INLET PROTECTION
- GRAVEL FILTER BAGS
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)
- CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)
- 50' NATURAL VEGETATIVE BUFFER
- M-1 MANMADE FEATURE (WATER WELL)
- FAULT, LOCATED APPROXIMATELY

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

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
   - THE NAME OF THE APPROVED PROJECT;
   - THE ACTIVITY START DATE; AND
   - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.

7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.

8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.

11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
   - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
   - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
   - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

   A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
   B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
   C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

AUSTIN REGIONAL OFFICE
12100 PARK 35 CIRCLE, BLDG A, RM 179
AUSTIN, TEXAS 78753
PHONE (512) 339-2929
FAX (512) 339-3795

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 1

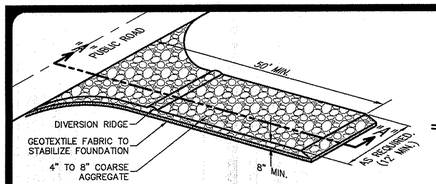
NO.	REVISION	DATE

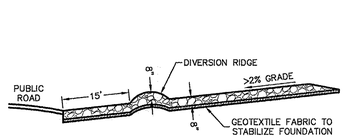
STATE OF TEXAS
MATT JOHNSON
64927
LICENSED
PROFESSIONAL ENGINEER
3-6-17

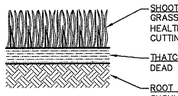
PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

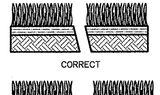
HOLT CAT - GEORGETOWN
GEORGETOWN, TEXAS
TEMPORARY WATER POLLUTION ABATEMENT PLAN

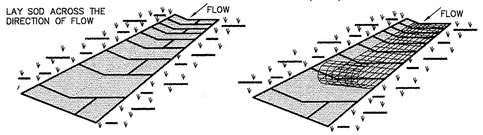
PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED DRAWN MK
SHEET 51

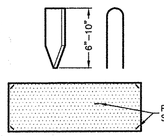


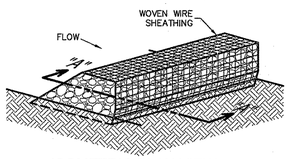


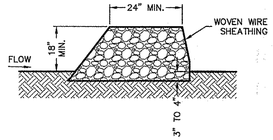


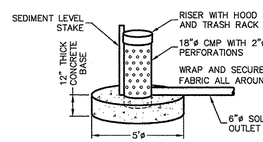


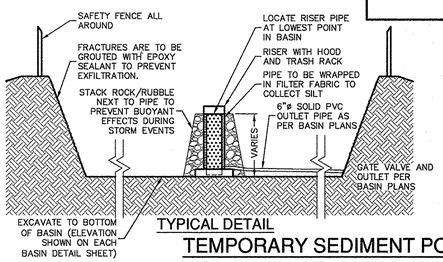


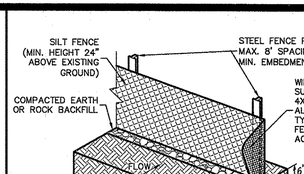


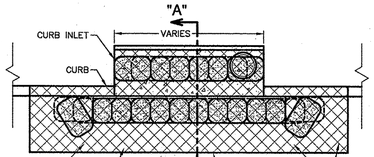


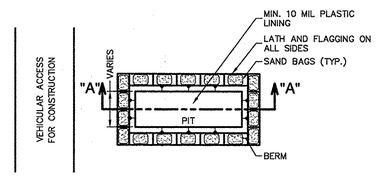


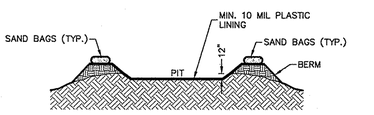


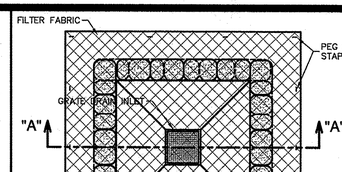


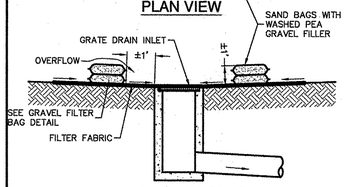


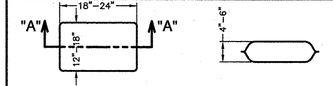












SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT

SECTION "A-A" OF A CONSTRUCTION ENTRANCE/EXIT

MATERIALS

1. THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.

2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8-INCHES.

3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.

4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4-INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION

1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.

2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.

3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.

4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6-INCHES TO 8-INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.

5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.

6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.

7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.

8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

COMMON TROUBLE POINTS

1. INADEQUATE RUNOFF CONTROL-SEDIMENT WASHES ONTO PUBLIC ROAD.

2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.

3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC-EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.

4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD.

5. UNSTABLE FOUNDATION – USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES

1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.

3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT-TO-SCALE

LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

BUTTING – ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

APPEARANCE OF GOOD SOD

NOTES:
1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

3. MOW WHEN THE SOD IS ESTABLISHED – IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").

SOD INSTALLATION

IN CRITICAL AREAS, SECURE SOD WITH NETTING. USE STAPLES.

USE PEGS OR STAPLES TO FASTEN SOD FIRMLY – AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3-4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.

MATERIALS

1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.

2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5%. TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.

3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.

4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).

2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

GENERAL INSTALLATION (VA. DEPT. OF CONSERVATION, 1992)

1. SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.

2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.

3. THE FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE).

4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OR OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON CONTOUR).

5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.

6. AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS THOROUGHLY WET.

7. UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.

8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2-3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

INSPECTION AND MAINTENANCE GUIDELINES

1. SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.

2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

SOD INSTALLATION DETAIL

NOT-TO-SCALE

ISOMETRIC PLAN VIEW

SECTION "A-A"

ROCK BERMS

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT-LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE. AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.

2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.

3. REPAIR ANY LOOSE WIRE SHEATHING.

4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.

5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

MATERIALS

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.

2. CLEAN, OPEN GRADED 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-INCH TO 8-INCH DIAMETER ROCKS MAY BE USED.

INSTALLATION

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.

2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.

3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18".

4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.

5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.

6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

COMMON TROUBLE POINTS

1. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).

2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

ROCK BERM DETAIL

NOT-TO-SCALE

ISOMETRIC PLAN VIEW

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. WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER-BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED AT ANY TIME.

MATERIALS

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.

2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINDELL HARDNESS EXCEEDING 140.

3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.

2. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.

3. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

6. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

COMMON TROUBLE POINTS

1. FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO CONCENTRATE AND FLOW OVER THE FENCE.

2. FABRIC NOT SEATED SECURELY TO GROUND (RUNOFF PASSING UNDER FENCE).

3. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND SIDES).

4. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE).

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

4. REPLACE OR REPAIR 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.

SILT FENCE DETAIL

NOT-TO-SCALE

OUTLET STRUCTURE DETAIL

TYPICAL DETAIL

TEMPORARY SEDIMENTATION BASIN NOTES

1. CONTRACTOR TO CONSTRUCT BASINS IN ACCORDANCE WITH CONSTRUCTION PLANS FOR PERMANENT SEDIMENTATION/ FILTRATION WITH THE EXCEPTION OF THE GRAVEL DRAIN LAYER AND SAND FILTER LAYERS.

2. INSTALL PERMANENT STAKE TO INDICATE SEDIMENT LEVEL IN THE BASIN. STAKE SHOULD BE MARKED TO INDICATE WHEN SEDIMENT OCCUPIES 50% OF THE VOLUME OF THE BASIN.

3. SEDIMENT WILL BE REMOVED WHEN MORE THAN 50% OF THE BASIN CAPACITY IS EXCEEDED.

4. CONTRACTOR TO SECURE PIPE TO BOTTOM OF BASIN TO PREVENT BUOYANCY DURING A RAIN EVENT. A CONCRETE ANCHOR MAY BE USED.

5. DISCHARGE PIPE TO BE INSTALLED SO AS TO BE IN PLACE FOR PERMANENT STRUCTURE.

TEMPORARY SEDIMENT POND DETAIL

NOT-TO-SCALE

PLAN VIEW

SECTION "A-A"

GENERAL NOTES

1. CONTRACTOR TO INSTALL 2"x4"-W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SANDBAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE GUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.

2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES

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.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT-TO-SCALE

PLAN VIEW

SECTION "A-A"

GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.

2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.

3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.

5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

MAINTENANCE

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.

2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.

3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT DETAIL

NOT-TO-SCALE

PLAN VIEW

SECTION "A-A"

GENERAL NOTES

1. THE SANDBAGS SHOULD BE FILLED WITH WASHED PEA GRAVEL AND STACKED TO FORM A CONTINUOUS BARRIER ABOUT 1 FOOT HIGH AROUND INLETS.

2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES

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 MATTER 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.

BAGGED GRAVEL GRATE INLET PROTECTION DETAIL

NOT-TO-SCALE

PLAN VIEW

SECTION "A-A"

NOTES:
1. THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WEIGHT OF 4 OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.

2. THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).

3. SAND SHALL NOT BE USED TO FILL THE FILTER BAGS.

GRAVEL FILTER BAG DETAIL

NOT-TO-SCALE

CONSTRUCTION STAGING AREA

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET FOR THE CONSTRUCTION STAGING AREA ONLY. ALL OTHER INFORMATION IS FROM TCEQ'S TECHNICAL GUIDANCE MANUAL.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 2

NO.	REVISION	DATE

MATT JOHNSON
64827

3-6-17

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

HOLT CAT - GEORGETOWN
GEORGETOWN, TEXAS

TEMPORARY WATER POLLUTION ABATEMENT PLAN DETAILS

PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ____ DRAWN MK
SHEET 52

Date: Mar 06, 2017, 10:00am User ID: SGreen
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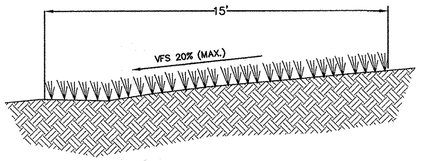
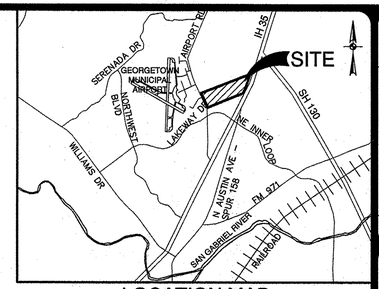


ENGINEERED VEGETATIVE FILTER STRIP DETAIL

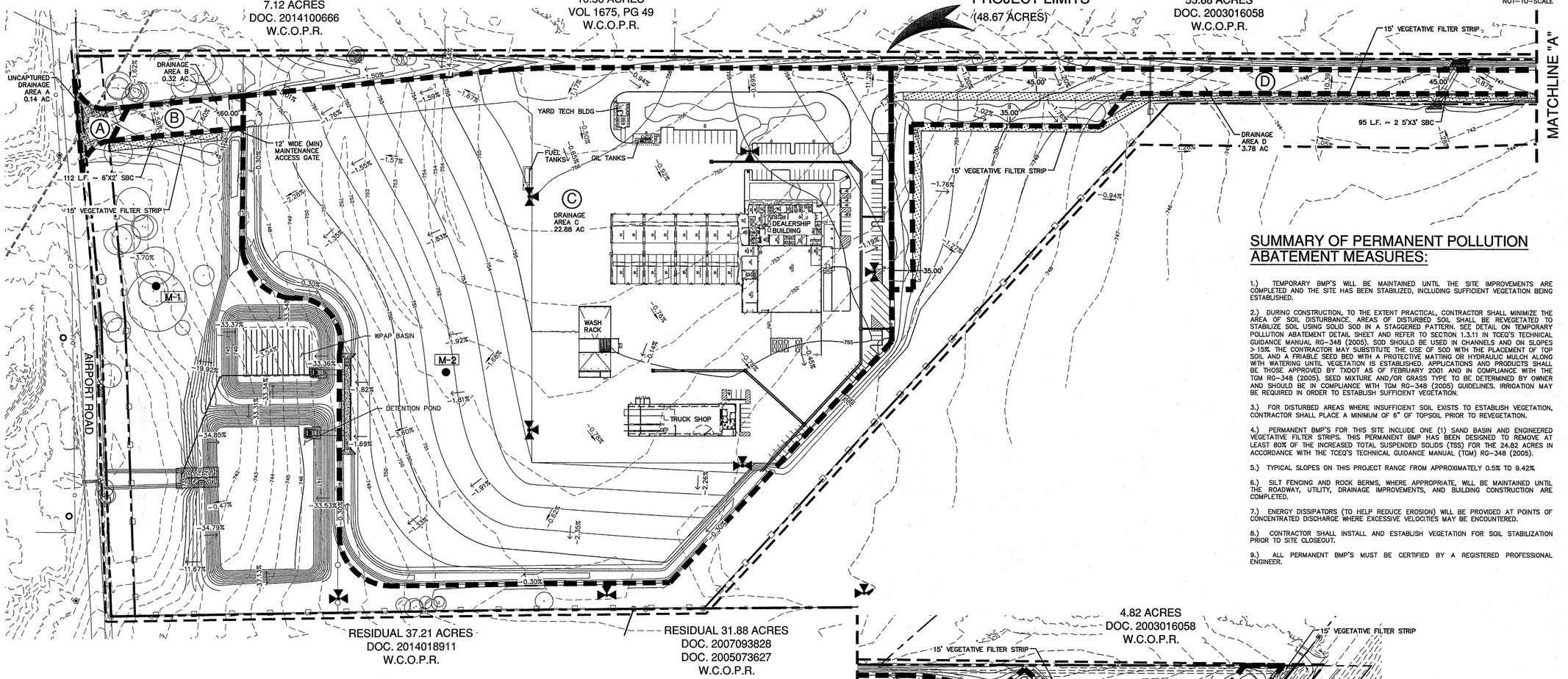
LEGEND

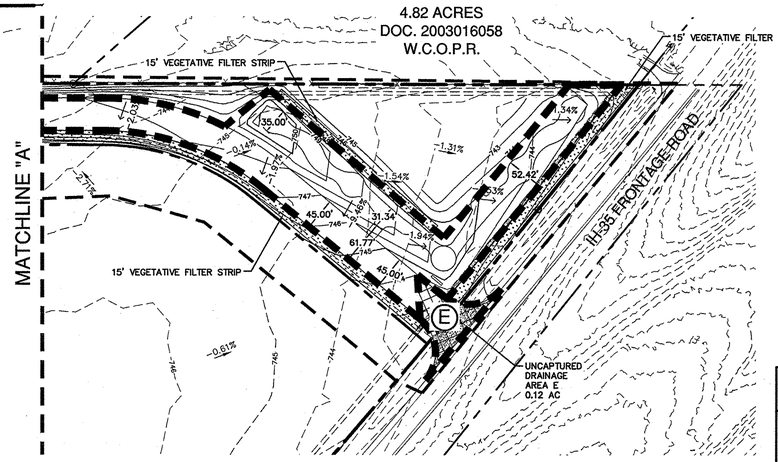
- PROJECT LIMITS
- 1250 EXISTING CONTOUR
- 1250 PROPOSED CONTOUR
- 2.00 SLOPE ARROW (PROPOSED)
- 1.26 SLOPE ARROW (EXISTING)
- UNCAPTURED AREA
- 15' ENGINEERED VEGETATIVE FILTER STRIP
- (A) WATERSHED DESIGNATION
- DRAINAGE AREA
- M-1 POTENTIAL MANMADE FEATURE (WATER WELL)
- FAULT, LOCATED APPROXIMATELY

0' 100' 200' 300'
SCALE: 1"= 100'



LOCATION MAP
NOT-TO-SCALE





SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

1.) TEMPORARY BMP'S WILL BE MAINTAINED UNTIL THE SITE IMPROVEMENTS ARE COMPLETED AND THE SITE HAS BEEN STABILIZED, INCLUDING SUFFICIENT VEGETATION BEING ESTABLISHED.

2.) DURING CONSTRUCTION, TO THE EXTENT PRACTICAL, CONTRACTOR SHALL MINIMIZE THE AREA OF SOIL DISTURBANCE. AREAS OF DISTURBED SOIL SHALL BE REVEGETATED TO STABILIZE SOIL USING SOLID SOD IN A STAGGERED PATTERN. SEE DETAIL ON TEMPORARY POLLUTION ABATEMENT DETAIL SHEET AND REFER TO SECTION 1.3.11 IN TCEQ'S TECHNICAL GUIDANCE MANUAL RG-348 (2005). SOD SHOULD BE USED IN CHANNELS AND ON SLOPES > 15%. THE CONTRACTOR MAY SUBSTITUTE THE USE OF SOD WITH THE PLACEMENT OF TOP SOIL AND A FRIABLE SEED BED WITH A PROTECTIVE MATTING OR HYDRAULIC MULCH ALONG WITH WATERING UNTIL VEGETATION IS ESTABLISHED. APPLICATIONS AND PRODUCTS SHALL BE THOSE APPROVED BY TXDOT AS OF FEBRUARY 2001 AND IN COMPLIANCE WITH THE TGM RG-348 (2005). SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER AND SHOULD BE IN COMPLIANCE WITH TGM RG-348 (2005) GUIDELINES. IRRIGATION MAY BE REQUIRED IN ORDER TO ESTABLISH SUFFICIENT VEGETATION.

3.) FOR DISTURBED AREAS WHERE INSUFFICIENT SOIL EXISTS TO ESTABLISH VEGETATION, CONTRACTOR SHALL PLACE A MINIMUM OF 6" OF TOPSOIL PRIOR TO REVEGETATION.

4.) PERMANENT BMP'S FOR THIS SITE INCLUDE ONE (1) SAND BASIN AND ENGINEERED VEGETATIVE FILTER STRIPS. THIS PERMANENT BMP HAS BEEN DESIGNED TO REMOVE AT LEAST 80% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) FOR THE 24.82 ACRES IN ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL (TGM) RG-348 (2005).

5.) TYPICAL SLOPES ON THIS PROJECT RANGE FROM APPROXIMATELY 0.5% TO 9.42%.

6.) SILT FENCING AND ROCK BERMS, WHERE APPROPRIATE, WILL BE MAINTAINED UNTIL THE ROADWAY, UTILITY, DRAINAGE IMPROVEMENTS, AND BUILDING CONSTRUCTION ARE COMPLETED.

7.) ENERGY DISSIPATORS (TO HELP REDUCE EROSION) WILL BE PROVIDED AT POINTS OF CONCENTRATED DISCHARGE WHERE EXCESSIVE VELOCITIES MAY BE ENCOUNTERED.

8.) CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION FOR SOIL STABILIZATION PRIOR TO SITE CLOSEOUT.

9.) ALL PERMANENT BMP'S MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.

Treatment Summary by Watershed

Watershed	Total Watershed Area (ac.)	Existing Impervious Cover (ac.)	Proposed Impervious Cover (ac.)	PBMP	Required TSS Removal Annually (lbs)	TSS Removed Annually (lbs) TCEQ	*TSS Removed Annually (lbs) Georgetown
Uncaptured A	0.14		0.14	Overtreatment Water Quality Basin "A"	122		
B	0.32		0.32	15' Engineered VFS	279	279	279
C	22.88	0.21	21.65	Water Quality Basin "A"	18,661	18,888	20,068
D	3.78		2.63	15' Engineered VFS	2,289	2,289	2,289
Uncaptured E	0.12		0.12	Overtreatment Water Quality Basin "A"	104		
TOTAL	**27.24**	**0.21**	**24.86**	**---**	**21,455**	**21,455**	**22,636**

* Basin has been designed to treat 85% of TSS generated per City of Georgetown guidelines [(85%/80%) * TCEQ TSS Removed Annually]

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 3

NO.	REVISION	DATE

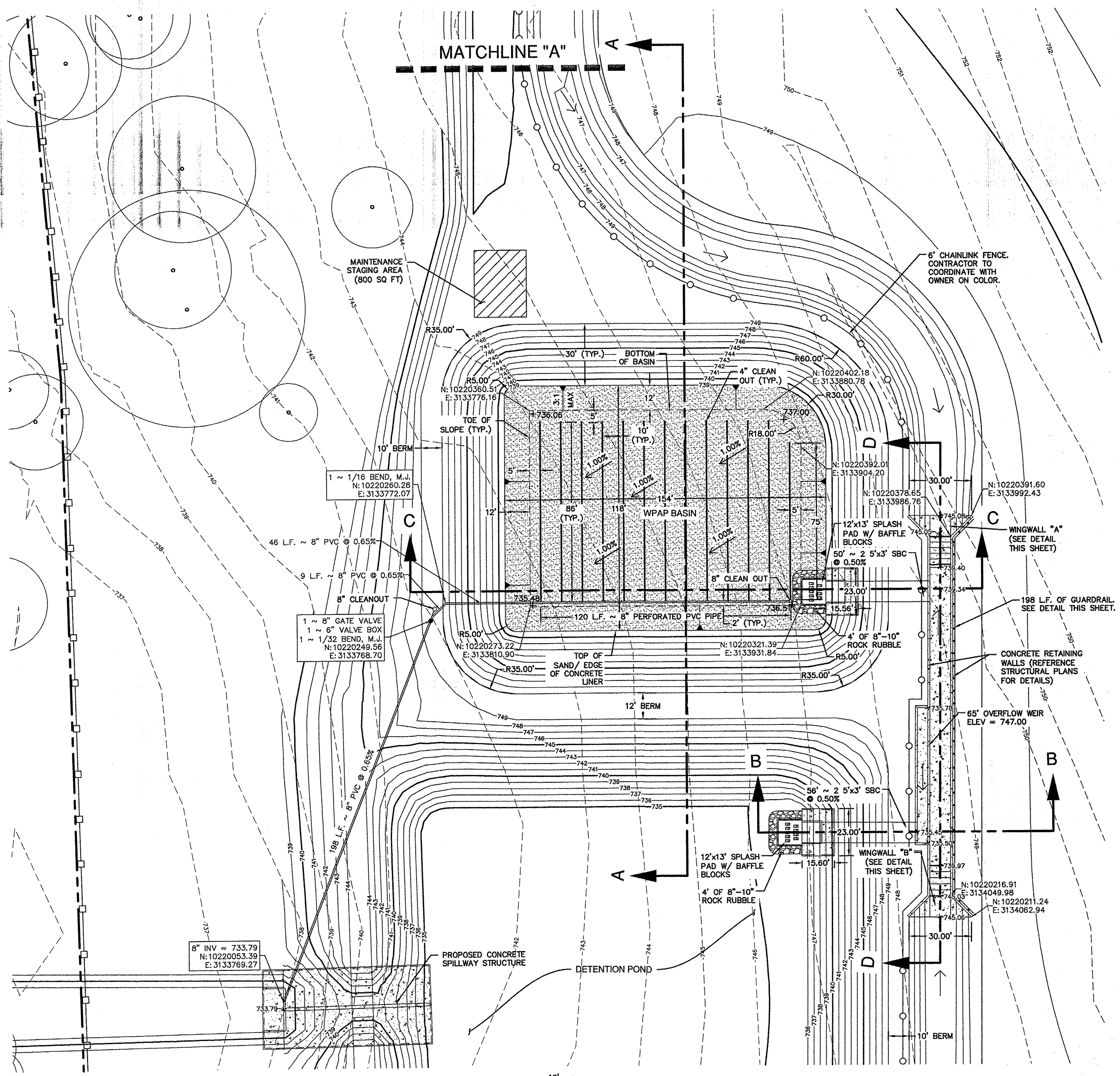
STATE OF TEXAS
MATT JOHNSON
64827
LICENSED
PROFESSIONAL ENGINEER
3-6-17

