UTSA – EAST CAMPUS DRONE ENCLOSURE

Recharge Zone Plan Exception Request

May 2023

PAPE-DAWSON ENGINEERS

Transportation | Water Resources | Land Development | Surveying | Environmental

PAPE-DAWSON ENGINEERS

May 3, 2023

Ms. Lillian Butler
Texas Commission on Environmental Quality (TCEQ)
Region 13
14250 Judson Road
San Antonio, Texas 78233-4480

Re: UTSA – East Campus Drone Enclosure
Recharge Zone Exception Request

Dear Ms. Butler:

Please find included herein the UTSA – East Campus Drone Enclosure Recharge Zone Exception Request. This Recharge Zone Exception Request has been prepared in accordance with the Texas Administrative Code (30 TAC 213) and current policies for development over the Edwards Aquifer Recharge Zone.

This Recharge Zone Exception Request applies to an approximate 0.74-acre site as identified by the project limits. Please review the plan information for the items it is intended to address. If acceptable, please provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees ($500) and fee application are included. If you have questions or require additional information, please do not hesitate to contact me at your earliest convenience.

Sincerely,
Pape-Dawson Consulting Engineers, LLC

Jason T. Diamond

Jason T. Diamond, P.E.
Vice President

Attachments

P:\74\91\61\Word\Reports\Exception\230427a1.docx

UTSA – EAST CAMPUS DRONE ENCLOSURE

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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: UTSA - East Campus Drone Enclosure						**2. Regulated Entity No.:** 102841897			
3. Customer Name: The University of Texas at San Antonio						**4. Customer No.:** 603531864			
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):**			0.74
9. Application Fee:	$500		**10. Permanent BMP(s):**						
11. SCS (Linear Ft.):			**12. AST/UST (No. Tanks):**						
13. County:	Bexar		**14. Watershed:**						Leon Creek

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	☐	☐	☐
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. Jason T. Diamond, P.E.
Print Name of Customer/Authorized Agent
Jason T. Diamond 5-3-23 Signature of Customer/Authorized Agent Date

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

GENERAL INFORMATION FORM (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: Jason T. Diamond, P.E.

Date: 5-3-23

Signature of Customer/Agent:

Jason T. Diamond

Project Information

1. Regulated Entity Name: UTSA - East Campus Drone Enclosure
2. County: Bexar
3. Stream Basin: Leon Creek
4. Groundwater Conservation District (If applicable): Edwards Aquifer Authority
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☒ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Corrina Green
   Entity: University of Texas at San Antonio
   Mailing Address: 1 UTSA Circle
   City, State: San Antonio, TX Zip: 78249
   Telephone: (210) 458-8072 FAX: _____
   Email Address: corrina.green@utsa.edu

8. Agent/Representative (If any):

   Contact Person: Jason T. Diamond, P.E.
   Entity: Pape-Dawson Consulting Engineers, LLC
   Mailing Address: 2000 NW Loop 410
   City, State: San Antonio, Texas Zip: 78213
   Telephone: (210) 375-9000 FAX: (210) 375-9010
   Email Address: jdiamond@pape-dawson.com

9. Project Location:

   ☒ The project site is located inside the city limits of San Antonio.
   ☐ 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.

    From TCEQ's regional office, head north on Judson Rd approximately 2.5 miles to Loop 1604. Turn left onto 1604 and travel west approximately 14.3 miles to La Cantera Pkwy and turn left. Travel south onto UTSA campus. The site is located 400 LF southwest of Valero Way and E Campus Dr.