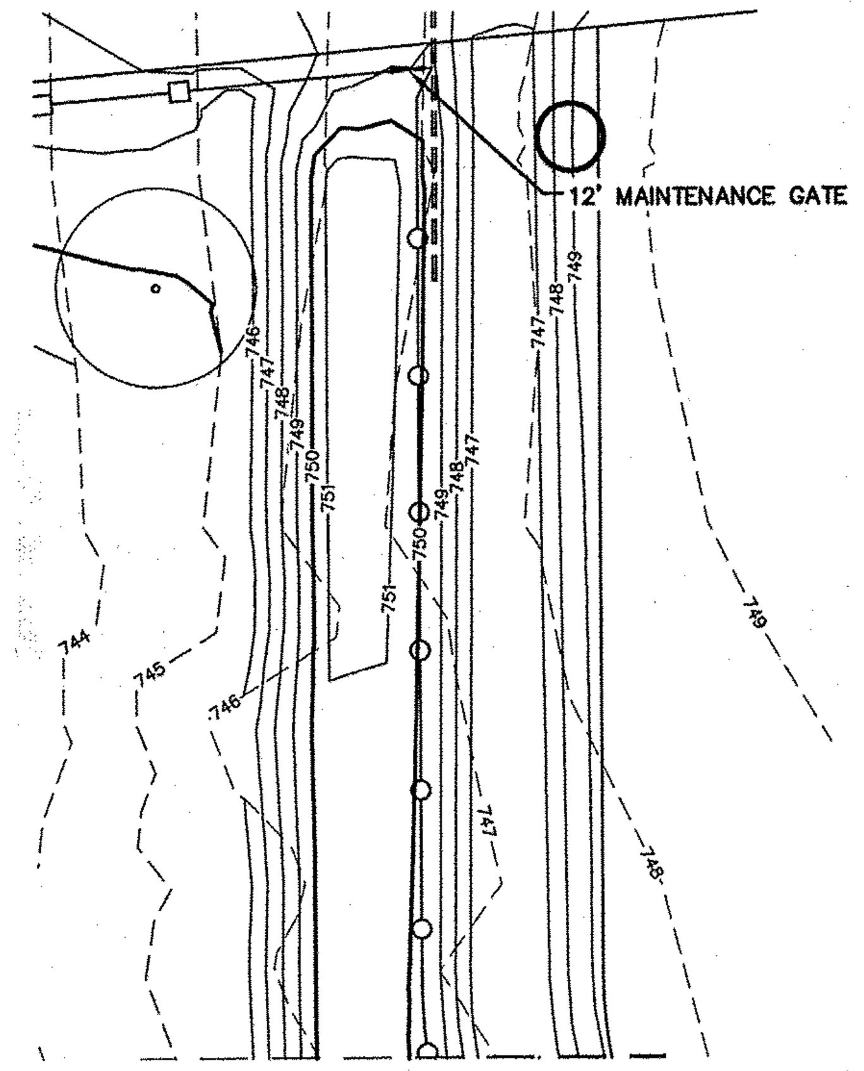
PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

HOLT CAT - GEORGETOWN
GEORGETOWN, TEXAS

PERMANENT WATER POLLUTION ABATEMENT PLAN

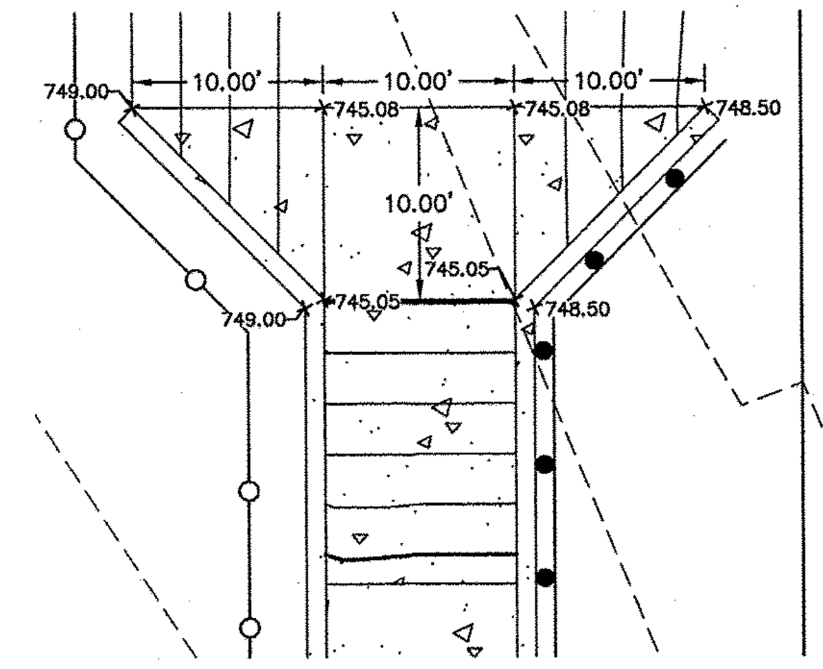
PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ____ DRAWN MK
SHEET 53





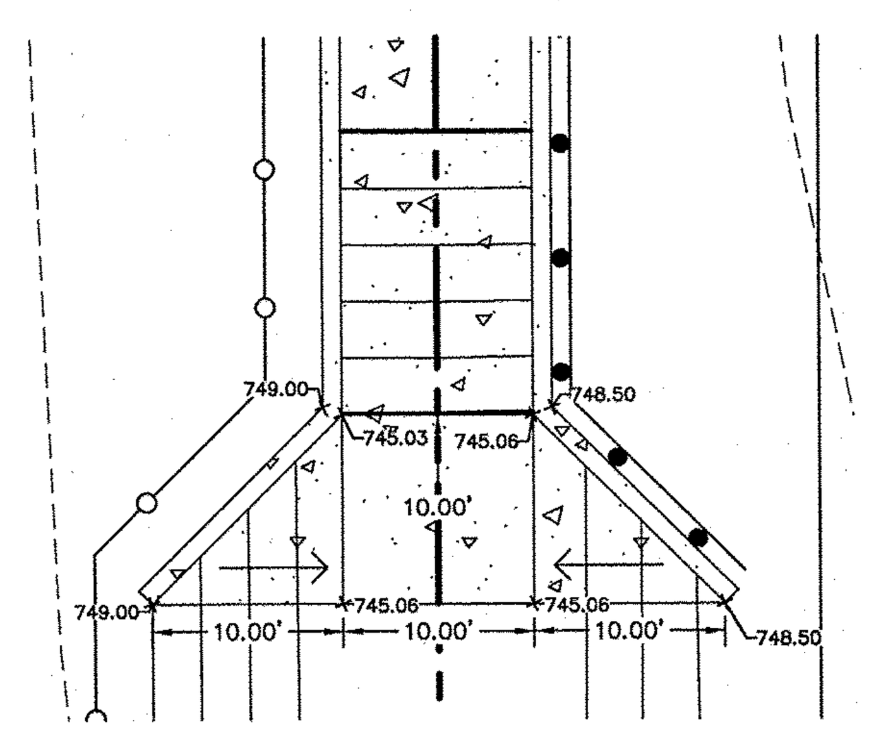
MATCHLINE "A"

1" = 40'



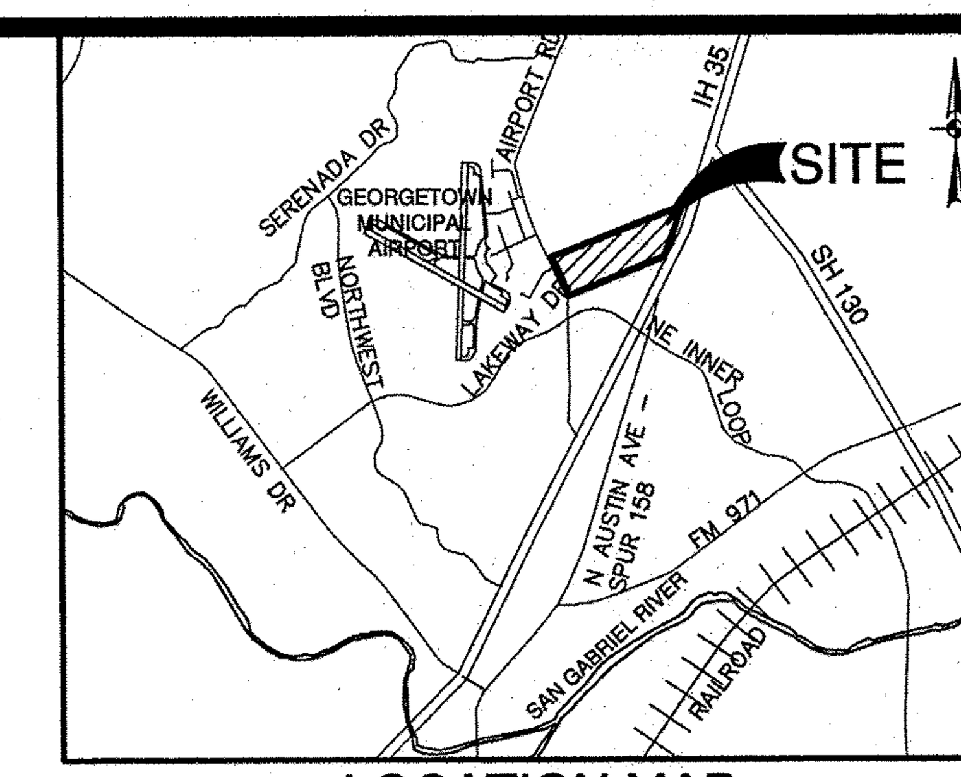
WINGWALL "A" DETAIL

1" = 10'



WINGWALL "B" DETAIL

1" = 10'



LOCATION MAP

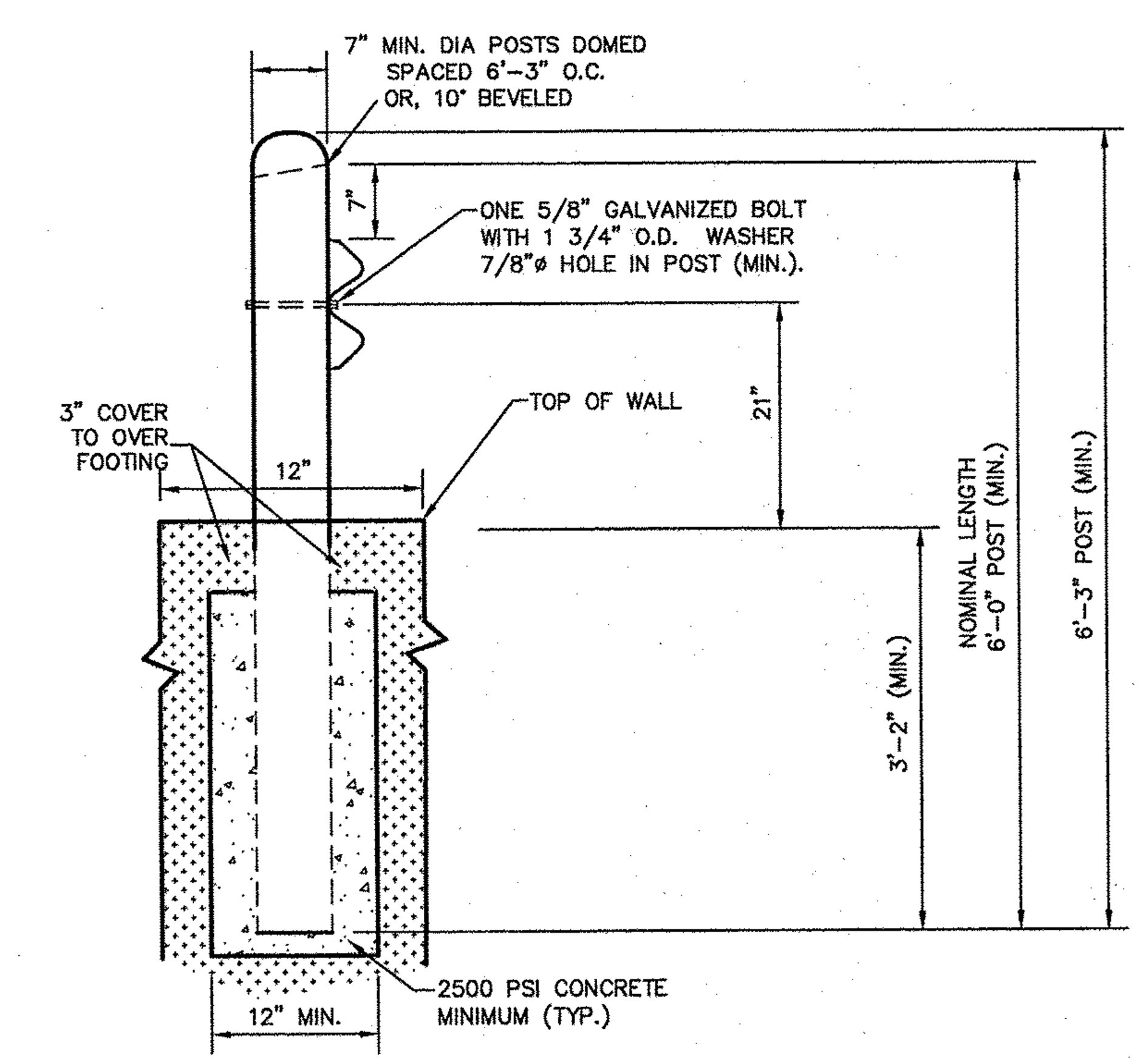
NOT-TO-SCALE

SCALE: 1"= 30'

0' 30' 60' 90'

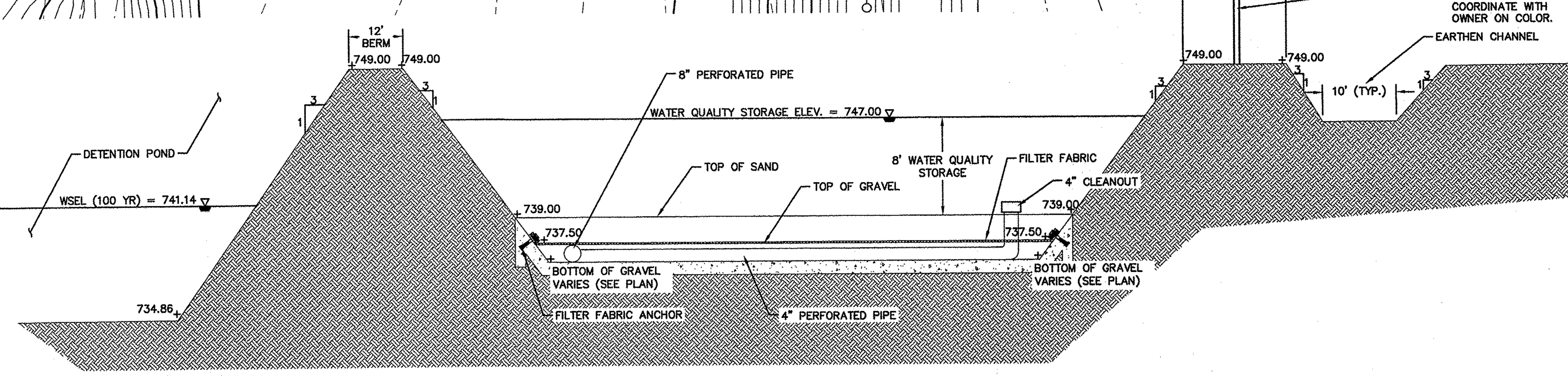
LEGEND

790 / 788 (solid)	PROPOSED CONTOURS
790 / 788 (dashed)	EXISTING CONTOURS



GUARDRAIL DETAIL

NOT-TO-SCALE



SECTION A-A

N.T.S.

BASIN DESIGN DATA

BASIN WATERSHED	= 996,888 SF (22.88 AC.)
RUN OFF DEPTH	= 1.5 INCHES
REQUIRED CAPTURE VOLUME	= 115,490 CF
REQUIRED SAND AREA	= 9,624 SF
BASIN WATER STORAGE DEPTH	= 8.0 FT
BASIN CAPTURE VOLUME	= 199274 CF
BASIN SAND AREA	= 18,005 SF
OVERFLOW WEIR	= 65 FT. X 1.00 FT
Q25	= 162.77 CFS

BASIN DRAWDOWN IS CONTROLLED BY THE 8" PIPE SLOPED AT 0.65%.
BASIN DRAWDOWN WILL OCCUR IN APPROX. 41 HOURS.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

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EXHIBIT 4

NO.	REVISION	DATE

STATE OF TEXAS — MATT JOHNSON 64827 LICENSED PROFESSIONAL ENGINEER — 3-6-17

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

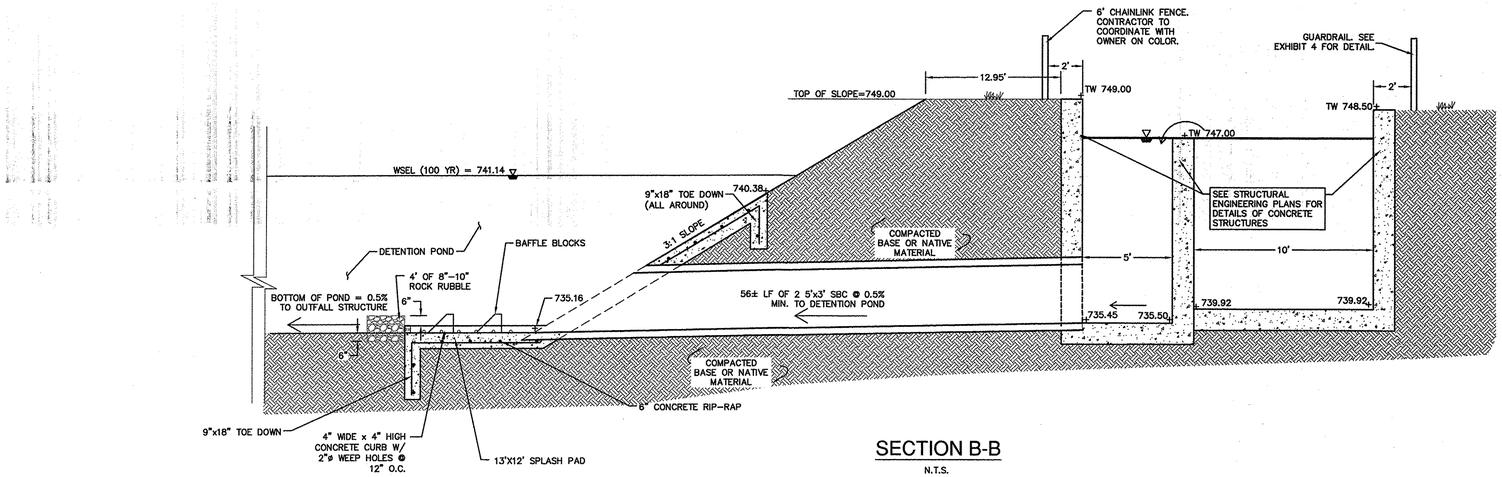
HOLT CAT - GEORGETOWN

GEORGETOWN, TEXAS

WATER POLLUTION ABATEMENT PLAN
BASIN PLAN - SHEET 1

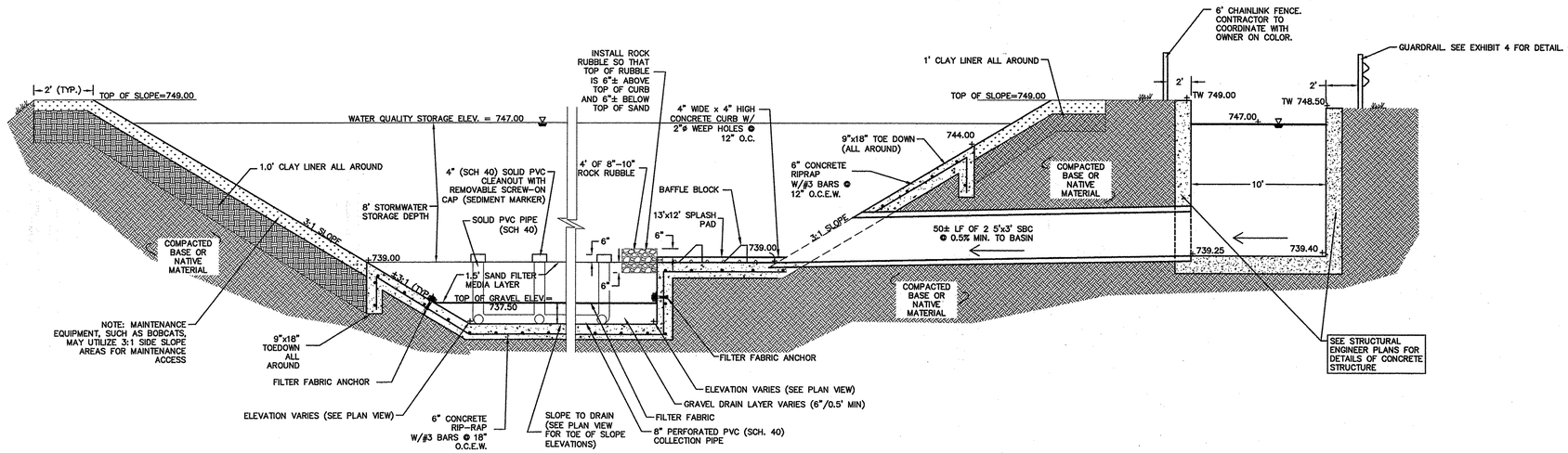
PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ____ DRAWN MK
SHEET 54

Date: Mar 06, 2017, 9:59am User ID: SGreen
File: P:\112\73\00\Design\Environmental\WPAP\BA1127300.dwg



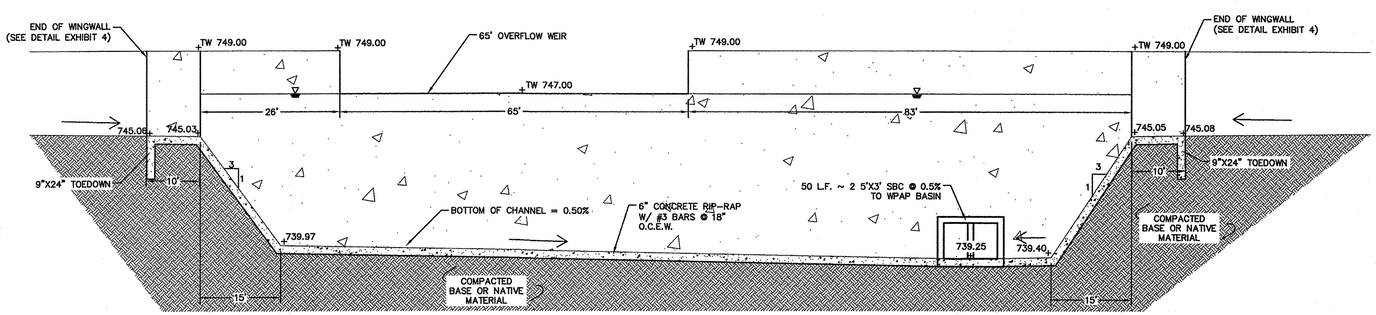
SECTION B-B

N.T.S.



SECTION C-C

N.T.S.



SECTION D-D

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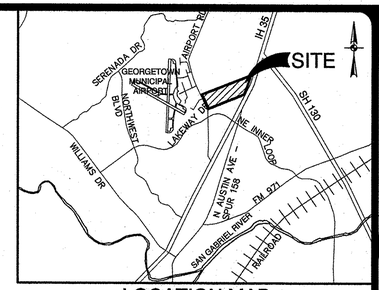

LOCATION MAP

NOT-TO-SCALE

NO.	REVISION	DATE

STATE OF TEXAS
MATT JOHNSON
64827
LICENSED
PROFESSIONAL ENGINEER
3-6-17

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800

HOLT CAT - GEORGETOWN

GEORGETOWN, TEXAS

WATER POLLUTION ABATEMENT PLAN
BASIN PLAN - SHEET 2

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

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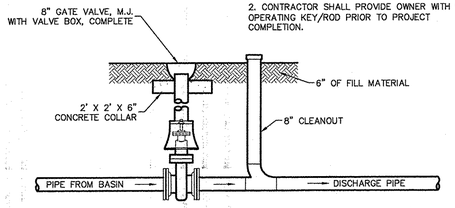
EXHIBIT 5

PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ____ DRAWN MK
SHEET 55

Date: Mar 06, 2017, 8:59am User ID: Steven
File: P:\11273.00\Design\Environmental\WPAP\BA1127300.dwg

NOTES:
1. VALVE WILL BE SET **FULLY OPEN** SO AS TO PROVIDE A MINIMUM DRAWDOWN TIME OF 24 HOURS.

2. CONTRACTOR SHALL PROVIDE OWNER WITH VALVE OPERATING KEY/ROD PRIOR TO PROJECT COMPLETION.

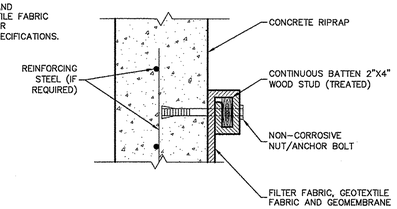


8" GATE VALVE DETAIL

NOT-TO-SCALE

NOTES:
1. CONTRACTOR TO PLACE ANCHOR BOLTS AT 5'-0" O.C.

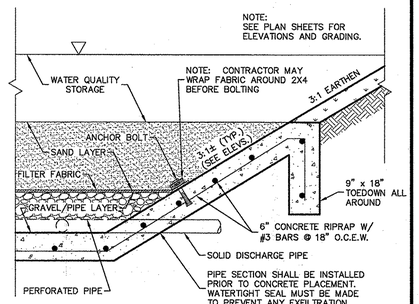
2. GEOMEMBRANE AND PROTECTIVE GEOTEXTILE FABRIC TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.



FILTER FABRIC ANCHORING DETAIL

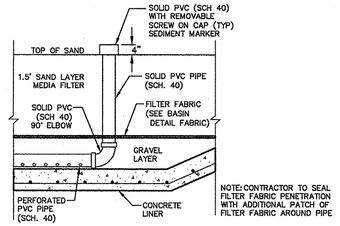
NOT-TO-SCALE

NOTE:
SEE PLAN SHEETS FOR ELEVATIONS AND GRADING.



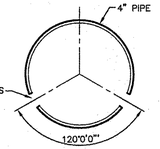
PIPE DISCHARGE AT LINER DETAIL

NOT-TO-SCALE



TYPICAL PVC CLEANOUT DETAIL

NOT-TO-SCALE



NOTES:
1. MINIMUM DIAMETER = 4 INCHES; SCHEDULE 40 PVC. (SEE PLAN VIEW)

2. THE MAXIMUM SPACING BETWEEN ROWS OF PERFORATIONS SHOULD NOT EXCEED 6".

3. SET PERFORATIONS DOWN.

4. PERFORATIONS SHOULD BE LESS THAN A 1/2".

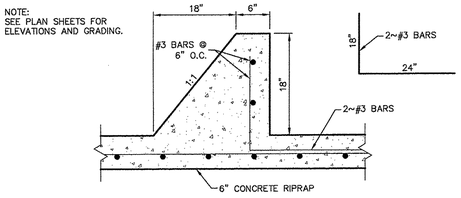
5. PIPES SHOULD LIE FLAT ON CONCRETE BOTTOM WHICH HAS BEEN GRADED TO DRAIN AS SHOWN ON PLAN VIEW.

6. ALL CLEANOUTS SHALL BE SOLID PIPE AND SHALL BE AT THE END OF EACH LINE.

4" PERFORATED PIPE DETAIL

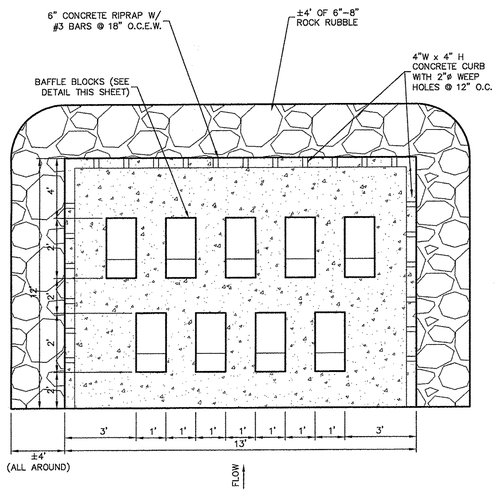
NOT-TO-SCALE

NOTE:
SEE PLAN SHEETS FOR ELEVATIONS AND GRADING.



BAFFLE BLOCK DETAIL

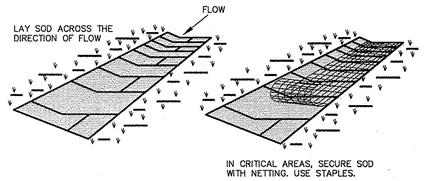
NOT-TO-SCALE



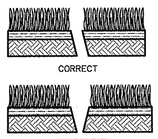
SPLASH PAD DETAIL

LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

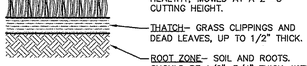
BUTTING – ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.



IN CRITICAL AREAS, SECURE SOD WITH NETTING. USE STAPLES.



SOD INSTALLATION

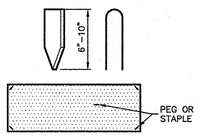


APPEARANCE OF GOOD SOD

NOTES:
1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

3. MOW WHEN THE SOD IS ESTABLISHED – IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").



USE PEGS OR STAPLES TO FASTEN SOD FIRMLY – AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3-4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.

MATERIALS

1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.

2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5% TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.

3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.

4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).

2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

GENERAL INSTALLATION (VA. DEPT. OF CONSERVATION, 1992)

1. SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.

2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.

3. THE FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE).

4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OR OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON CONTOUR).

5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.

6. AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS THOROUGHLY WET.

7. UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.

8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2-3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

INSPECTION AND MAINTENANCE GUIDELINES

1. SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.

2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

SOD INSTALLATION DETAIL

NOTES TO CONTRACTOR
(EACH PHASE OF BASIN CONSTRUCTION)

1. CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR PRIOR APPROVAL.

2. CONTRACTOR SHALL NOTIFY CERTIFYING ENGINEER WHEN BASIN CONSTRUCTION HAS PROGRESSED TO THE FOLLOWING MILESTONES:

a.) REINFORCING STEEL FOR BASIN WALL OR RIPRAP LINER HAS BEEN SET, CONCRETE HAS NOT BEEN PLACED AND DRAIN PIPE IS IN PLACE. WHERE EPDM LINER IS USED, CONTRACTOR SHALL PROVIDE ENGINEER WITH SURVEY DATA WHICH DEMONSTRATES THE LINER HAS BEEN SET AT PROPER ELEVATION AND GRADE.

b.) CONCRETE RIPRAP OR EPDM LINER IS IN PLACE AND UNDER-DRAIN SYSTEM IS IN PLACE WITHOUT GRAVEL.

c.) GRAVEL AROUND UNDER-DRAIN SYSTEM IS IN PLACE AND FILTER FABRIC IS INSTALLED AND ATTACHED TO WALLS OR RIPRAP.

d.) SAND FILTER MEDIA HAS BEEN PLACED & BASIN HAS BEEN COMPLETELY FINISHED INCLUDING SOD OR SEED PLACEMENT ON SIDE SLOPES (WHERE APPLICABLE).

3. WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION AT EACH STAGE. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE.

4. UPON SUBSTANTIAL COMPLETION, OR AS REQUESTED BY ENGINEER, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELD SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:

- TOP OF BANK/WALL AT EACH CORNER OF BASIN
- TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE)
- SPLASH PAD/INLET PIPES
- OVERFLOW WEIRS

5. BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE CONTRACTOR WILL REMOVE ALL TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE BASINS AND REESTABLISH THEM TO THE PROPER OPERATING CONDITION.

6. THE MINIMUM DRAIN TIME FOR A FULL BASIN IS 24 HOURS. THE CONTRACTOR SHALL RESTRICT THE FLOW THROUGH THE BASIN BY ADJUSTING THE GATE VALVE ON THE DISCHARGE PIPE SO AS TO PROVIDE THE MINIMUM 24 HOUR DRAW-DOWN TIME.

FILTER FABRIC SPECIFICATIONS

THE SEPARATION LAYER BETWEEN THE SAND FILTER AND GRAVEL LAYERS SHALL BE A DRAINAGE MATTING CONSISTING OF NON-WOVEN FILTER FABRIC MEETING THE FOLLOWING SPECIFICATIONS:

PROPERTY	TEST METHOD	SPECIFICATION
WEIGHT (OZ/SY)	ASTM D 5261	≥ 4.0
GRAB STRENGTH (LBS.)	ASTM D 4632	≥ 90
ELONGATIONS (%)	ASTM D 4632	≤ 55
TRAPEZOID TEAR (LBS)	ASTM D 4533	≥ 50
CBR PUNCTURE STRENGTH (LBS)	ASTM D 6241	≥ 300
UV RESISTANCE AFTER 500 HRS. (%)	ASTM D 4355	≥ 70
AOS (SIEVE #)	ASTM D 4751	70-80
FLOW RATE (GPM/SF)	ASTM D 4491	≥ 125

FABRIC OVERLAP SHALL BE A MINIMUM OF 24".
ALL OVERLAPS SHALL BE WIRE TIED AT A MAXIMUM OF 36" INTERVALS

SAND & GRAVEL SPECIFICATIONS

SAND FILTER MATERIAL SHALL BE ASTM C33 0.0165 IN (#40 SIEVE) TO 0.0469 IN (#16 SIEVE) SILICA BASED WASHED SAND.

ROCK FOR GRAVEL LAYER SHALL BE 1/2" TO 1" DIAMETER WASHED RIVER GRAVEL.

GEOMEMBRANE POLY LINER

- ULTRAVIOLET RESISTANT
- THICKNESS = 30 MILS MINIMUM, RECOMMENDED 40 MILS.
- JOINTS SHALL BE WATER TIGHT AT SEAMS
- ANCHOR TO WALLS
- WATERTIGHT SEAL BETWEEN POLY LINER AND TRANSITION SURFACES
- BEDDING MATERIAL SHALL BE SUITABLY COMPACTED MATERIAL (NOT SAND) IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
- PROTECTIVE GEOTEXTILE FABRIC TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS

CLAY LINER SPECIFICATIONS

PROPERTY	TEST METHOD	SPECIFICATION
PERMEABILITY (CM/SEC)	ASTM D 2434	1×10^{-6}
PLASTICITY INDEX OF CLAY (%)	ASTM D 423/D 424	NOT LESS THAN 15
LIQUID LIMIT OF CLAY (%)	ASTM D 2216	NOT LESS THAN 30
CLAY PARTICLES PASSING (%)	ASTM D 422	NOT LESS THAN 30
CLAY COMPACTION (%)	ASTM D 2216	95% OF STANDARD PROCTOR DENSITY

NOTES:
1. THE CLAY LINER SHALL HAVE A MINIMUM THICKNESS OF TWELVE (12) INCHES.

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EXHIBIT 6

NO.	REVISION	DATE

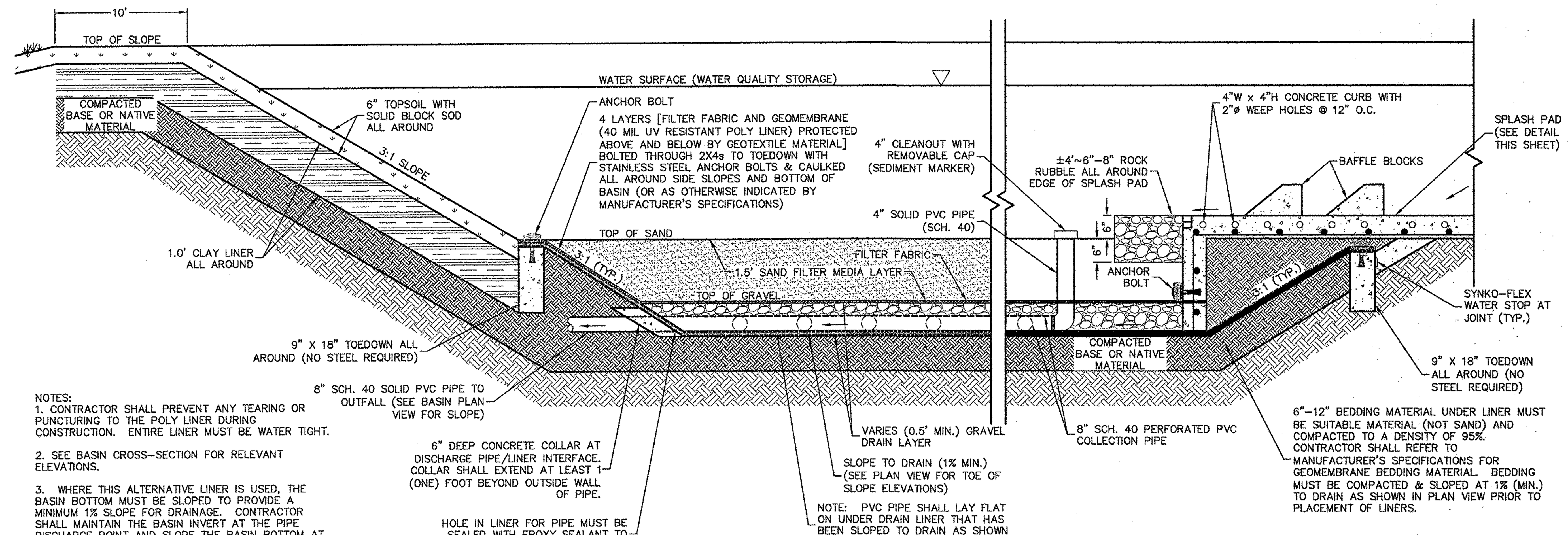
STATE OF TEXAS
MATT JOHNSON
64827
LICENSED
PROFESSIONAL ENGINEER
3-6-17

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #100288-00

HOLT CAT - GEORGETOWN
GEORGETOWN, TEXAS
PERMANENT WATER POLLUTION ABATEMENT DETAILS - SHEET 1

PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ____ DRAWN MK
SHEET 56

Date: Mar 05, 2017, 9:59am User ID: SCreen
File: P:\112\73\00\Design\Environmental\WPAP\PADT1127300.dwg



NOTES:
1. CONTRACTOR SHALL PREVENT ANY TEARING OR PUNCTURING TO THE POLY LINER DURING CONSTRUCTION. ENTIRE LINER MUST BE WATER TIGHT.

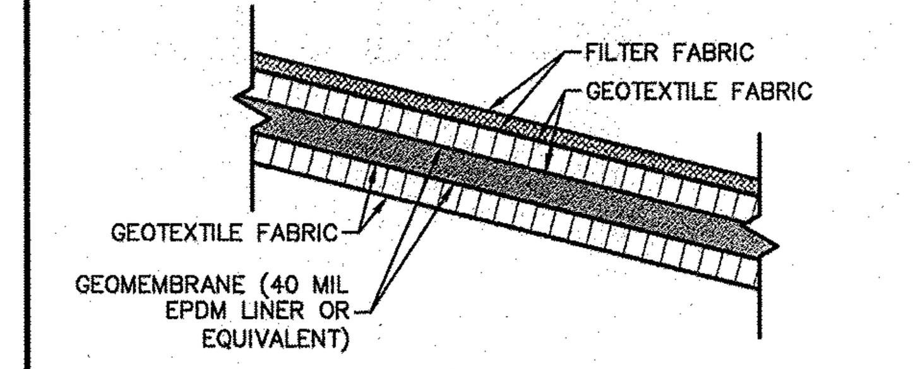
2. SEE BASIN CROSS-SECTION FOR RELEVANT ELEVATIONS.

3. WHERE THIS ALTERNATIVE LINER IS USED, THE BASIN BOTTOM MUST BE SLOPED TO PROVIDE A MINIMUM 1% SLOPE FOR DRAINAGE. CONTRACTOR SHALL MAINTAIN THE BASIN INVERT AT THE PIPE DISCHARGE POINT AND SLOPE THE BASIN BOTTOM AT 1% FROM THAT POINT.

4. SELECTION OF FINAL LINER WILL BE IDENTIFIED IN CERTIFICATION LETTER TO TCEQ AFTER COMPLETION OF BASIN CONSTRUCTION.

ALTERNATIVE LINER CROSS-SECTION DETAIL

NOT-TO-SCALE



NOTES:
1. LINER AND PROTECTIVE GEOTEXTILE FABRIC, IF REQUIRED, ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

2. GEOMEMBRANE LINER SHALL HAVE A MINIMUM THICKNESS OF THIRTY (30) MILS, FORTY (40) MILS RECOMMENDED.

3. SELECTION OF FINAL LINER WILL BE IDENTIFIED IN CERTIFICATION LETTER TO TCEQ AFTER COMPLETION OF BASIN CONSTRUCTION.

ALTERNATIVE LINER DETAIL

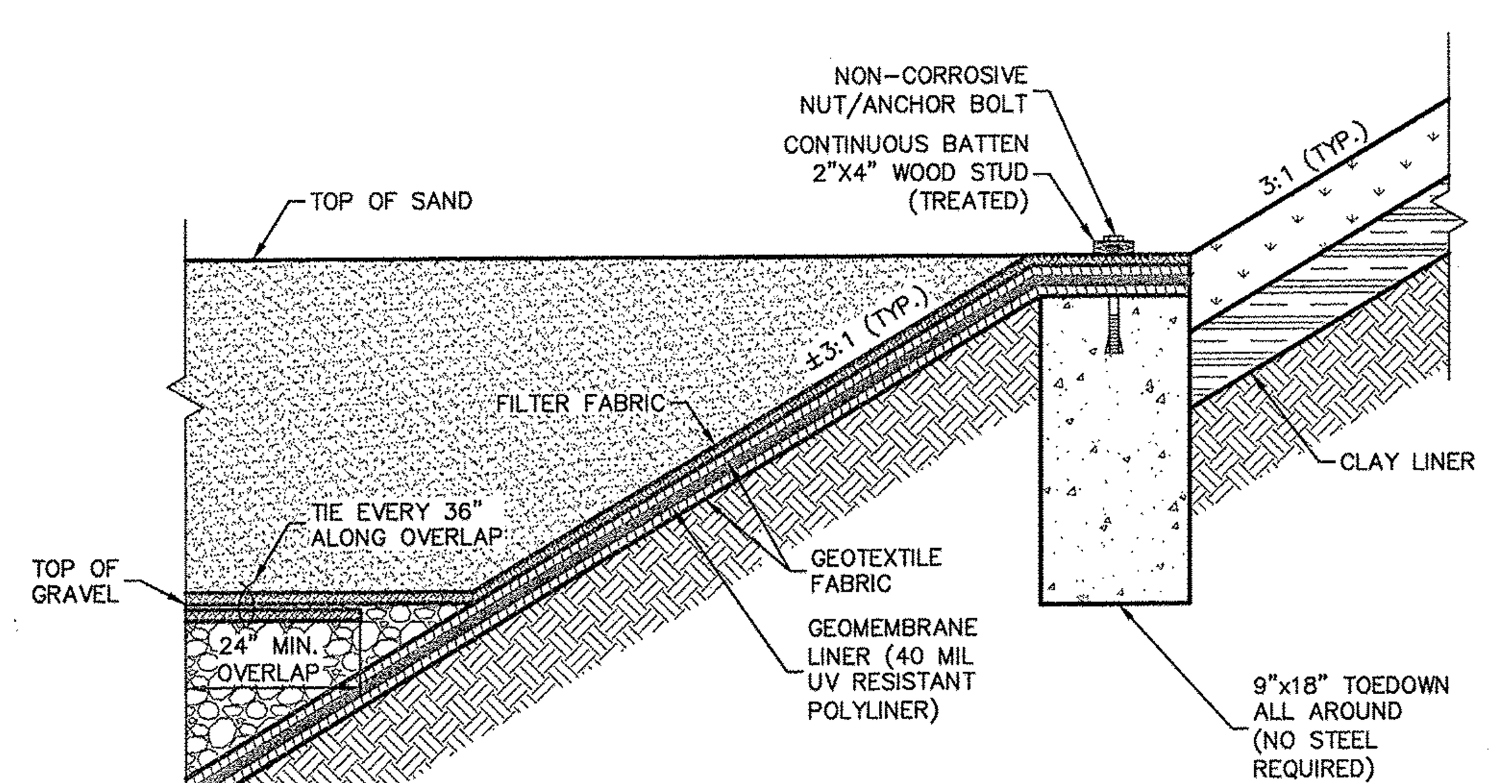
NOT-TO-SCALE

NOTES:
1. CONTRACTOR TO PLACE ANCHOR BOLTS AT 5'-0" O.C.

2. IN ORDER TO SECURE FILTER FABRIC TO SIDEWALLS WITH GEOMEMBRANE/GEOTEXTILE LAYERS, IT IS RECOMMENDED THAT THE CONTRACTOR INSTALL A LENGTH OF FILTER FABRIC WITH THE OTHER LAYERS SUCH THAT SUBSEQUENT LAYERS CAN BE OVERLAPPED AND TIED TO THE EXPOSED FILTER FABRIC. THIS WILL PROVIDE FOR EASIER MAINTENANCE IN THE FUTURE WITHOUT DESTROYING CONCRETE OR WATER TIGHT LINER.

3. IF A GEOMEMBRANE LINER IS USED IT SHOULD HAVE A MINIMUM THICKNESS OF 30 MILS (40 MILS, RECOMMENDED) AND BE ULTRAVIOLET RESISTANT. THE GEOTEXTILE FABRIC (FOR PROTECTION OF GEOMEMBRANE) SHOULD BE NON-WOVEN GEOTEXTILE FABRIC AND MEET THE SPECIFICATIONS BELOW.

4. INSTALLATION METHODS FOR GEOMEMBRANE LINERS VARY ACCORDING TO THE SITE REQUIREMENTS. SEE DETAIL FOR TYPICAL INSTALLATION METHOD.



GEOTEXTILE FABRIC SPECIFICATIONS (COA, 2004)

PROPERTY	TEST METHOD	UNIT	SPECIFICATION (MIN.)
UNIT WEIGHT	ASTM D-5261	oz/yd2	8
FILTRATION RATE	ASTM D-4491	cm/sec	0.20
PUNCTURE STRENGTH	ASTM D-4833	lb.	125
MULLEN BURST STRENGTH	ASTM D-3786	psi	400
TENSILE STRENGTH	ASTM D-4632	lb.	200
EQUIV. OPENING SIZE	US STANDARD SIEVE	No.	80

*MODIFIED

ALTERNATIVE FILTER FABRIC, LINER OVERLAP & ANCHORING DETAIL

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 7

NO.	REVISION	DATE

STATE OF TEXAS — MATT JOHNSON — 64827 — LICENSED PROFESSIONAL ENGINEER
3-6-17

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

HOLT CAT - GEORGETOWN
GEORGETOWN, TEXAS
WATER POLLUTION ASSESSMENT
PERMANENT WATER POLLUTION ABATEMENT DETAILS - SHEET 2

PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ___ DRAWN MK
SHEET 57

Date: Mar 06, 2017, 9:59am User ID: SGreen
File: P:\112\73\00\Design\Environmental\WPAP\PM0T1127300.dwg

ORIGINAL WPAP APPLICATION'S EROSION CONTROL PLAN, DETAILS, TCEQ CONSTRUCTION NOTES, AND PERMANENT PLAN / DETAILS OF THE SAND FILTRATION POND

TEMPORARY BMP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

GENERAL NOTES

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.

2. LOCATIONS OF CONSTRUCTION ENTRANCE/EXITS, CONCRETE WASHOUT PITS, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARDS TO BE DETERMINED IN THE FIELD.

3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.

4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.

5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.

6. CONTRACTOR, TO THE EXTENT PRACTICAL, SHALL MINIMIZE THE AMOUNT OF AREA DISTURBED. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

7. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.

8. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED.

9. ALL TEMPORARY BMPs WILL BE REMOVED ONCE WATERSHED IS STABILIZED.

10. MUD OR DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO EXISTING STREETS SHALL BE REMOVED IMMEDIATELY BY HAND OR MECHANICAL BROOM SWEEPING.

11. PRIOR TO INITIATION OF SUBSEQUENT PHASES OF CONSTRUCTION, TEMPORARY BMPs INCLUDING SILT FENCING, CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND CONSTRUCTION STAGING AREA SHALL BE FIELD LOCATED AS APPROPRIATE FOR THE AREA OF CONSTRUCTION.

12. TEMPORARY POLLUTION ABATEMENT MEASURES SHOWN ON THE PLAN ARE FOR THE OVERALL DEVELOPMENT. TEMPORARY BMPs MAY REQUIRE ADJUSTMENT BASED ON PHASING OF CONSTRUCTION OF THE DEVELOPMENT. RECORDS OF ADJUSTMENTS AND REVISIONS SHALL BE MAINTAINED AS APPROPRIATE.

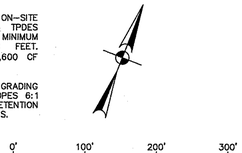
13. TEMPORARY BMPs SHOWN ON THIS SHEET ARE FOR GRAPHICAL PURPOSES AND MAY NOT BE TO SCALE. BMPs SHALL BE LOCATED WITHIN THE PROJECT LIMITS.

14. UPON COMPLETION OF THE PROJECT AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES.

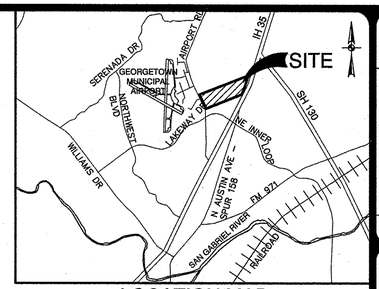
15. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND REMOVAL OF TEMPORARY POLLUTION ABATEMENT MEASURES THAT CONFLICT WITH SITE IMPROVEMENTS SUCH AS LANDSCAPING AND FENCES SO AS TO PREVENT SEDIMENT FROM ESCAPING THE PROJECT SITE.

16. CONTRACTOR TO CONSTRUCT AN ON-SITE TEMPORARY SEDIMENT BASIN PER TPDES REQUIREMENTS. BASIN SHALL HAVE A MINIMUM STORAGE CAPACITY OF 86,000 CUBIC FEET. (WATERSHED AREA OF 23.63 ACRES) X (3,600 CF STORAGE PER ACRE DRAINED) = 86,000 CF.

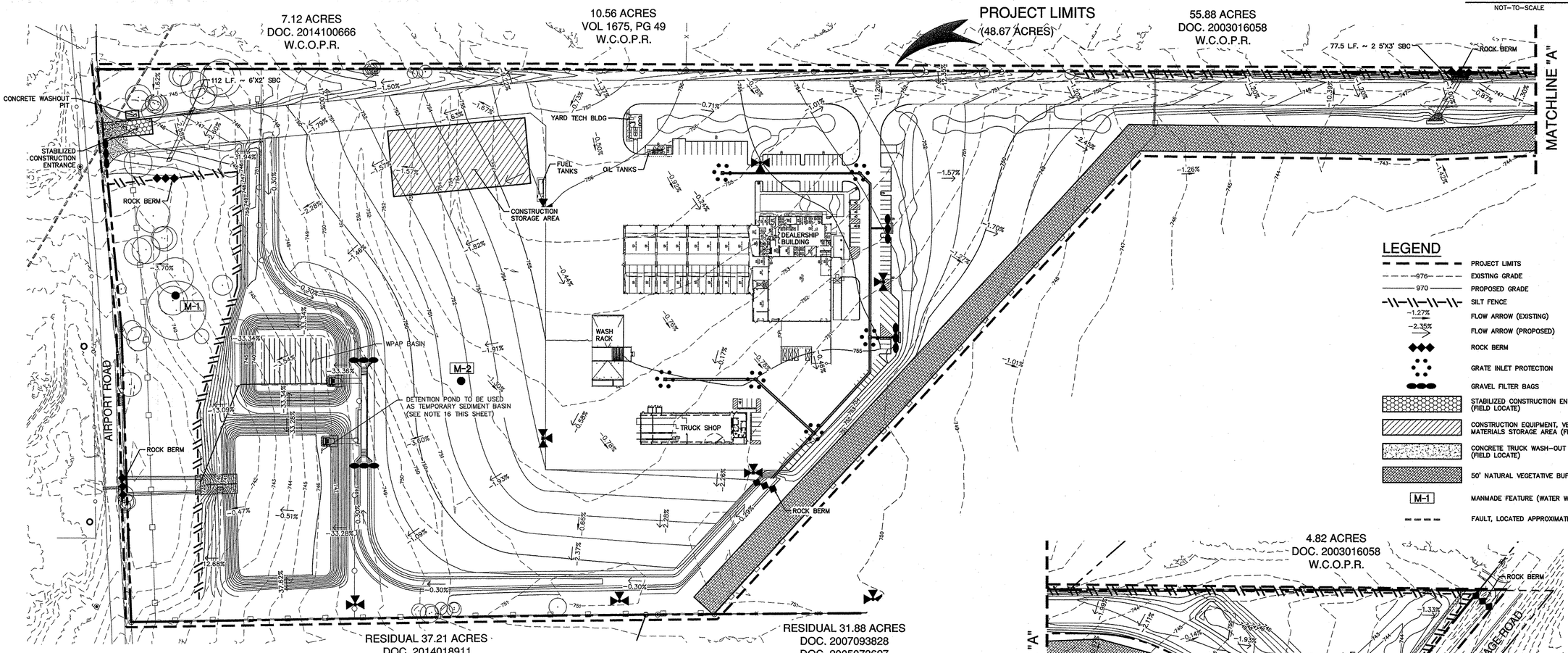
17. AS SOON AS PRACTICAL, FOLLOWING FINE GRADING ACTIVITIES, ALL EARTHEN CHANNELS AND SLOPES 6:1 OR STEEPER SHALL BE LINED WITH SOIL RETENTION BLANKETS PER TXDOT STANDARD SPECIFICATIONS.

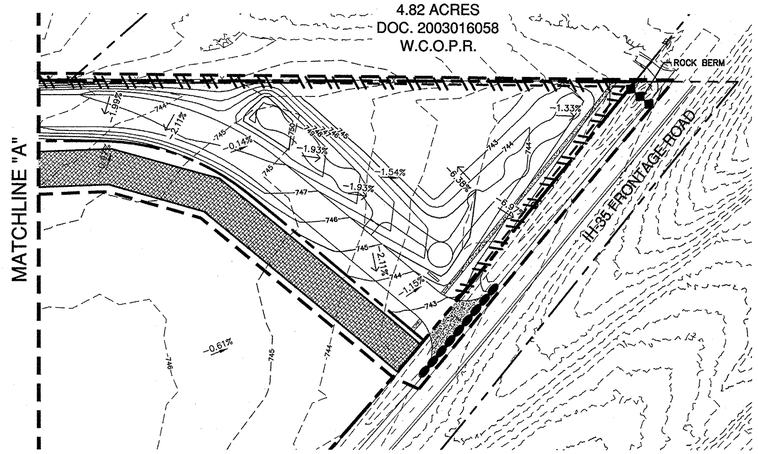


SCALE: 1"= 100'



LOCATION MAP
NOT-TO-SCALE





LEGEND

- PROJECT LIMITS
- 976 EXISTING GRADE
- 970 PROPOSED GRADE
- SILT FENCE
- -1.27% FLOW ARROW (EXISTING)
- -2.35% FLOW ARROW (PROPOSED)
- ROCK BERM
- GRATE INLET PROTECTION
- GRAVEL FILTER BAGS
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)
- CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)
- 50' NATURAL VEGETATIVE BUFFER
- M-1 MANMADE FEATURE (WATER WELL)
- FAULT, LOCATED APPROXIMATELY

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

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
   - THE NAME OF THE APPROVED PROJECT;
   - THE ACTIVITY START DATE; AND
   - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.

7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.

8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.

11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
   - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
   - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
   - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

   A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
   B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
   C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

AUSTIN REGIONAL OFFICE
12100 PARK 35 CIRCLE, BLDG A, RM 179
AUSTIN, TEXAS 78753
PHONE (512) 339-2929
FAX (512) 339-3795

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EXHIBIT 1

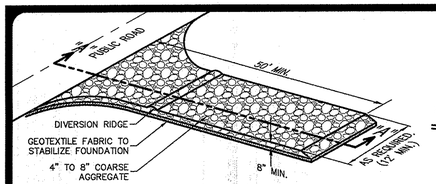
NO.	REVISION	DATE

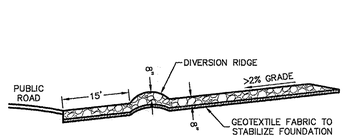
STATE OF TEXAS
MATT JOHNSON
64927
LICENSED
PROFESSIONAL ENGINEER
3-6-17

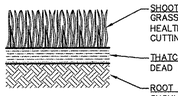
PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

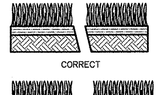
HOLT CAT - GEORGETOWN
GEORGETOWN, TEXAS
TEMPORARY WATER POLLUTION ABATEMENT PLAN

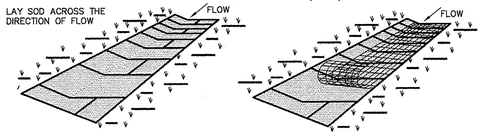
PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED DRAWN MK
SHEET 51

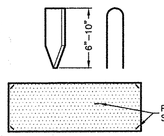


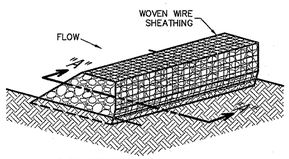


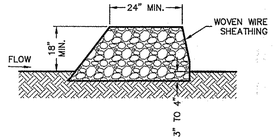


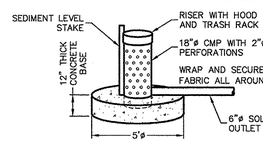


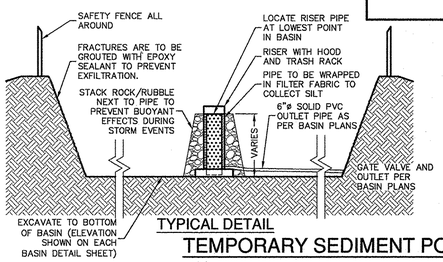


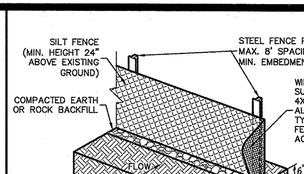


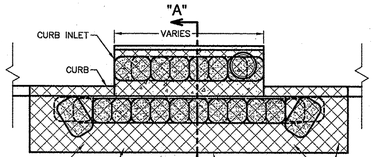


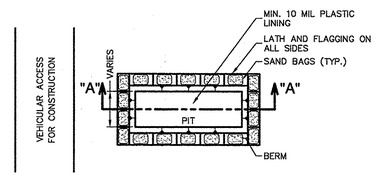


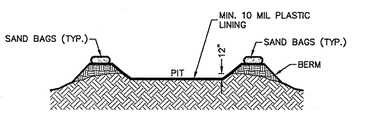


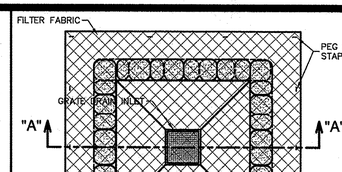


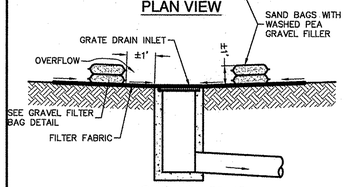


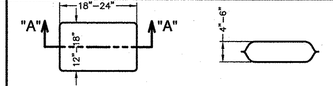












SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT

SECTION "A-A" OF A CONSTRUCTION ENTRANCE/EXIT

MATERIALS

1. THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.

2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8-INCHES.

3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.

4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4-INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION

1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.

2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.

3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.

4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6-INCHES TO 8-INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.

5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.

6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.

7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.

8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

COMMON TROUBLE POINTS

1. INADEQUATE RUNOFF CONTROL–SEDIMENT WASHES ONTO PUBLIC ROAD.

2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.

3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC–EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.

4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD.

5. UNSTABLE FOUNDATION – USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES

1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.

3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT-TO-SCALE

LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

BUTTING – ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

SHOOTS OR GRASS BLADES. GRASS SHOULD BE GREEN AND HEALTHY; MOWED AT A 2"–3" CUTTING HEIGHT.

THATCH– GRASS CLIPPINGS AND DEAD LEAVES, UP TO 1/2" THICK.

ROOT ZONE– SOIL AND ROOTS. SHOULD BE 1/2"–3/4" THICK, WITH DENSE ROOT MAT FOR STRENGTH.

APPEARANCE OF GOOD SOD

NOTES:

1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

3. MOW WHEN THE SOD IS ESTABLISHED – IN 2–3 WEEKS. SET THE MOWER HIGH (2"–3").

SOD INSTALLATION

IN CRITICAL AREAS, SECURE SOD WITH NETTING. USE STAPLES.

USE PEGS OR STAPLES TO FASTEN SOD FIRMLY – AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3–4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.

MATERIALS

1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.

2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5%. TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.

3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.

4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).

2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

GENERAL INSTALLATION (VA. DEPT. OF CONSERVATION, 1992)

1. SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.

2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.

3. THE FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE).

4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OR OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON CONTOUR).

5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.

6. AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS THOROUGHLY WET.

7. UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.

8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2–3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

INSPECTION AND MAINTENANCE GUIDELINES

1. SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.

2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

SOD INSTALLATION DETAIL

NOT-TO-SCALE

ISOMETRIC PLAN VIEW

SECTION "A-A"

ROCK BERMS

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT-LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE. AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.

2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.

3. REPAIR ANY LOOSE WIRE SHEATHING.

4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.

5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

MATERIALS

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.

2. CLEAN, OPEN GRADED 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-INCH TO 8-INCH DIAMETER ROCKS MAY BE USED.

INSTALLATION

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.

2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.

3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18".

4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.

5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.

6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

COMMON TROUBLE POINTS

1. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).

2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

ROCK BERM DETAIL

NOT-TO-SCALE

OUTLET STRUCTURE DETAIL

TYPICAL DETAIL

ISOMETRIC PLAN VIEW

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. WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER-BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED AT ANY TIME.

MATERIALS

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.

2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINDELL HARDNESS EXCEEDING 140.

3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.

2. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.

3. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

6. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

COMMON TROUBLE POINTS

1. FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO CONCENTRATE AND FLOW OVER THE FENCE.

2. FABRIC NOT SEATED SECURELY TO GROUND (RUNOFF PASSING UNDER FENCE).

3. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND SIDES).

4. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE).

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

4. REPLACE OR REPAIR 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.

SILT FENCE DETAIL

NOT-TO-SCALE

TEMPORARY SEDIMENTATION BASIN NOTES

1. CONTRACTOR TO CONSTRUCT BASINS IN ACCORDANCE WITH CONSTRUCTION PLANS FOR PERMANENT SEDIMENTATION/ FILTRATION WITH THE EXCEPTION OF THE GRAVEL DRAIN LAYER AND SAND FILTER LAYERS.

2. INSTALL PERMANENT STAKE TO INDICATE SEDIMENT LEVEL IN THE BASIN. STAKE SHOULD BE MARKED TO INDICATE WHEN SEDIMENT OCCUPIES 50% OF THE VOLUME OF THE BASIN.

3. SEDIMENT WILL BE REMOVED WHEN MORE THAN 50% OF THE BASIN CAPACITY IS EXCEEDED.

4. CONTRACTOR TO SECURE PIPE TO BOTTOM OF BASIN TO PREVENT BUOYANCY DURING A RAIN EVENT. A CONCRETE ANCHOR MAY BE USED.

5. DISCHARGE PIPE TO BE INSTALLED SO AS TO BE IN PLACE FOR PERMANENT STRUCTURE.

TEMPORARY SEDIMENT POND DETAIL

NOT-TO-SCALE

PLAN VIEW

SECTION "A-A"

GENERAL NOTES

1. CONTRACTOR TO INSTALL 2"x4"–W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SANDBAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE GUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.

2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES

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.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT-TO-SCALE

PLAN VIEW

SECTION "A-A"

GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.

2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.

3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.

5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

MAINTENANCE

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.

2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.

3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT DETAIL

NOT-TO-SCALE

PLAN VIEW

SECTION "A-A"

GENERAL NOTES

1. THE SANDBAGS SHOULD BE FILLED WITH WASHED PEA GRAVEL AND STACKED TO FORM A CONTINUOUS BARRIER ABOUT 1 FOOT HIGH AROUND INLETS.

2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES

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 MATTER 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.

BAGGED GRAVEL GRATE INLET PROTECTION DETAIL

NOT-TO-SCALE

PLAN VIEW

SECTION "A-A"

NOTES:

1. THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WEIGHT OF 4 OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.

2. THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).

3. SAND SHALL NOT BE USED TO FILL THE FILTER BAGS.

GRAVEL FILTER BAG DETAIL

NOT-TO-SCALE

CONSTRUCTION STAGING AREA

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET FOR THE CONSTRUCTION STAGING AREA ONLY. ALL OTHER INFORMATION IS FROM TCEQ'S TECHNICAL GUIDANCE MANUAL.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 2

NO.	REVISION	DATE

MATT JOHNSON
64827

Matt Johnson 3-6-17

PAPE-DAWSON ENGINEERS

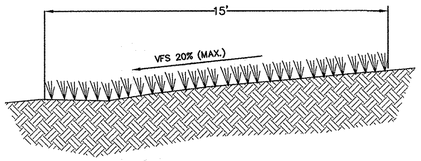
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

HOLT CAT - GEORGETOWN
GEORGETOWN, TEXAS

TEMPORARY WATER POLLUTION ABATEMENT PLAN DETAILS

PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ____ DRAWN MK
SHEET 52

Date: Mar 06, 2017, 10:00am User ID: SGreen
File: P:\112\73\00\Design\Environmental\WPAP\TMDT1127300.dwg

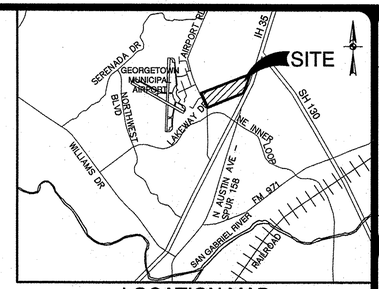


ENGINEERED VEGETATIVE FILTER STRIP DETAIL

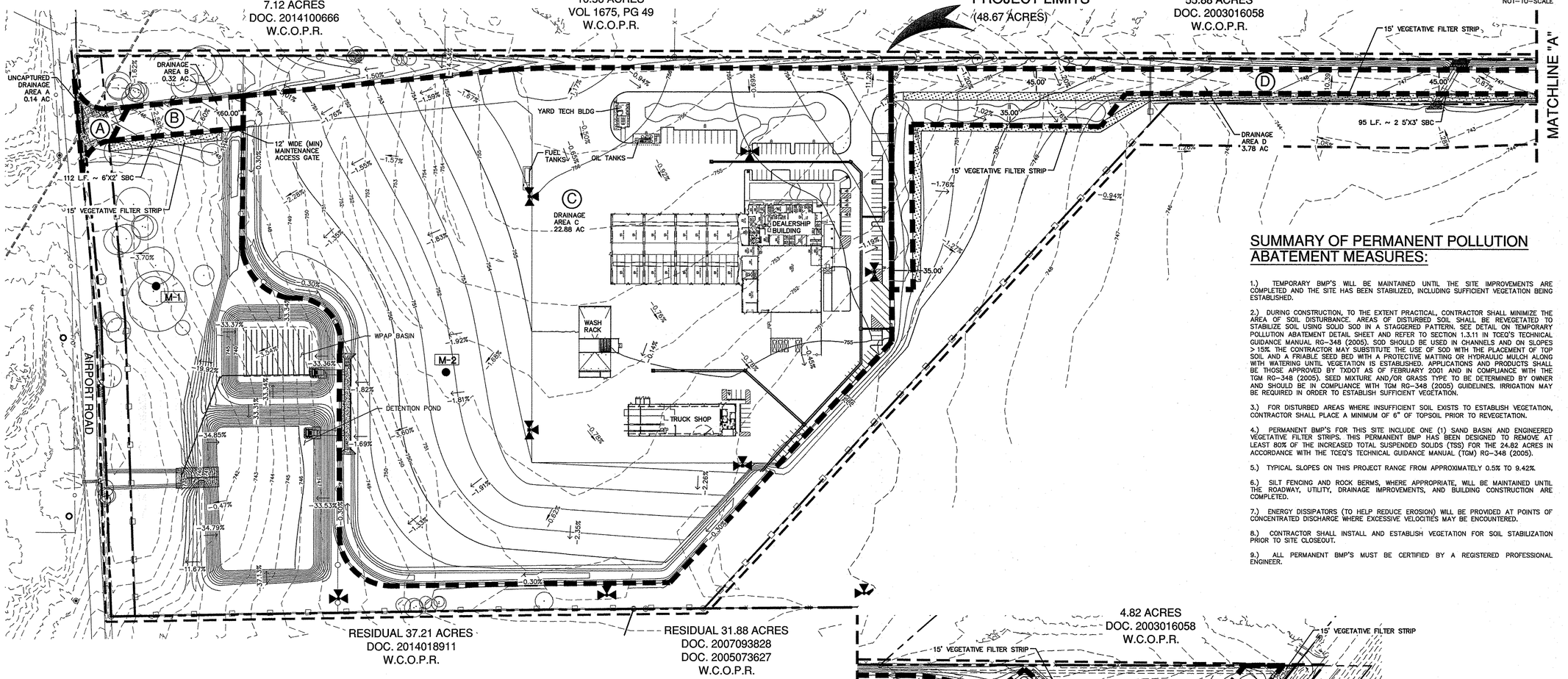
LEGEND

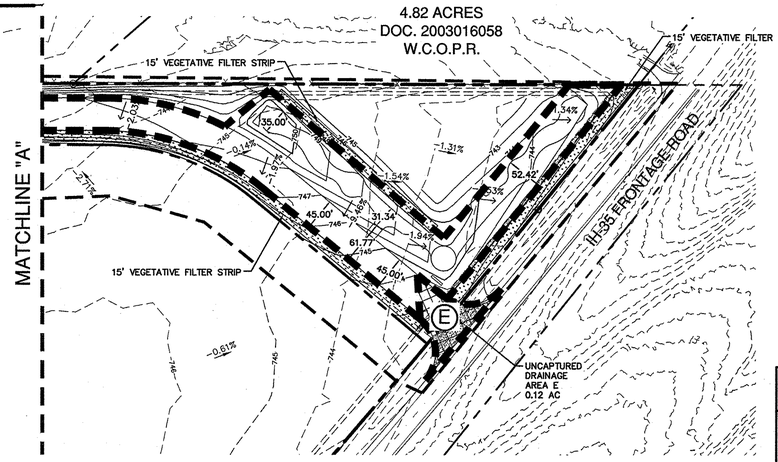
- PROJECT LIMITS
- 1250 EXISTING CONTOUR
- 1250 PROPOSED CONTOUR
- 2.00 SLOPE ARROW (PROPOSED)
- 1.26 SLOPE ARROW (EXISTING)
- UNCAPTURED AREA
- 15' ENGINEERED VEGETATIVE FILTER STRIP
- (A) WATERSHED DESIGNATION
- DRAINAGE AREA
- M-1 POTENTIAL MANMADE FEATURE (WATER WELL)
- FAULT, LOCATED APPROXIMATELY

0' 100' 200' 300'
SCALE: 1"= 100'



LOCATION MAP
NOT-TO-SCALE





SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

1.) TEMPORARY BMP'S WILL BE MAINTAINED UNTIL THE SITE IMPROVEMENTS ARE COMPLETED AND THE SITE HAS BEEN STABILIZED, INCLUDING SUFFICIENT VEGETATION BEING ESTABLISHED.

2.) DURING CONSTRUCTION, TO THE EXTENT PRACTICAL, CONTRACTOR SHALL MINIMIZE THE AREA OF SOIL DISTURBANCE. AREAS OF DISTURBED SOIL SHALL BE REVEGETATED TO STABILIZE SOIL USING SOLID SOD IN A STAGGERED PATTERN. SEE DETAIL ON TEMPORARY POLLUTION ABATEMENT DETAIL SHEET AND REFER TO SECTION 1.3.11 IN TCEQ'S TECHNICAL GUIDANCE MANUAL RG-348 (2005). SOD SHOULD BE USED IN CHANNELS AND ON SLOPES > 15%. THE CONTRACTOR MAY SUBSTITUTE THE USE OF SOD WITH THE PLACEMENT OF TOP SOIL AND A FRIABLE SEED BED WITH A PROTECTIVE MATTING OR HYDRAULIC MULCH ALONG WITH WATERING UNTIL VEGETATION IS ESTABLISHED. APPLICATIONS AND PRODUCTS SHALL BE THOSE APPROVED BY TXDOT AS OF FEBRUARY 2001 AND IN COMPLIANCE WITH THE TGM RG-348 (2005). SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER AND SHOULD BE IN COMPLIANCE WITH TGM RG-348 (2005) GUIDELINES. IRRIGATION MAY BE REQUIRED IN ORDER TO ESTABLISH SUFFICIENT VEGETATION.

3.) FOR DISTURBED AREAS WHERE INSUFFICIENT SOIL EXISTS TO ESTABLISH VEGETATION, CONTRACTOR SHALL PLACE A MINIMUM OF 6" OF TOPSOIL PRIOR TO REVEGETATION.

4.) PERMANENT BMP'S FOR THIS SITE INCLUDE ONE (1) SAND BASIN AND ENGINEERED VEGETATIVE FILTER STRIPS. THIS PERMANENT BMP HAS BEEN DESIGNED TO REMOVE AT LEAST 80% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) FOR THE 24.82 ACRES IN ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL (TGM) RG-348 (2005).

5.) TYPICAL SLOPES ON THIS PROJECT RANGE FROM APPROXIMATELY 0.5% TO 9.42%.

6.) SILT FENCING AND ROCK BERMS, WHERE APPROPRIATE, WILL BE MAINTAINED UNTIL THE ROADWAY, UTILITY, DRAINAGE IMPROVEMENTS, AND BUILDING CONSTRUCTION ARE COMPLETED.

7.) ENERGY DISSIPATORS (TO HELP REDUCE EROSION) WILL BE PROVIDED AT POINTS OF CONCENTRATED DISCHARGE WHERE EXCESSIVE VELOCITIES MAY BE ENCOUNTERED.

8.) CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION FOR SOIL STABILIZATION PRIOR TO SITE CLOSEOUT.

9.) ALL PERMANENT BMP'S MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.

Treatment Summary by Watershed

Watershed	Total Watershed Area (ac.)	Existing Impervious Cover (ac.)	Proposed Impervious Cover (ac.)	PBMP	Required TSS Removal Annually (lbs)	TSS Removed Annually (lbs) TCEQ	*TSS Removed Annually (lbs) Georgetown
Uncaptured A	0.14		0.14	Overtreatment Water Quality Basin "A"	122		
B	0.32		0.32	15' Engineered VFS	279	279	279
C	22.88	0.21	21.65	Water Quality Basin "A"	18,661	18,888	20,068
D	3.78		2.63	15' Engineered VFS	2,289	2,289	2,289
Uncaptured E	0.12		0.12	Overtreatment Water Quality Basin "A"	104		
TOTAL	**27.24**	**0.21**	**24.86**	**---**	**21,455**	**21,455**	**22,636**

* Basin has been designed to treat 85% of TSS generated per City of Georgetown guidelines [(85%/80%) * TCEQ TSS Removed Annually]

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EXHIBIT 3

NO.	REVISION	DATE

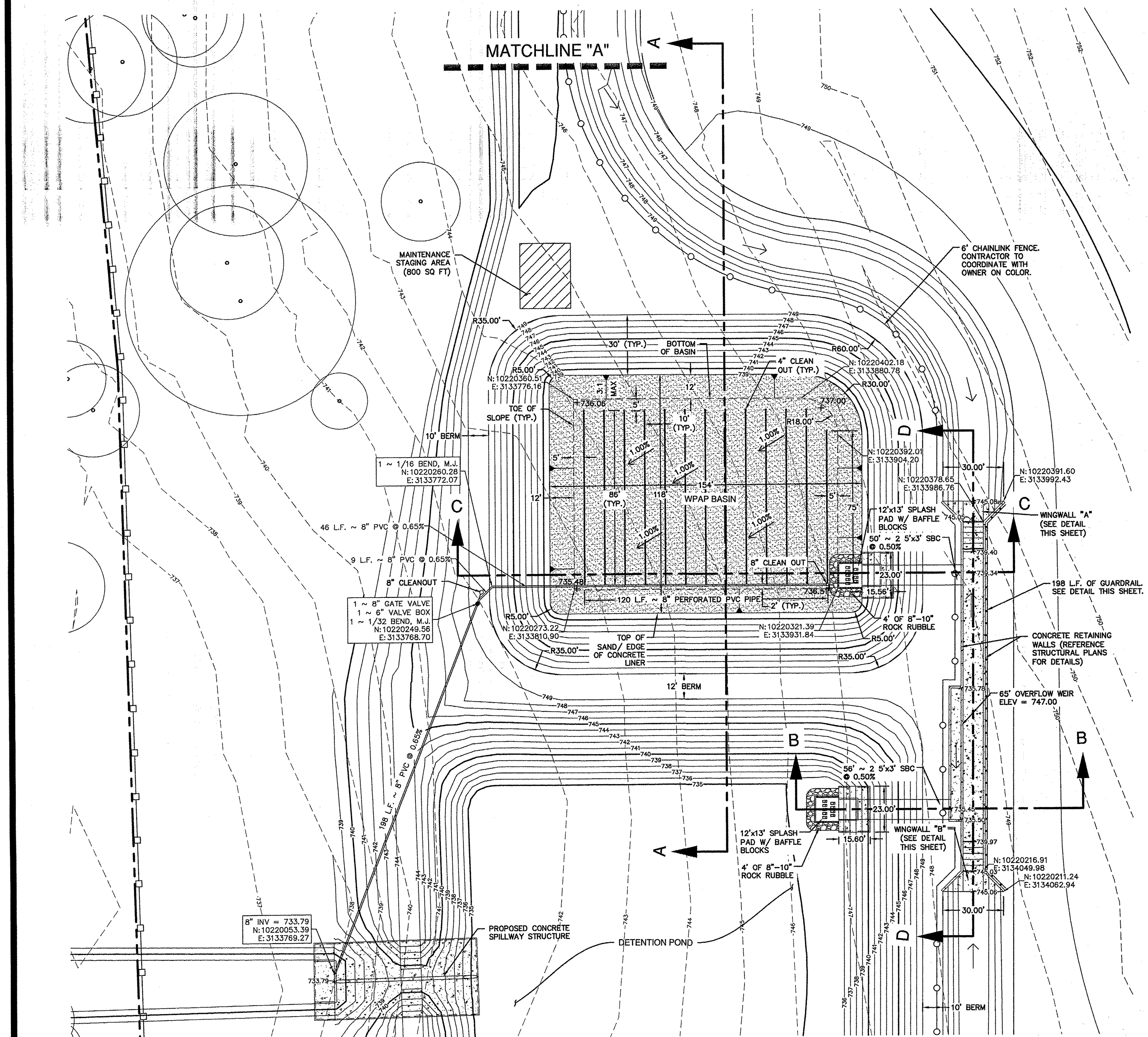
STATE OF TEXAS
MATT JOHNSON
64827
LICENSED
PROFESSIONAL ENGINEER
3-6-17

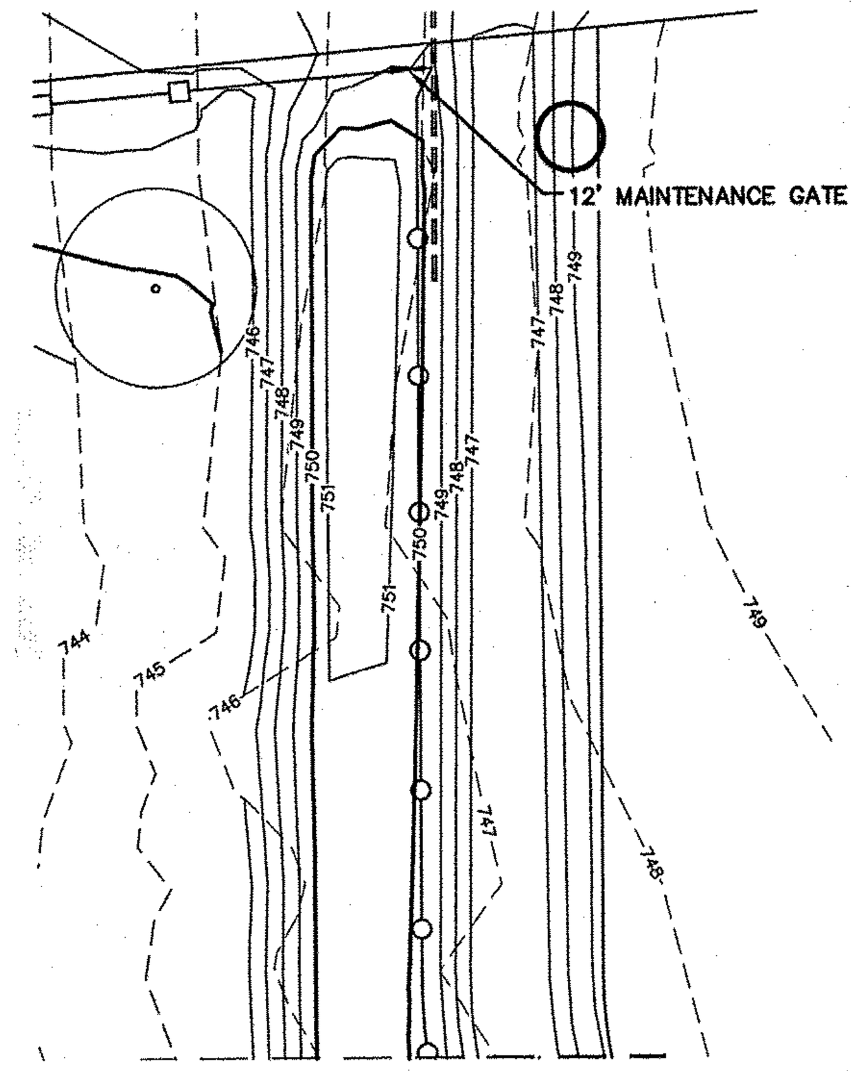
PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

HOLT CAT - GEORGETOWN
GEORGETOWN, TEXAS

PERMANENT WATER POLLUTION ABATEMENT PLAN

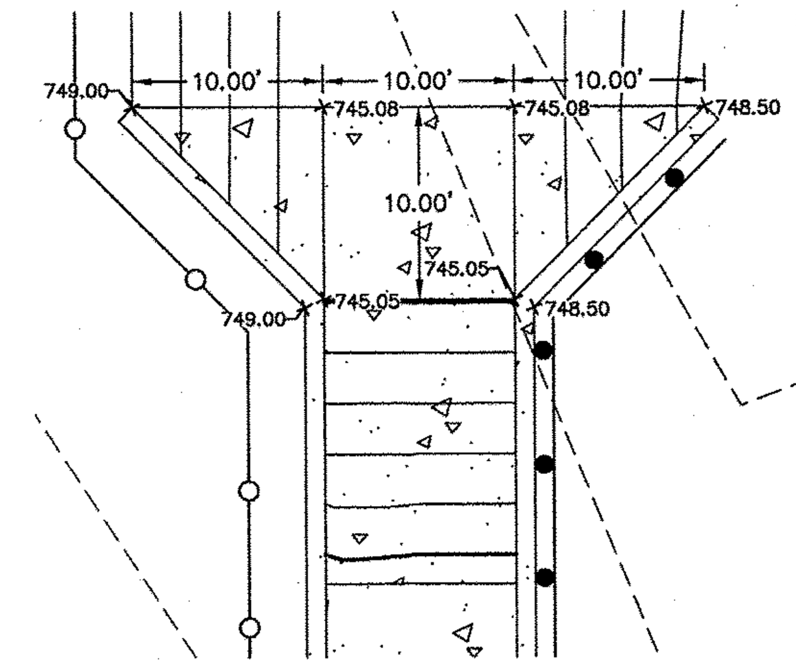
PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ____ DRAWN MK
SHEET 53





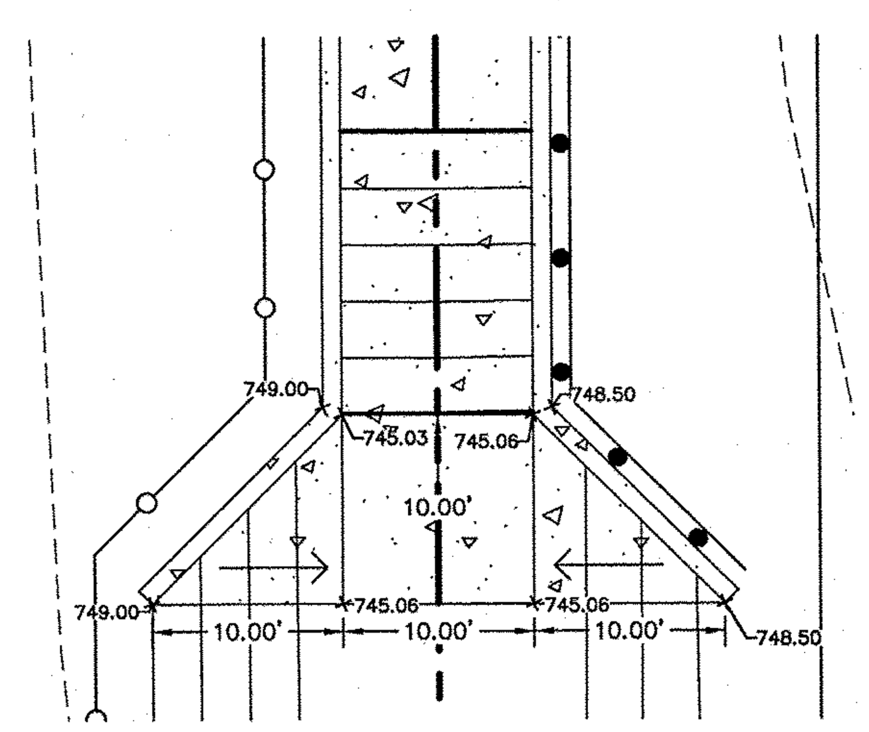
MATCHLINE "A"

1" = 40'



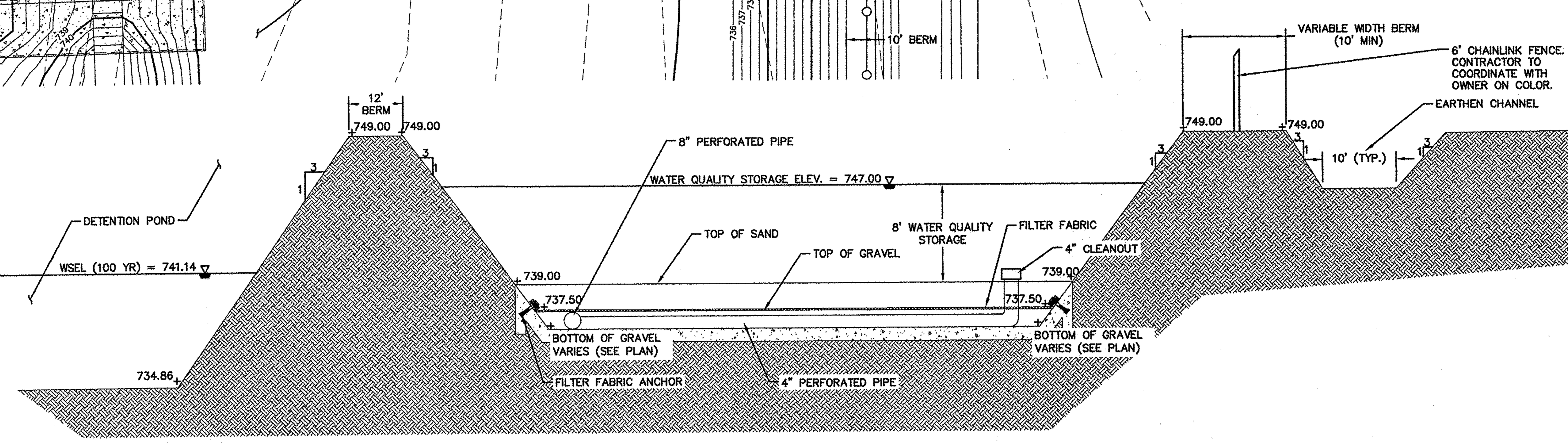
WINGWALL "A" DETAIL

1" = 10'



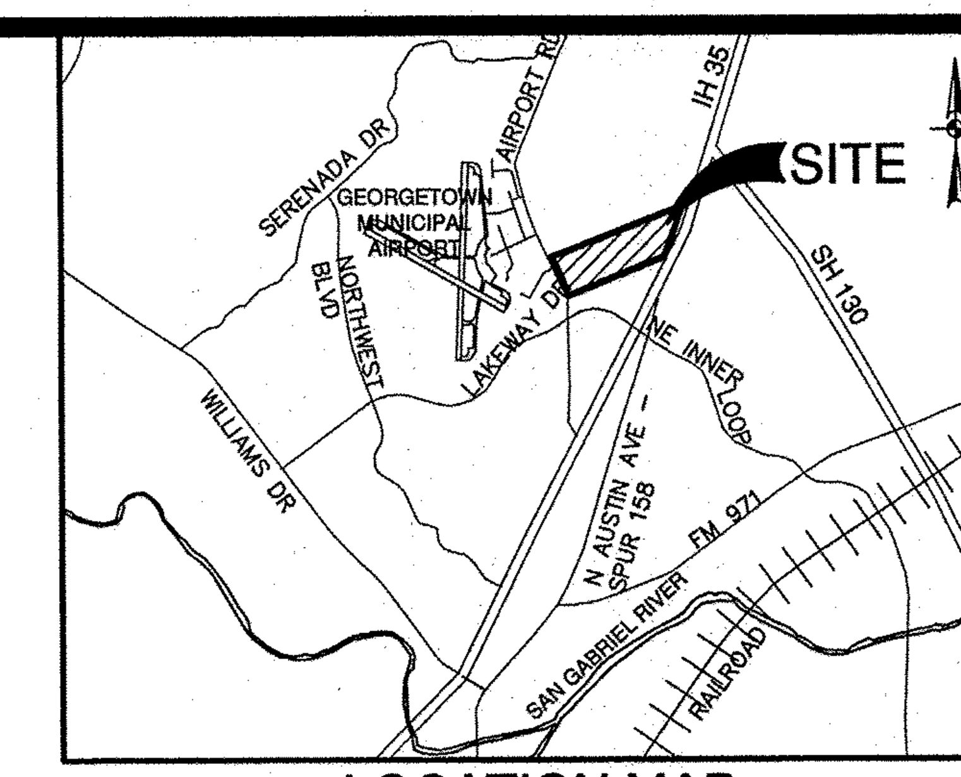
WINGWALL "B" DETAIL

1" = 10'



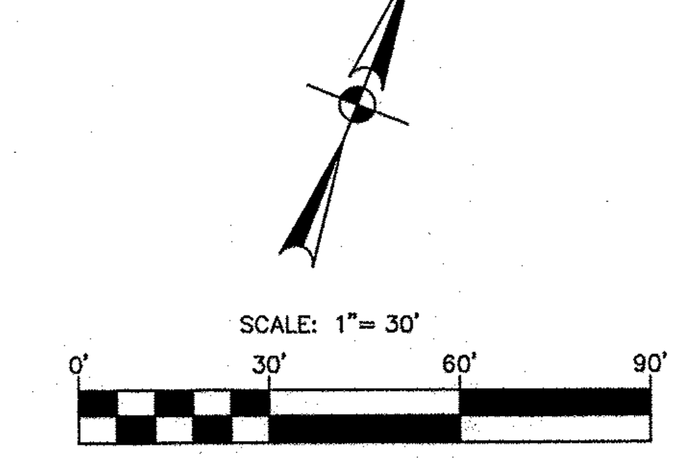
SECTION A-A

N.T.S.



LOCATION MAP

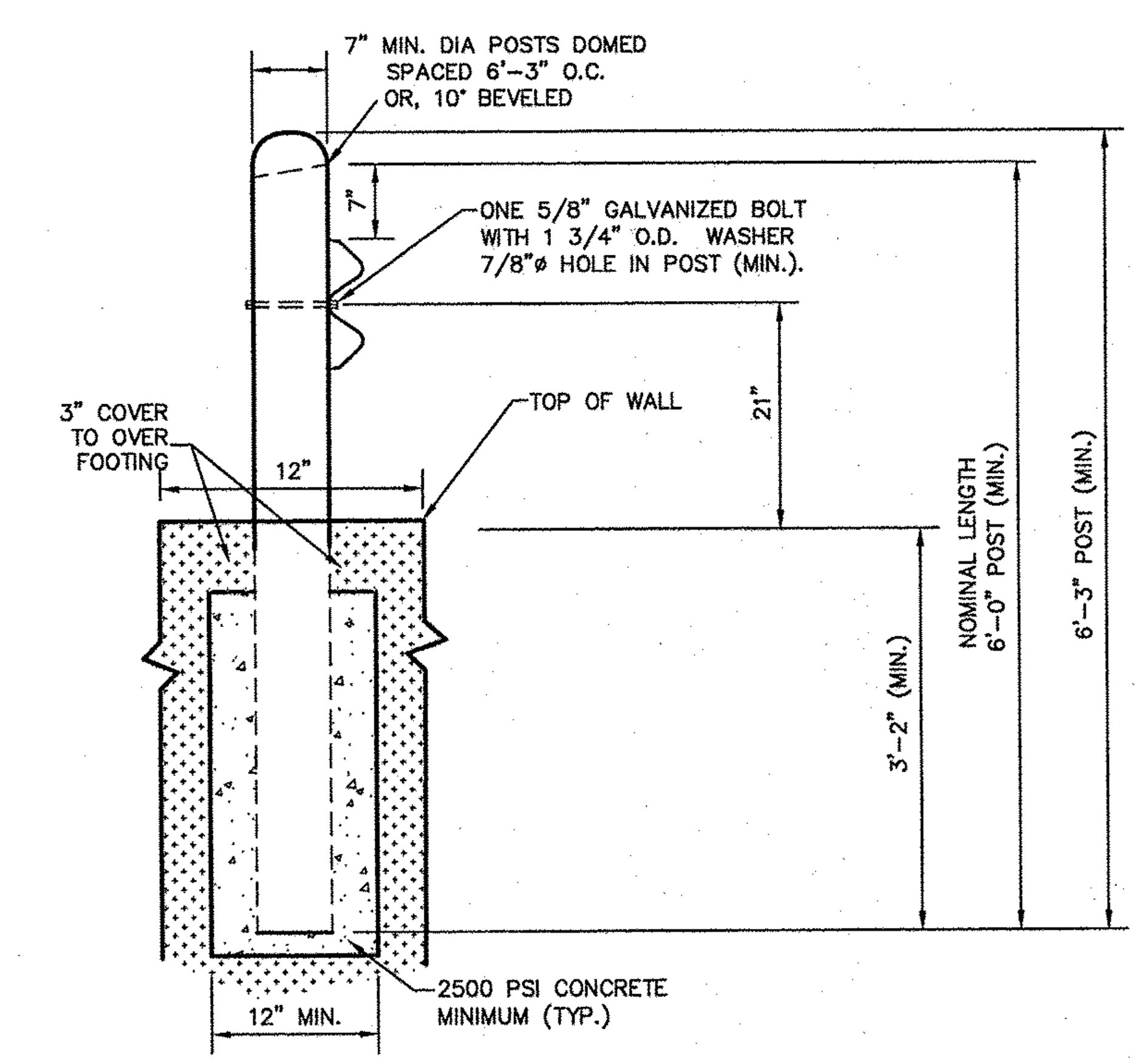
NOT-TO-SCALE



SCALE: 1"= 30'

LEGEND

790 / 788 (solid)	PROPOSED CONTOURS
790 / 788 (dashed)	EXISTING CONTOURS



GUARDRAIL DETAIL

NOT-TO-SCALE

BASIN DESIGN DATA

BASIN WATERSHED	= 996,888 SF (22.88 AC.)
RUN OFF DEPTH	= 1.5 INCHES
REQUIRED CAPTURE VOLUME	= 115,490 CF
REQUIRED SAND AREA	= 9,624 SF
BASIN WATER STORAGE DEPTH	= 8.0 FT
BASIN CAPTURE VOLUME	= 199274 CF
BASIN SAND AREA	= 18,005 SF
OVERFLOW WEIR	= 65 FT. X 1.00 FT
Q25	= 162.77 CFS

BASIN DRAWDOWN IS CONTROLLED BY THE 8" PIPE SLOPED AT 0.65%.
BASIN DRAWDOWN WILL OCCUR IN APPROX. 41 HOURS.

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EXHIBIT 4

NO.	REVISION	DATE

STATE OF TEXAS — MATT JOHNSON — 64827 — LICENSED PROFESSIONAL ENGINEER — 3-6-17

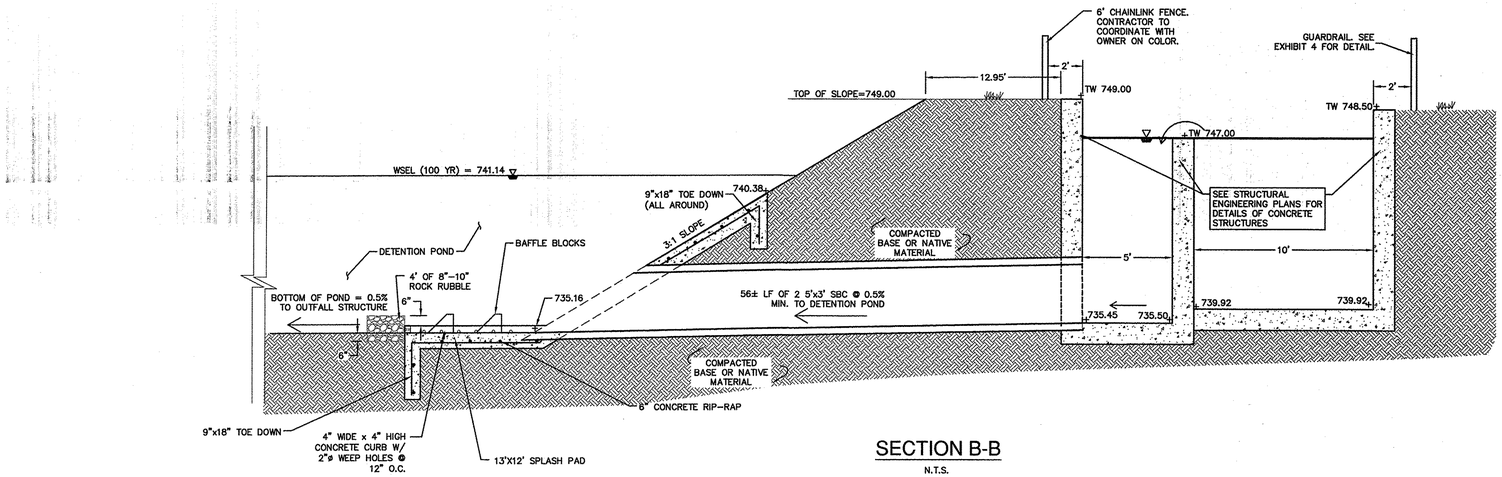
PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

HOLT CAT - GEORGETOWN

GEORGETOWN, TEXAS

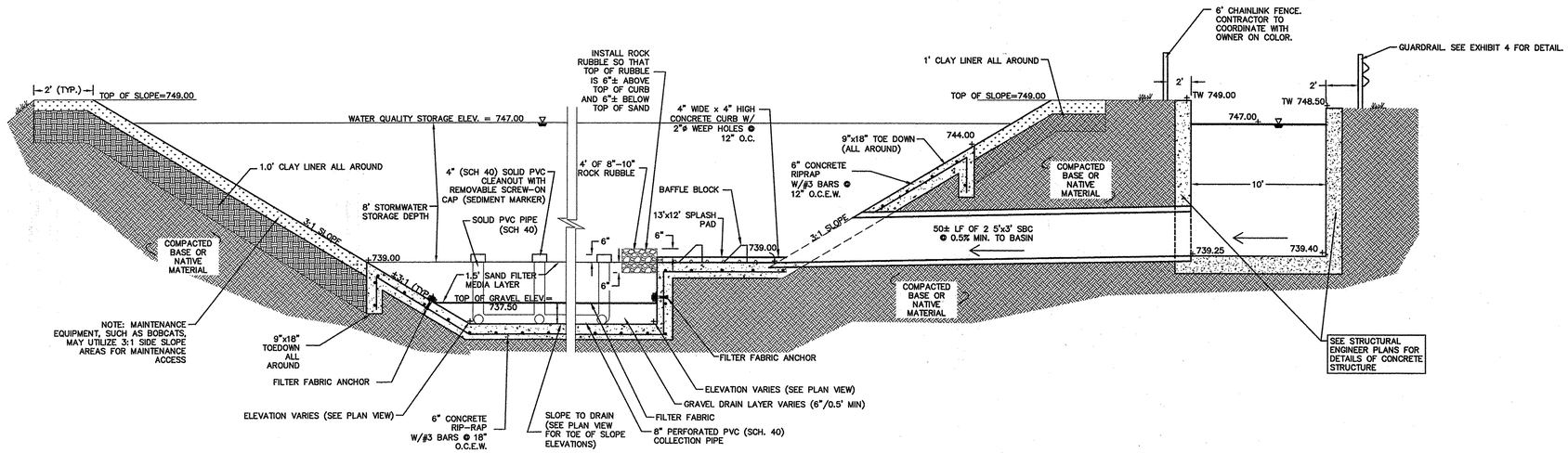
WATER POLLUTION ABATEMENT PLAN
BASIN PLAN - SHEET 1

PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ____ DRAWN MK
SHEET 54



SECTION B-B

N.T.S.



SECTION C-C

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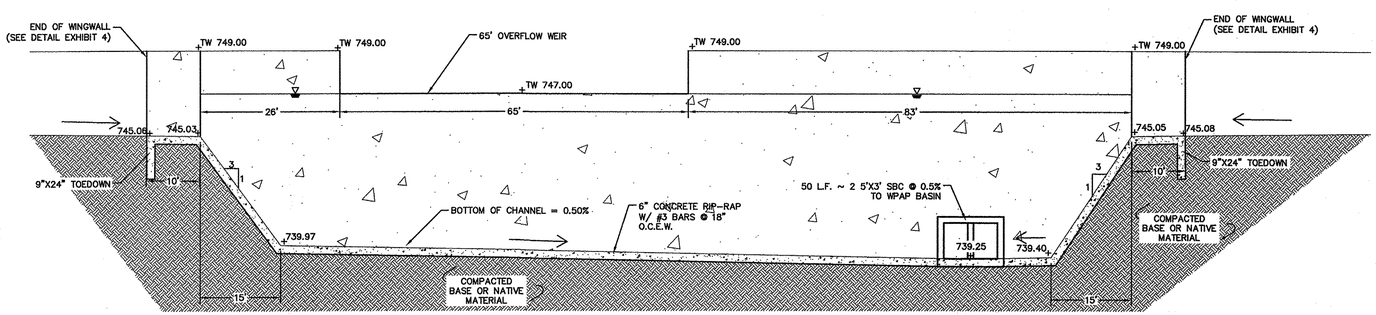

SECTION D-D

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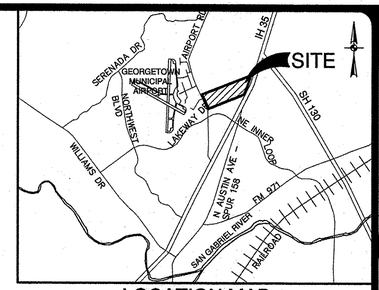

LOCATION MAP

NOT-TO-SCALE

NO.	REVISION	DATE

STATE OF TEXAS
MATT JOHNSON
64827
LICENSED
PROFESSIONAL ENGINEER
3-6-17

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800

HOLT CAT - GEORGETOWN

GEORGETOWN, TEXAS

WATER POLLUTION ABATEMENT PLAN
BASIN PLAN - SHEET 2

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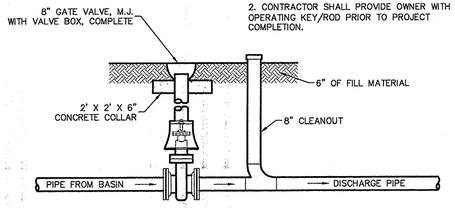
EXHIBIT 5

PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ____ DRAWN MK
SHEET 55

Date: Mar 06, 2017, 8:59am User ID: Steven
File: P:\11273.00\Design\Environmental\WPAP\BA1127300.dwg

NOTES:
1. VALVE WILL BE SET **FULLY OPEN** SO AS TO PROVIDE A MINIMUM DRAWDOWN TIME OF 24 HOURS.

2. CONTRACTOR SHALL PROVIDE OWNER WITH VALVE OPERATING KEY/ROD PRIOR TO PROJECT COMPLETION.

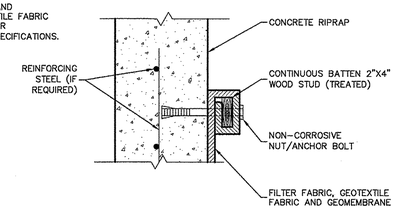


8" GATE VALVE DETAIL

NOT-TO-SCALE

NOTES:
1. CONTRACTOR TO PLACE ANCHOR BOLTS AT 5'-0" O.C.

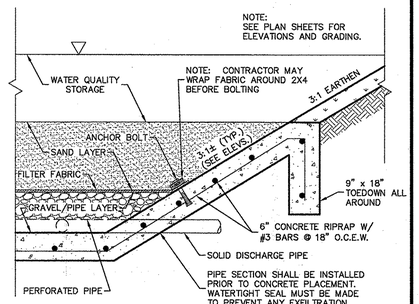
2. GEOMEMBRANE AND PROTECTIVE GEOTEXTILE FABRIC TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.



FILTER FABRIC ANCHORING DETAIL

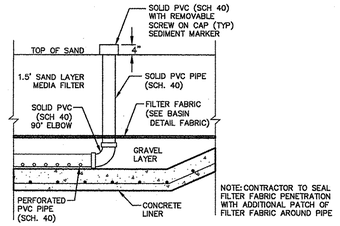
NOT-TO-SCALE

NOTE:
SEE PLAN SHEETS FOR ELEVATIONS AND GRADING.



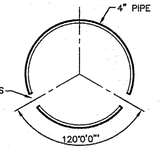
PIPE DISCHARGE AT LINER DETAIL

NOT-TO-SCALE



TYPICAL PVC CLEANOUT DETAIL

NOT-TO-SCALE



NOTES:
1. MINIMUM DIAMETER = 4 INCHES; SCHEDULE 40 PVC. (SEE PLAN VIEW)

2. THE MAXIMUM SPACING BETWEEN ROWS OF PERFORATIONS SHOULD NOT EXCEED 6".

3. SET PERFORATIONS DOWN.

4. PERFORATIONS SHOULD BE LESS THAN A 1/2".

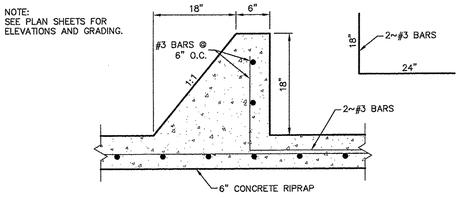
5. PIPES SHOULD LIE FLAT ON CONCRETE BOTTOM WHICH HAS BEEN GRADED TO DRAIN AS SHOWN ON PLAN VIEW.

6. ALL CLEANOUTS SHALL BE SOLID PIPE AND SHALL BE AT THE END OF EACH LINE.

4" PERFORATED PIPE DETAIL

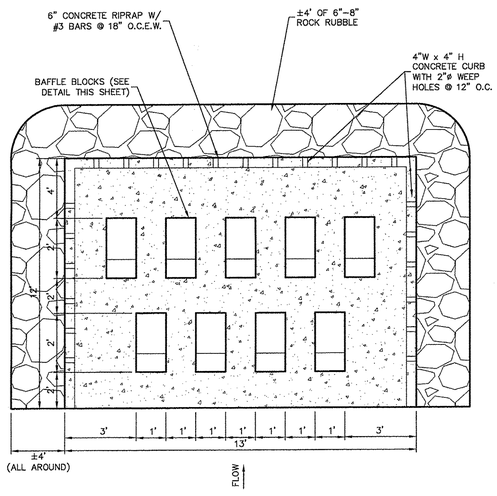
NOT-TO-SCALE

NOTE:
SEE PLAN SHEETS FOR ELEVATIONS AND GRADING.



BAFFLE BLOCK DETAIL

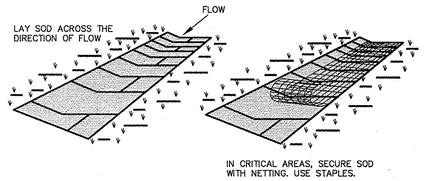
NOT-TO-SCALE



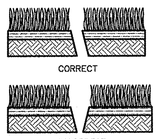
SPLASH PAD DETAIL

LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

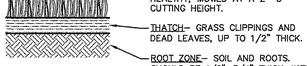
BUTTING – ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.



IN CRITICAL AREAS, SECURE SOD WITH NETTING. USE STAPLES.



SOD INSTALLATION

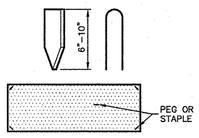


APPEARANCE OF GOOD SOD

NOTES:
1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

3. MOW WHEN THE SOD IS ESTABLISHED – IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").



USE PEGS OR STAPLES TO FASTEN SOD FIRMLY – AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3-4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.

MATERIALS

1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.

2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5% TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.

3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.

4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).

2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

GENERAL INSTALLATION (VA. DEPT. OF CONSERVATION, 1992)

1. SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.

2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.

3. THE FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE).

4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OR OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON CONTOUR).

5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.

6. AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS THOROUGHLY WET.

7. UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.

8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2-3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

INSPECTION AND MAINTENANCE GUIDELINES

1. SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.

2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

SOD INSTALLATION DETAIL

NOTES TO CONTRACTOR
(EACH PHASE OF BASIN CONSTRUCTION)

1. CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR PRIOR APPROVAL.

2. CONTRACTOR SHALL NOTIFY CERTIFYING ENGINEER WHEN BASIN CONSTRUCTION HAS PROGRESSED TO THE FOLLOWING MILESTONES:

a.) REINFORCING STEEL FOR BASIN WALL OR RIPRAP LINER HAS BEEN SET, CONCRETE HAS NOT BEEN PLACED AND DRAIN PIPE IS IN PLACE. WHERE EPDM LINER IS USED, CONTRACTOR SHALL PROVIDE ENGINEER WITH SURVEY DATA WHICH DEMONSTRATES THE LINER HAS BEEN SET AT PROPER ELEVATION AND GRADE.

b.) CONCRETE RIPRAP OR EPDM LINER IS IN PLACE AND UNDER-DRAIN SYSTEM IS IN PLACE WITHOUT GRAVEL.

c.) GRAVEL AROUND UNDER-DRAIN SYSTEM IS IN PLACE AND FILTER FABRIC IS INSTALLED AND ATTACHED TO WALLS OR RIPRAP.

d.) SAND FILTER MEDIA HAS BEEN PLACED & BASIN HAS BEEN COMPLETELY FINISHED INCLUDING SOD OR SEED PLACEMENT ON SIDE SLOPES (WHERE APPLICABLE).

3. WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION AT EACH STAGE. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE.

4. UPON SUBSTANTIAL COMPLETION, OR AS REQUESTED BY ENGINEER, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELD SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:

- TOP OF BANK/WALL AT EACH CORNER OF BASIN
- TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE)
- SPLASH PAD/INLET PIPES
- OVERFLOW WEIRS

5. BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE CONTRACTOR WILL REMOVE ALL TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE BASINS AND REESTABLISH THEM TO THE PROPER OPERATING CONDITION.

6. THE MINIMUM DRAIN TIME FOR A FULL BASIN IS 24 HOURS. THE CONTRACTOR SHALL RESTRICT THE FLOW THROUGH THE BASIN BY ADJUSTING THE GATE VALVE ON THE DISCHARGE PIPE SO AS TO PROVIDE THE MINIMUM 24 HOUR DRAW-DOWN TIME.

FILTER FABRIC SPECIFICATIONS

THE SEPARATION LAYER BETWEEN THE SAND FILTER AND GRAVEL LAYERS SHALL BE A DRAINAGE MATTING CONSISTING OF NON-WOVEN FILTER FABRIC MEETING THE FOLLOWING SPECIFICATIONS:

PROPERTY	TEST METHOD	SPECIFICATION
WEIGHT (OZ/SY)	ASTM D 5261	≥ 4.0
GRAB STRENGTH (LBS.)	ASTM D 4632	≥ 90
ELONGATIONS (%)	ASTM D 4632	≤ 55
TRAPEZOID TEAR (LBS)	ASTM D 4533	≥ 50
CBR PUNCTURE STRENGTH (LBS)	ASTM D 6241	≥ 300
UV RESISTANCE AFTER 500 HRS. (%)	ASTM D 4355	≥ 70
AOS (SIEVE #)	ASTM D 4751	70-80
FLOW RATE (GPM/SF)	ASTM D 4491	≥ 125

FABRIC OVERLAP SHALL BE A MINIMUM OF 24".
ALL OVERLAPS SHALL BE WIRE TIED AT A MAXIMUM OF 36" INTERVALS

SAND & GRAVEL SPECIFICATIONS

SAND FILTER MATERIAL SHALL BE ASTM C33 0.0165 IN (#40 SIEVE) TO 0.0469 IN (#16 SIEVE) SILICA BASED WASHED SAND.

ROCK FOR GRAVEL LAYER SHALL BE 1/2" TO 1" DIAMETER WASHED RIVER GRAVEL.

GEOMEMBRANE POLY LINER

- ULTRAVIOLET RESISTANT
- THICKNESS = 30 MILS MINIMUM, RECOMMENDED 40 MILS.
- JOINTS SHALL BE WATER TIGHT AT SEAMS
- ANCHOR TO WALLS
- WATERTIGHT SEAL BETWEEN POLY LINER AND TRANSITION SURFACES
- BEDDING MATERIAL SHALL BE SUITABLY COMPACTED MATERIAL (NOT SAND) IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
- PROTECTIVE GEOTEXTILE FABRIC TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS

CLAY LINER SPECIFICATIONS

PROPERTY	TEST METHOD	SPECIFICATION
PERMEABILITY (CM/SEC)	ASTM D 2434	1×10^{-6}
PLASTICITY INDEX OF CLAY (%)	ASTM D 423/D 424	NOT LESS THAN 15
LIQUID LIMIT OF CLAY (%)	ASTM D 2216	NOT LESS THAN 30
CLAY PARTICLES PASSING (%)	ASTM D 422	NOT LESS THAN 30
CLAY COMPACTION (%)	ASTM D 2216	95% OF STANDARD PROCTOR DENSITY

NOTES:
1. THE CLAY LINER SHALL HAVE A MINIMUM THICKNESS OF TWELVE (12) INCHES.

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THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 6

NO.	REVISION	DATE

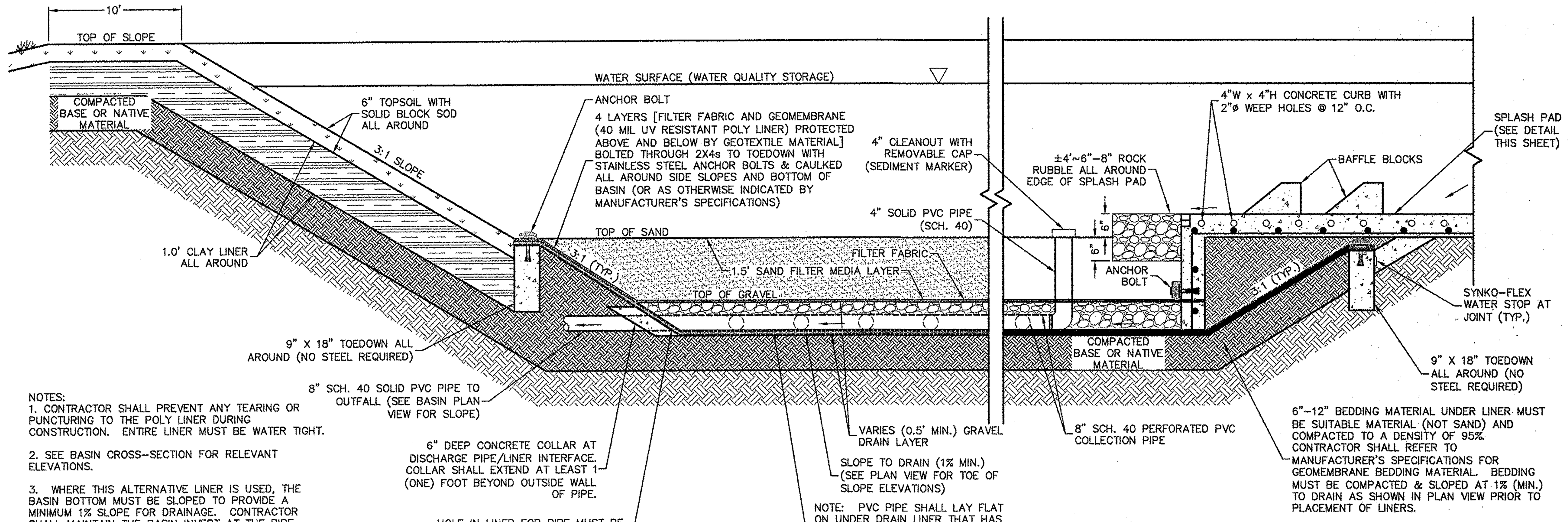
STATE OF TEXAS
MATT JOHNSON
64827
LICENSED
PROFESSIONAL ENGINEER
3-6-17

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #100288-00

HOLT CAT - GEORGETOWN
GEORGETOWN, TEXAS
PERMANENT WATER POLLUTION ABATEMENT DETAILS - SHEET 1

PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ____ DRAWN MK
SHEET 56

Date: Mar 05, 2017, 9:59am User ID: SCreen
File: P:\112\73\00\Design\Environmental\WPAP\PADT1127300.dwg



NOTES:
1. CONTRACTOR SHALL PREVENT ANY TEARING OR PUNCTURING TO THE POLY LINER DURING CONSTRUCTION. ENTIRE LINER MUST BE WATER TIGHT.

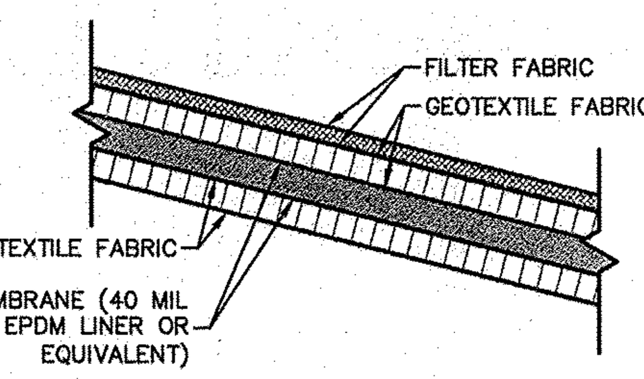
2. SEE BASIN CROSS-SECTION FOR RELEVANT ELEVATIONS.

3. WHERE THIS ALTERNATIVE LINER IS USED, THE BASIN BOTTOM MUST BE SLOPED TO PROVIDE A MINIMUM 1% SLOPE FOR DRAINAGE. CONTRACTOR SHALL MAINTAIN THE BASIN INVERT AT THE PIPE DISCHARGE POINT AND SLOPE THE BASIN BOTTOM AT 1% FROM THAT POINT.

4. SELECTION OF FINAL LINER WILL BE IDENTIFIED IN CERTIFICATION LETTER TO TCEQ AFTER COMPLETION OF BASIN CONSTRUCTION.

ALTERNATIVE LINER CROSS-SECTION DETAIL

NOT-TO-SCALE



NOTES:
1. LINER AND PROTECTIVE GEOTEXTILE FABRIC, IF REQUIRED, ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

2. GEOMEMBRANE LINER SHALL HAVE A MINIMUM THICKNESS OF THIRTY (30) MILS, FORTY (40) MILS RECOMMENDED.

3. SELECTION OF FINAL LINER WILL BE IDENTIFIED IN CERTIFICATION LETTER TO TCEQ AFTER COMPLETION OF BASIN CONSTRUCTION.

ALTERNATIVE LINER DETAIL

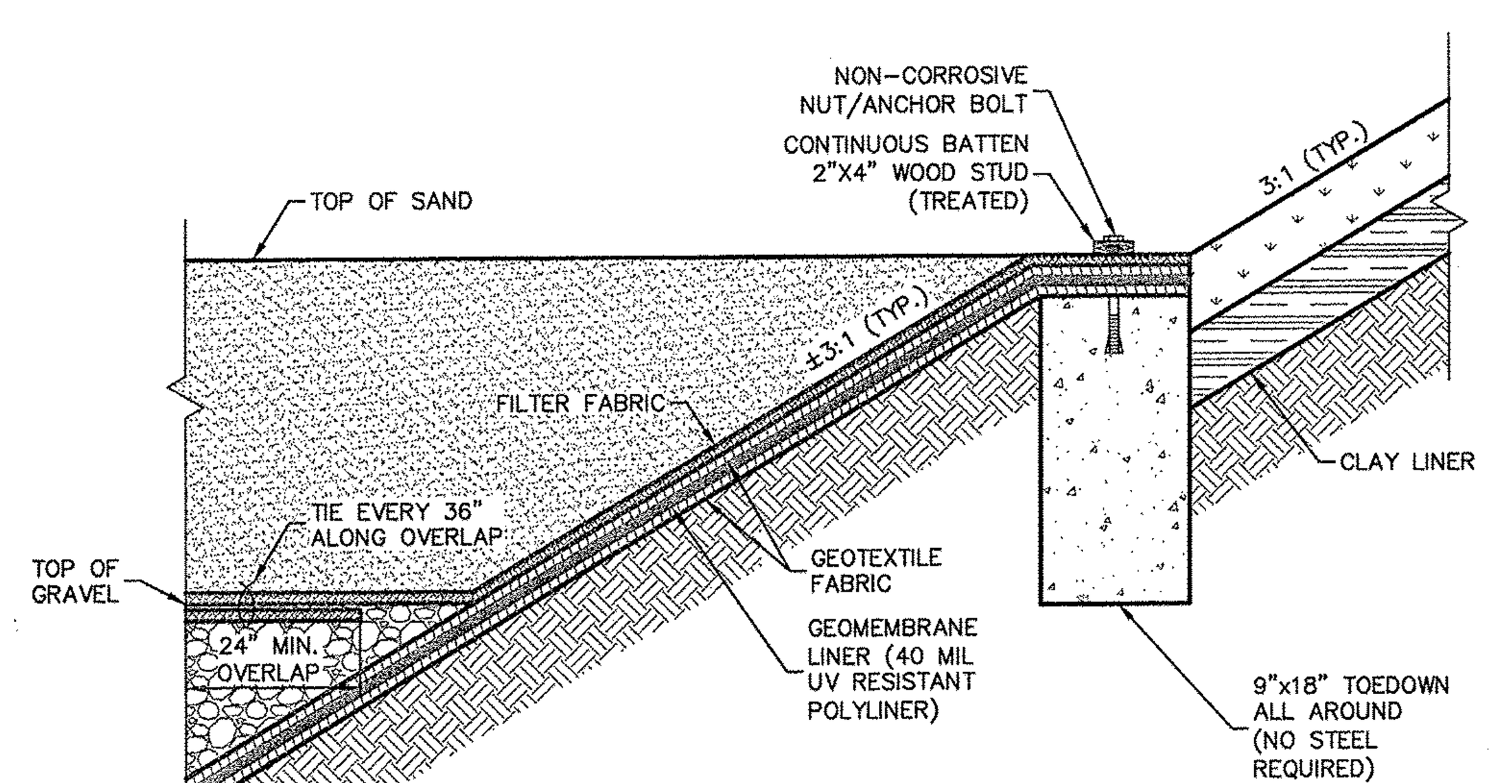
NOT-TO-SCALE

NOTES:
1. CONTRACTOR TO PLACE ANCHOR BOLTS AT 5'-0" O.C.

2. IN ORDER TO SECURE FILTER FABRIC TO SIDEWALLS WITH GEOMEMBRANE/GEOTEXTILE LAYERS, IT IS RECOMMENDED THAT THE CONTRACTOR INSTALL A LENGTH OF FILTER FABRIC WITH THE OTHER LAYERS SUCH THAT SUBSEQUENT LAYERS CAN BE OVERLAPPED AND TIED TO THE EXPOSED FILTER FABRIC. THIS WILL PROVIDE FOR EASIER MAINTENANCE IN THE FUTURE WITHOUT DESTROYING CONCRETE OR WATER TIGHT LINER.

3. IF A GEOMEMBRANE LINER IS USED IT SHOULD HAVE A MINIMUM THICKNESS OF 30 MILS (40 MILS, RECOMMENDED) AND BE ULTRAVIOLET RESISTANT. THE GEOTEXTILE FABRIC (FOR PROTECTION OF GEOMEMBRANE) SHOULD BE NON-WOVEN GEOTEXTILE FABRIC AND MEET THE SPECIFICATIONS BELOW.

4. INSTALLATION METHODS FOR GEOMEMBRANE LINERS VARY ACCORDING TO THE SITE REQUIREMENTS. SEE DETAIL FOR TYPICAL INSTALLATION METHOD.



GEOTEXTILE FABRIC SPECIFICATIONS (COA, 2004)

PROPERTY	TEST METHOD	UNIT	SPECIFICATION (MIN.)
UNIT WEIGHT	ASTM D-5261	oz/yd2	8
FILTRATION RATE	ASTM D-4491	cm/sec	0.20
PUNCTURE STRENGTH	ASTM D-4833	lb.	125
MULLEN BURST STRENGTH	ASTM D-3786	psi	400
TENSILE STRENGTH	ASTM D-4632	lb.	200
EQUIV. OPENING SIZE	US STANDARD SIEVE	No.	80

*MODIFIED

ALTERNATIVE FILTER FABRIC, LINER OVERLAP & ANCHORING DETAIL

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 7

NO.	REVISION	DATE

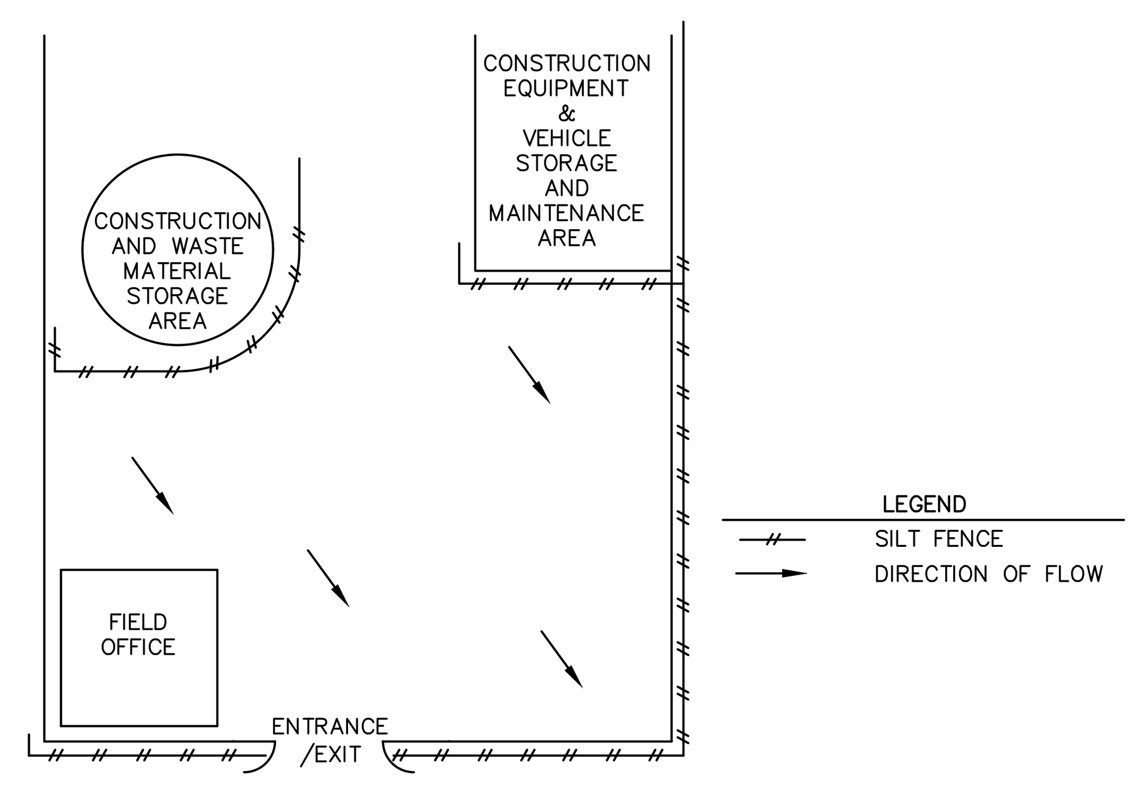
STATE OF TEXAS
MATT JOHNSON
64827
LICENSED
PROFESSIONAL ENGINEER
3-6-17

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

HOLT CAT - GEORGETOWN
GEORGETOWN, TEXAS
WATER POLLUTION ASSESSMENT
PERMANENT WATER POLLUTION ABATEMENT DETAILS - SHEET 2

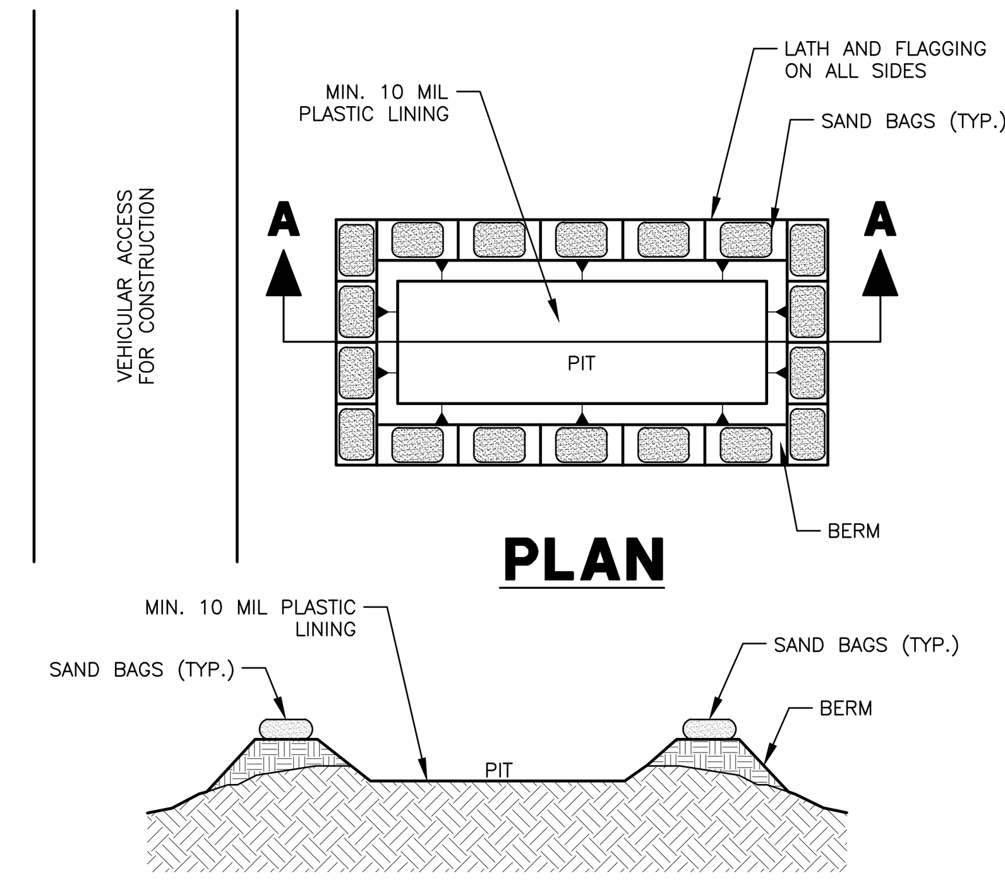
PLAT NO. -
JOB NO. 11273-00
DATE FEBRUARY 2017
DESIGNER SG
CHECKED ___ DRAWN MK
SHEET 57

Date: Mar 06, 2017, 9:59am User ID: SGreen
File: P:\112\73\00\Design\Environmental\WPAP\PM0T1127300.dwg



EQUIPMENT STAGING AREA

NOT TO SCALE



SECTION A-A

GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

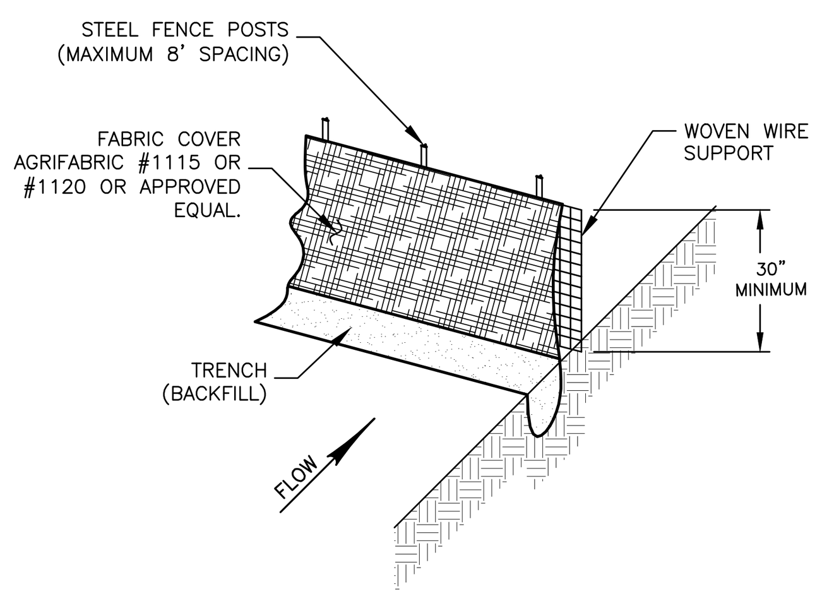
PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

MAINTENANCE

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.
2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT

NOT TO SCALE



GENERAL NOTES

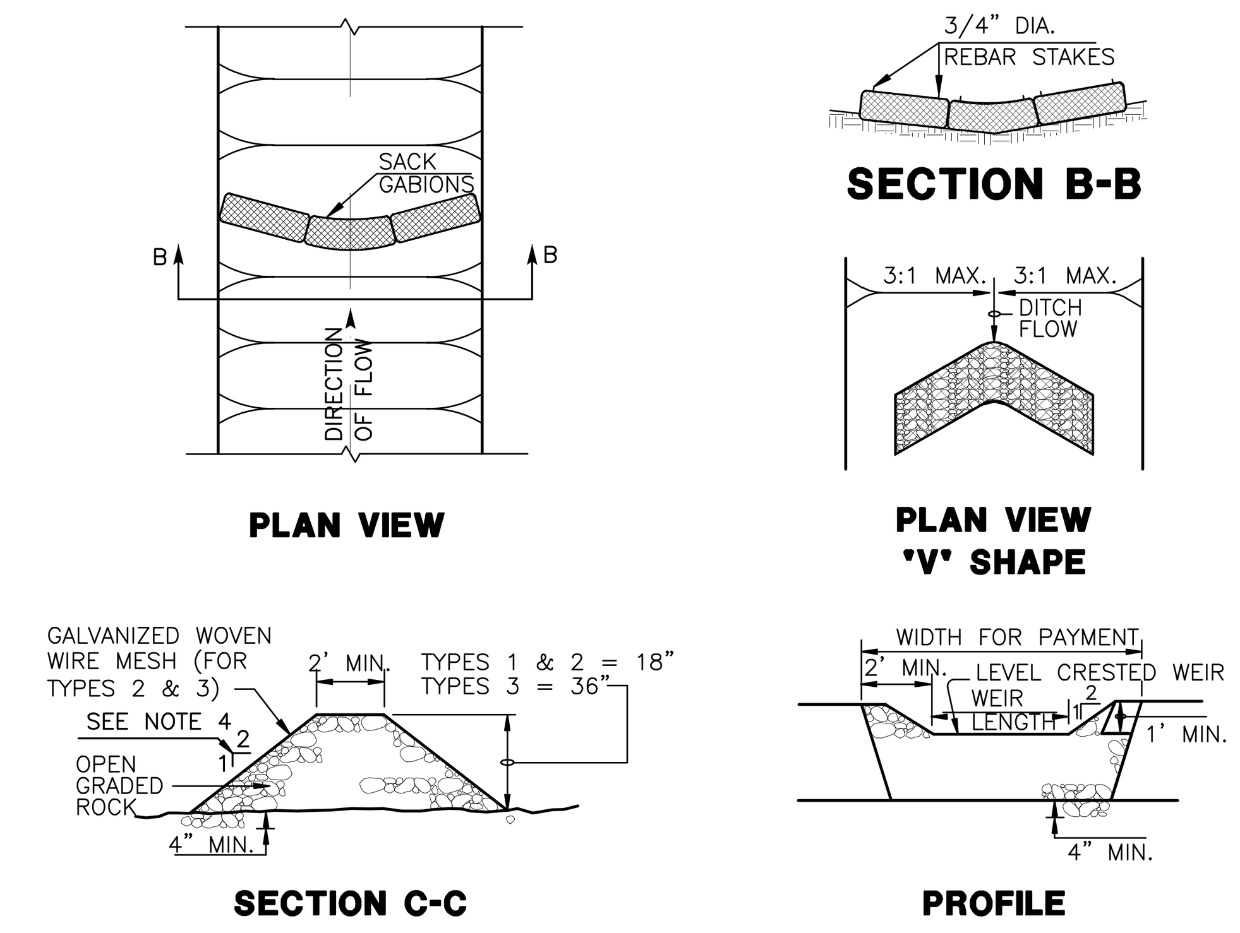
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH SHOULD BE A MINIMUM OF 6 INCHES DEEP AND 4–8 INCHES WIDE TO ALLOW FOR THE SILT FENCE TO BE LAID IN THE GROUND AND BACKFILLED.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SEDIMENT TRAPPED BY THIS PRACTICE SHALL BE DISPOSED OF IN AN APPROVED SITE IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES AND DISPOSED OF IN AN APPROVED SPOIL SITE OR AS IN NO. 6 ABOVE.

SILT FENCE

NOT TO SCALE

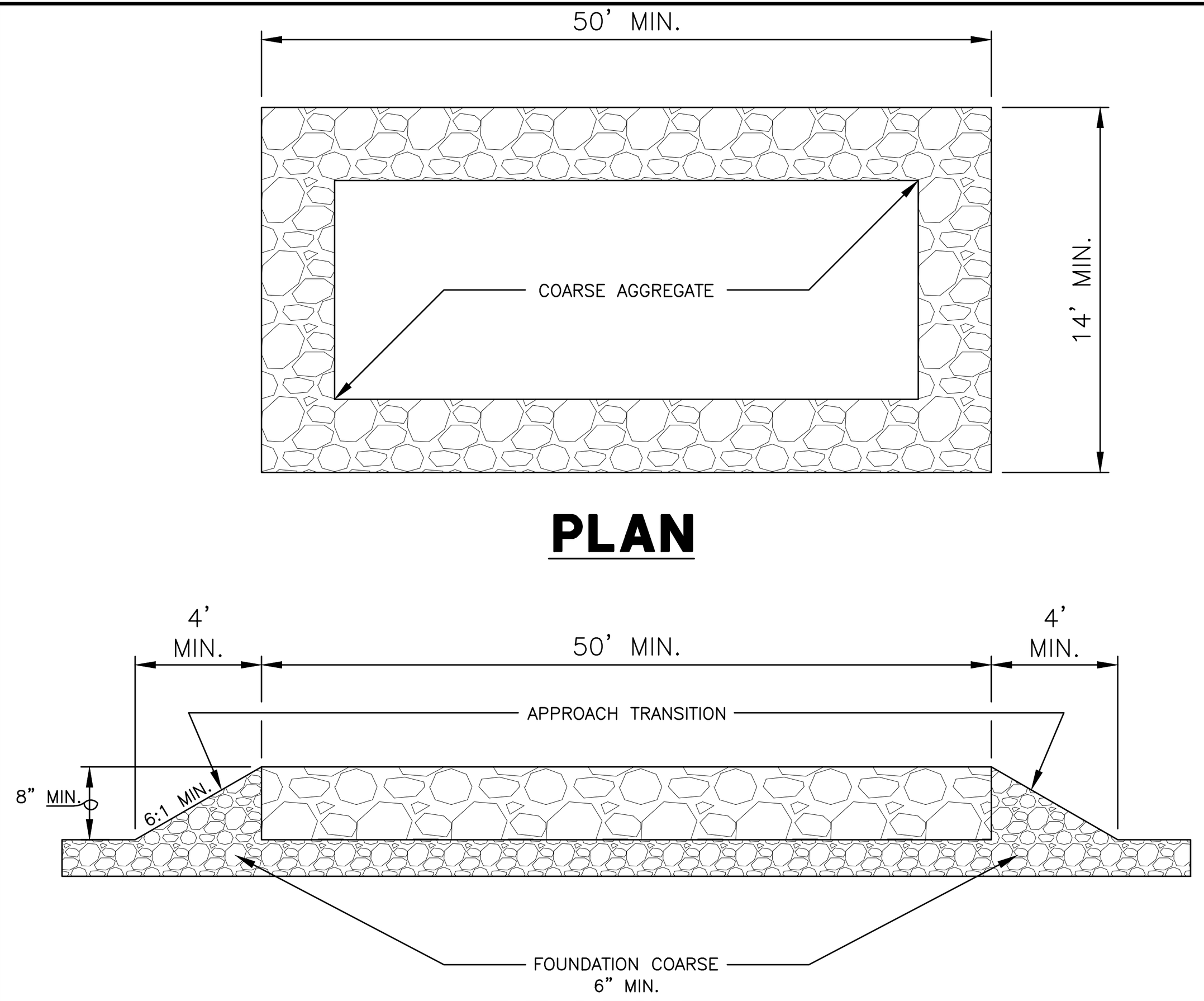
ROCK FILTER DAM USAGE GUIDELINES

1. ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND/OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THROUGH RATE OF 60 GPM/FT OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.
2. TYPE 1 (18" HIGH WITH NO WIRE MESH): TYPE 1 MAY BE USED AT THE TOE OF SLOPES. AROUND INLETS, IN SMALL DITCHES. AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROX. 8 FT./SEC. OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR DIRECTED BY THE ENGINEER.
3. TYPE 2 (18" HIGH WITH WIRE MESH): TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.
4. TYPE 3 (36" HIGH WITH WIRE MESH): TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.
5. TYPE 4 (SACK GABIONS): TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.



ROCK FILTER DAM

NOT TO SCALE



GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS. BUT NOT LESS THAN 50'.

   THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".

   THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.

   THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.

   THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.

   THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

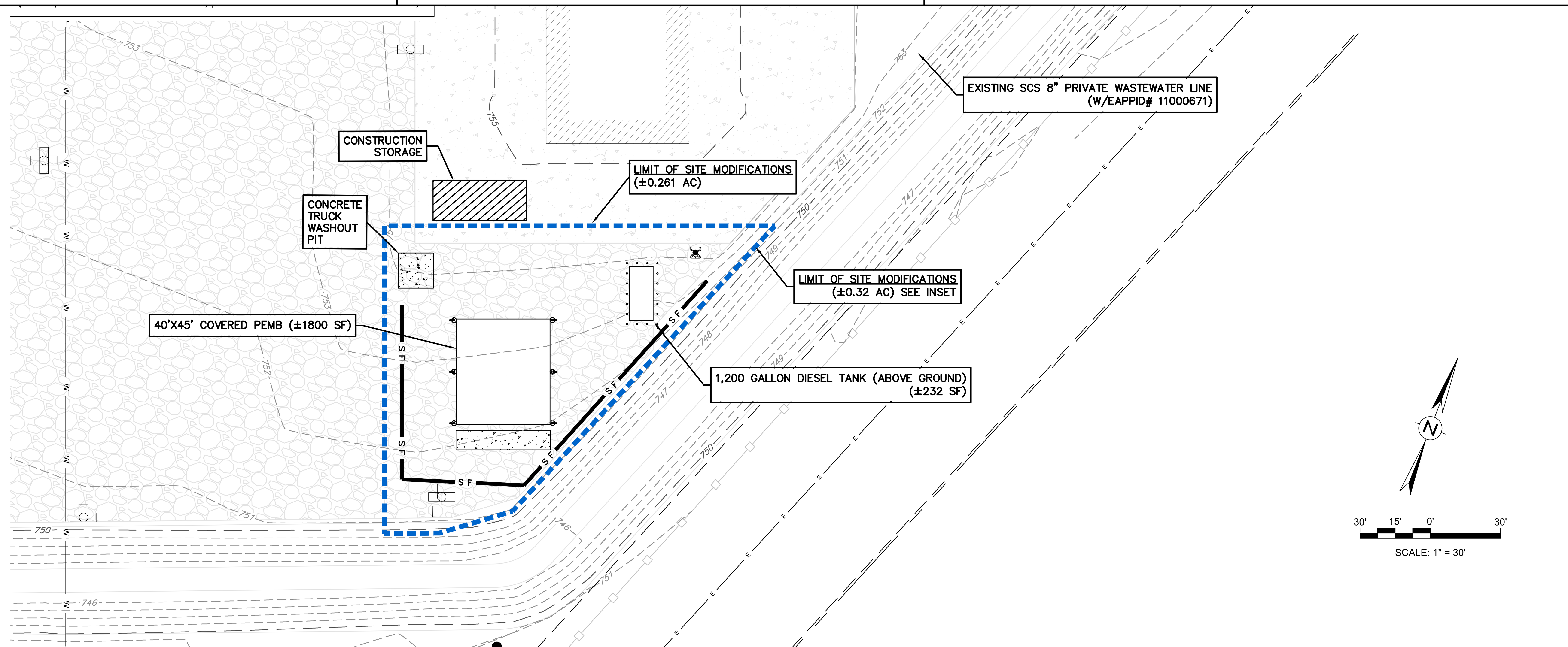
CONSTRUCTION ENTRANCE / EXIT (TYPE 1)

NOT TO SCALE

1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND/OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL.
3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE SW3P PLANS.
4. SIDE SLOPES SHOULD BE 2:1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDESLOPES OF 6:1 OR FLATTER.
5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4' INTO EXISTING GROUND.
7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE. THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3/4" DIA. REBAR STAKES.
10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK,ETC.).
11. DETAILS SHOWN ARE TYPICAL, SUBJECT TO CONTRACTOR'S SW3P PLAN REQUIREMENTS.

SWPPP GENERAL NOTES

NOT TO SCALE



NO	DATE	REVISION

CDS Muery F-1733

STATE OF TEXAS
STEPHEN S. LIN
108721
LICENSED
PROFESSIONAL ENGINEER
11/21/22

DESIGNED BY

DRAWN BY AR

REVIEWED BY SL

DATE OCTOBER 2022

CDS muery
ENGINEERS | SURVEYORS
100 NE Loop 410, Ste. 300 | San Antonio, Texas 78216
(210) 581-1111 | TBPE No. F-1733 | TBPLS No. 100495-00

GEORGETOWN, TEXAS

HOLT CAT GEORGETOWN PEMB TEST STAND

EROSION & SEDIMENT CONTROL PLAN

EXHIBIT

HOLT CAT

Date: Nov 21, 2022, 5:33pm User ID: abelardo.ramos
File: F:\2022\122279 PEMB Equipment Test Shelter and Fuel Tank\Civil 3D\Dwg\Engineer\EXHIBITS\TCEQ Erosion Control.dwg

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

The original WPAP designed and constructed one (1) Sand Filtration Basin "A" and two (2) fifteen feet engineered vegetative filter strips (VFS) as the Permanent Best Management Practices (PBMPs) for this site. All PBMPs were designed in accordance with the TCEQ's Technical Guidance Manual RG-348 (2005) "Complying with the Edwards Aquifer Rules" to remove 80% of the increase in TSS loading required by TCEQ and 85% per the City of Georgetown guidelines. No chances are currently proposed to these existing PBMPs for this modification.

Since the PBMPs are existing and operable, new documents are not being prepared. Documents from the original WPAP Application (by Pape Dawson Engineers) are provided and includes:

- Permanent pollution Abatement Measures Maintenance Schedule and Maintenance Procedures (signed)
- Inspection and Maintenance Schedule
- Maintenance Procedures for Permanent Pollution Abatement Measures

PERMANENT POLLUTION ABATEMENT MEASURES
MAINTENANCE SCHEDULE AND MAINTENANCE PROCEDURES

This document has been prepared to provide a description and schedule for the performance of maintenance on permanent pollution abatement measures. Maintenance measures to be performed will be dependent on what permanent pollution abatement measures are incorporated into the project. The project specific water pollution abatement plan should be reviewed to determine what permanent pollution abatement measures are incorporated in to a project.

It should also be noted that the timing and procedures presented herein are general guidelines, adjustment to the timing and procedures may have to be made depending on project specific characteristics as well as weather related conditions but may not be altered without TCEQ approval.

Where a project is occupied by the owner, the owner may provide for maintenance with his own skilled forces or contract for recommended maintenance of Permanent Best Management Practices. Where a project is occupied or leased by a tenant, the owner shall require tenants to contract for such maintenance services either through a lease agreement, property owners association covenants, or other binding document.

I understand that I am responsible for maintenance of the Permanent Pollution Abatement Measures included in this project until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or ownership is transferred.

I, the owner, have read and understand the requirements of the attached Maintenance Plan and Schedule.

Charles C Strickland — 2.24.2017

Charles, C. Strickland, EVP-CFO — Date
Holt Texas Ltd. DBA Holt CAT

INSPECTION AND MAINTENANCE SCHEDULE
FOR
PERMANENT POLLUTION ABATEMENT MEASURES

Recommended Frequency	Task to be Performed													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
After Rainfall	√							√	√	√	√		√	
Biannually*	√	√	√	√	√	√	√	√	√	√	√	√	√	√

At least one biannual inspection must occur during or immediately after a rainfall event.
√ Indicates maintenance procedure that applies to this specific site.

See description of maintenance task to be performed on the following pages. Frequency of maintenance tasks may vary depending on amount of rainfall and other weather related conditions but may not be altered without TCEQ approval.

A written record should be kept of inspection results and maintenance performed.

Task No. & Description	***Included in this project***	
1. Check Depth of Vegetation	**Yes**	~~**No**~~
2. Check Depth of Silt Deposit in Basin	**Yes**	~~**No**~~
3. Removal of Debris and Trash	**Yes**	~~**No**~~
4. Cut-off Valve	**Yes**	~~**No**~~
5. Inlet Splash Pad	**Yes**	~~**No**~~
6. Underdrain System	**Yes**	~~**No**~~
7. Structural Integrity	**Yes**	~~**No**~~
8. Discharge Pipe	**Yes**	~~**No**~~
9. Drawdown Time	**Yes**	~~**No**~~
10. Vegetated Filter Strips	**Yes**	~~**No**~~
11. For Pump Stations	~~**Yes**~~	**No**
12. For Pump Stations	~~**Yes**~~	**No**
13. For Pump Stations	~~**Yes**~~	**No**
14. Visually Inspect Security Fencing for Damage or Breach	**Yes**	~~**No**~~

MAINTENANCE PROCEDURES FOR PERMANENT POLLUTION ABATEMENT MEASURES

Note: Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 3.5.

1. Check Depth of Vegetation. Vegetation in the basin shall not exceed 18-inches in depth. When vegetation needs to be cut, it shall be cut to an approximately 4-inch height. *A written record should be kept of inspection results and maintenance performed.*

2. Check Depth of Silt Deposit in Basin. Top of cleanouts shall be set 4-inches above sand layer. When silt has accumulated to top of cleanouts, the silt shall be removed. The top two (2) inches of the sand media shall also be removed and replaced with clean, silica-based washed sand meeting ASTM C33 specifications [0.0165 inch (#40 sieve) to 0.0469 inch (#16 sieve)]. Silt/sediment shall be cleared from the inlet structure at least every year and from the basin at least every five (5) years. Any sand discolored as a result of apparent impact by petroleum hydrocarbon or hazardous materials should also be removed and replaced. *Written record should be kept of inspection results and maintenance performed.*

3. Removal of Debris and Trash. The basin and inlet structure shall be checked for the accumulation of debris and trash such as brush, limbs, leaves, paper cups, aluminum cans, plastic bottles etc. Accumulated trash and debris shall be raked or collected from the basin and inlet structure and disposed of properly. *Written record should be kept of inspection results and maintenance performed.*

4. Cut-off Valve. The cut-off valve shall be turned to confirm full opening and full closure. Prior to operating the valve, the valve setting shall be checked to determine the position to which the valve is to be returned (which should limit drawdown time of the basin between 24-hours and 48-hours). Count should be kept of number of turns to open and close the valve

so that the valve can be reset to the starting position. Defects in the operation of the cut-off valve shall be corrected within 7 working days. *A written record should be kept of inspection results and maintenance performed.*

5. Inlet Splash Pad. The filter area around the inlet splash pad shall be checked for erosion and for the condition of the rock rubble. Erosion or disturbance of the rock rubble should be corrected by removing the rock rubble, restoring missing sand media to appropriate depth and replacement of the rock rubble. If the condition persists in subsequent inspections, the size of the rock rubble should be increased. Rubble should be placed to a density that minimizes the amount of exposed sand between the rock rubble. Deficiencies should be corrected within seven working days. A *written record should be kept of inspection results and maintenance performed.*

6. Underdrain System. The underdrain system shall be visually inspected for the accumulation of silt in the pipe system. The pipe clean-outs shall have the caps removed and visually inspected for accumulation of silt deposits. If silt deposits appear to have accumulated so as to significantly reduce the drain capacity of the pipes then maintenance shall be performed. When silt deposits have accumulated to the stage described above, the clean-outs and drainpipes can be flushed with a high-pressure water flushing process. Clean-out caps must be replaced onto the clean-outs after maintenance so as to avoid the possibility of short circuiting the filtering process. Sediment accumulation at outlet pipe or in wet well due to flushing shall be removed and disposed of properly. *A written record should be kept of inspection results and the maintenance performed.*

7. Structural Integrity. In addition to Items 1 through 6 the following are measures which should be reviewed during a check of structural integrity:
   - Observe the height of the confining berm for visible signs of erosion or potential breach. Signs of erosion should be identified and repaired immediately. Corrective measures

include but are not limited to addition of topsoil or appropriate soil material so as to restore the original berm height of the sand filter basin. Restored areas shall be protected through placement of solid block sod.

- Bypass of filter process. This condition can manifest itself in several ways. One way is by visually inspecting the clean-outs for accumulation of silt as described in Item 6. Significant accumulations of silt could be a sign of a torn filter fabric. Observations should be made over several inspection cycles to determine whether the condition persists. A second non-intrusive way of making observations for structural condition would be to visually look for collapsed or depressed areas along the edge of the filter media interface with basin side slope. If condition exists, corrective action should be performed within 15 working days. Removal of sand and replacement of filter fabric and/or pipe and gravel may be necessary. *A written record should be kept of inspection results and corrective measures taken.*

8. Discharge Pipe. The basin discharge pipe shall be checked for accumulation of silt, debris or other obstructions which could block flow. Soil accumulations, vegetative overgrowth and other blockages should be cleared from the pipe discharge point. Erosion at the point of discharge shall be monitored. If erosion occurs, the addition of rock rubble to disperse the flow should be accomplished. *A written record should be kept of inspection results and corrective measures taken*

9. Drawdown Time. This characteristic can be a sign of the need for maintenance. The minimum drawdown time is 24 hours. If drawdown time is less than 24 hours, the gate valve shall be checked and partially closed to limit the drawdown time. Extensive drawdown time greater than 48 hours may indicated blockage of the sand media, the underdrain system and/or the discharge pipe. Corrective actions should be performed and completed within 15 working days. *A written record of the inspection findings and corrective actions performed should be made.*

10. Vegetated Filter Strips. Vegetation height for native grasses shall be limited to no more than 18-inches. When vegetation exceeds that height, the filter strip shall be cut to a height of approximately 4 inches. Turf grass shall be limited to a height of 4-inches with regular maintenance that utilizes a mulching mower. Trash and debris shall be removed from filter strip prior to cutting. Check filter strip for signs of concentrated flow and erosion. Areas of filter strip showing signs of erosion shall be repaired by scarifying the eroded area, reshaping, regrading and placement of solid block sod over the affected area. *A written record of the inspection findings and corrective actions performed should be made*

11. For Pump Stations. Check wet well discharge pipe to confirm flow through the pump system. If flow is not present, allow sufficient time for pump to cycle on and off. If flow does not occur, the wet well should be checked for the level of water. The wet well should be opened and the on/off float switches should be moved up and down to activate the pump. If the pump does not start, a repair technician shall be called in to repair the malfunction within 5 working days. *A written record of the inspection findings and corrective actions performed should be made*

12. For Pump Stations. Check the wet well for accumulation for trash, debris and silt. Trash and debris shall be removed and disposed of properly. Silt depth can be checked by probing the bottom of the wet well with a stick or PVC pipe. Silt accumulations should be removed when silt collects to a depth of three (3) inches over the entire wet well bottom. Silt can be removed by vacuum pump method. If silt buildup continues, underdrain system shall be inspected. *A written record should be kept of inspection results and maintenance performed.*

13. For Pump Stations. Visually check aboveground pump wiring and connections for damage. Damaged or loose connections should be repaired within 5 working days. *A written record should be kept of inspection results and the maintenance performed.*

14. Visually Inspect Security Fencing for Damage or Breach. Check maintenance access gates for proper operation. Damage to fencing or gates shall be repaired within 5 working days. *A written record should be kept of inspection results and maintenance performed.*

ATTACHMENT H:
PILOT-SCAPE FIELD TESTING PLAN

(THIS SECTION IS NOT APPLICABLE)

ATTACHMENT I:

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

Any points where discharge from site is concentrated and erosive velocities exist will include appropriately sized energy dissipators to reduce velocities to non-erosive levels. The proposed modification area for the 49 additional parking spaces discharges in a sheet flow condition to an existing on-site drainage ditch which drains to the existing splitter box at the existing detention and water quality ponds. Erosive conditions associated with the modification area is not expected based on the sheet flow discharge.

AGENT AUTHORIZATION FORM
(TCEQ-0599)

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

I Micheal Puryear,
Print Name

General Counsel - Secretary,
Title - Owner/President/Other

of Holt Texas Ltd,
Corporation/Partnership/Entity Name

have authorized Stephen Lin, P.E
Print Name of Agent/Engineer

of CDS Muery
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:

Michael Puryear
Applicant's Signature

8-21-23
Date

THE STATE OF TEXAS §

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared MICHAEL PURYEAR 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 21 day of AUGUST, 2023.

FRANCISCO E. VALOR NOTARY PUBLIC STATE OF TEXAS ID# 12467737 EXPIRES 6-8-2026

NOTARY PUBLIC

Francisco E. Valor
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 6-8-26

APPLICATION FEE FORM
(TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Holt Cat Georgetown
Regulated Entity Location: 2101 Airport Road, Georgetown TX 78628
Name of Customer: Holt Texas Ltd.
Contact Person: Micheal Puryear Phone: 210-648-8928
Customer Reference Number (if issued):CN 601186745
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

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

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

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	*Size*	*Fee Due*
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	48.67 Acres	$ 8,000
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ 08/31/2023

Date: August 31, 2023

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	***Fee***
Extension of Time Request	$150

CORE DATA FORM
(TCEQ-10400)

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

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

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

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

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 601186745		RN

SECTION II: Customer Information

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

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

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

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

Holt Texas Ltd.

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (*if applicable*)
10419010	32036299769	741389993	8134959

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

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

13. Independently Owned and Operated?
☒ Yes ☐ No

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

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

P.O.Box 207916

City	State	ZIP	ZIP + 4
San Antonio	TX	78220	7916

16. Country Mailing Information (*if outside USA*)	17. E-Mail Address (*if applicable*)
	michael.puryear@holtcat.com

18. Telephone Number	19. Extension or Code	20. Fax Number (*if applicable*)
(210) 648-8921		( ) -

SECTION III: Regulated Entity Information

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

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

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

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

Holt Cat Georgetown

23. Street Address of the Regulated Entity: *(No PO Boxes)*	2101 Airport Road							
	City	Georgetown	**State**	TX	**ZIP**	78628	**ZIP + 4**	
24. County	Williamson							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:					
26. Nearest City			**State**	**Nearest ZIP Code**	
Gorgetown			TX	78628	
27. Latitude (N) In Decimal:	30.679512		**28. Longitude (W) In Decimal:**	-97.665896	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	40	46.679512	97	39	57.2256

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)
5082		423810	

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

34. Mailing Address:	**P.O BOX 207916**							
	City	**San Antonio**	**State**	**TX**	**ZIP**	**78220**	**ZIP + 4**	**7916**
35. E-Mail Address:	**michael.puryear@holtcat.com**							
36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*						
( ) -		( ) -						

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

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

SECTION IV: Preparer Information

40. Name:	Stephen Lin, P.E.	**41. Title:**	Senior Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(210) 581-1111		( ) -	stephen.lin@cdsmuery.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:	CDS MUERY	**Job Title:**	Senior Project Manager
Name *(In Print):*	Stephen Lin, P.E.	**Phone:**	(210) 581- 1111
Signature:		**Date:**	08/31/2023