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: when advised by TCEQ of site visit

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)

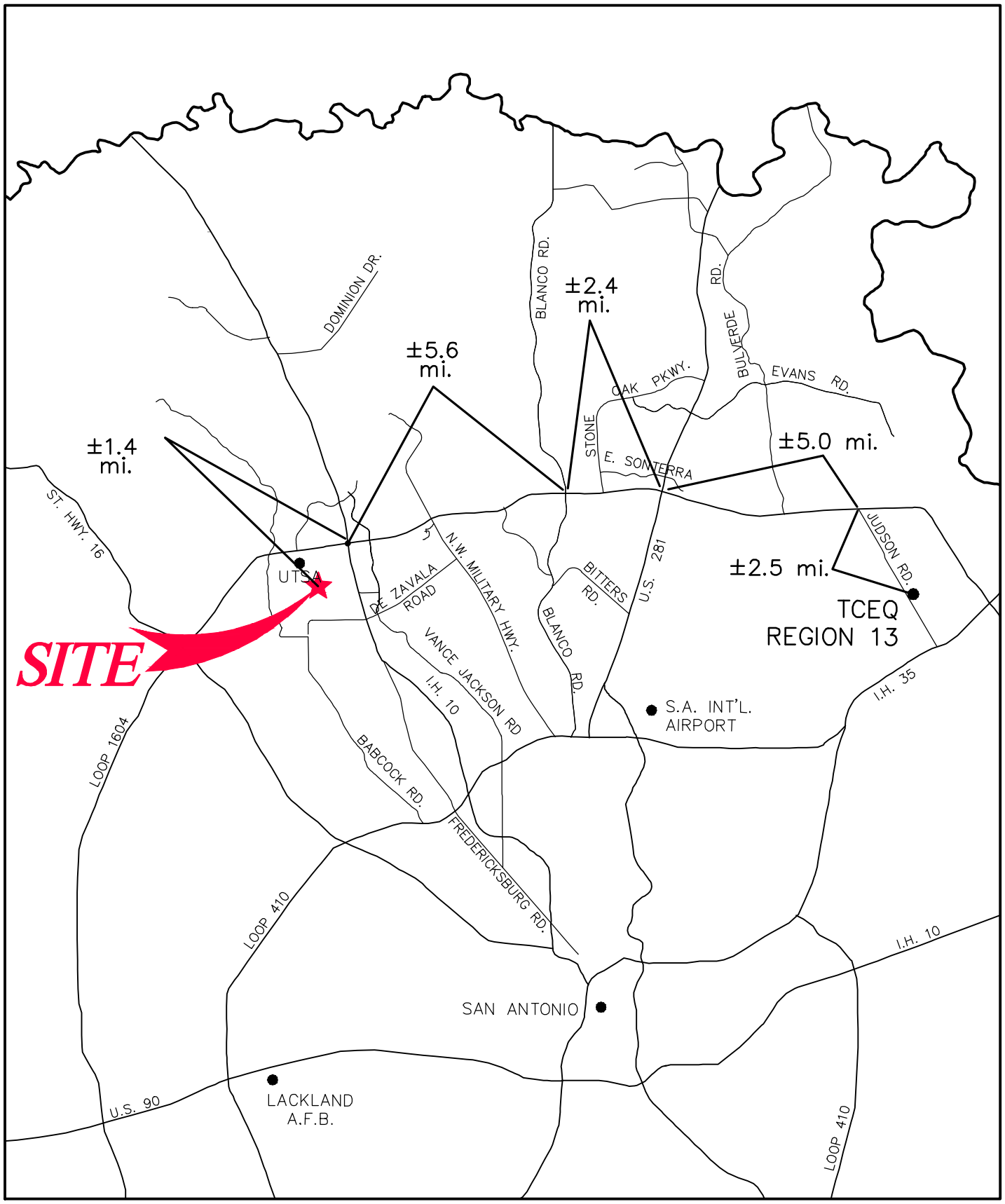
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

UTSA - EAST CAMPUS DRONE ENCLOSURE
Recharge Zone Plan Exception Request

N
NOT TO SCALE



Pape-Dawson Engineers, Inc.

Date: May 01, 2023, 1:09pm User ID: mgregory
File: P:\74\91\61\Design\Exception Request\RM 749161.dwg

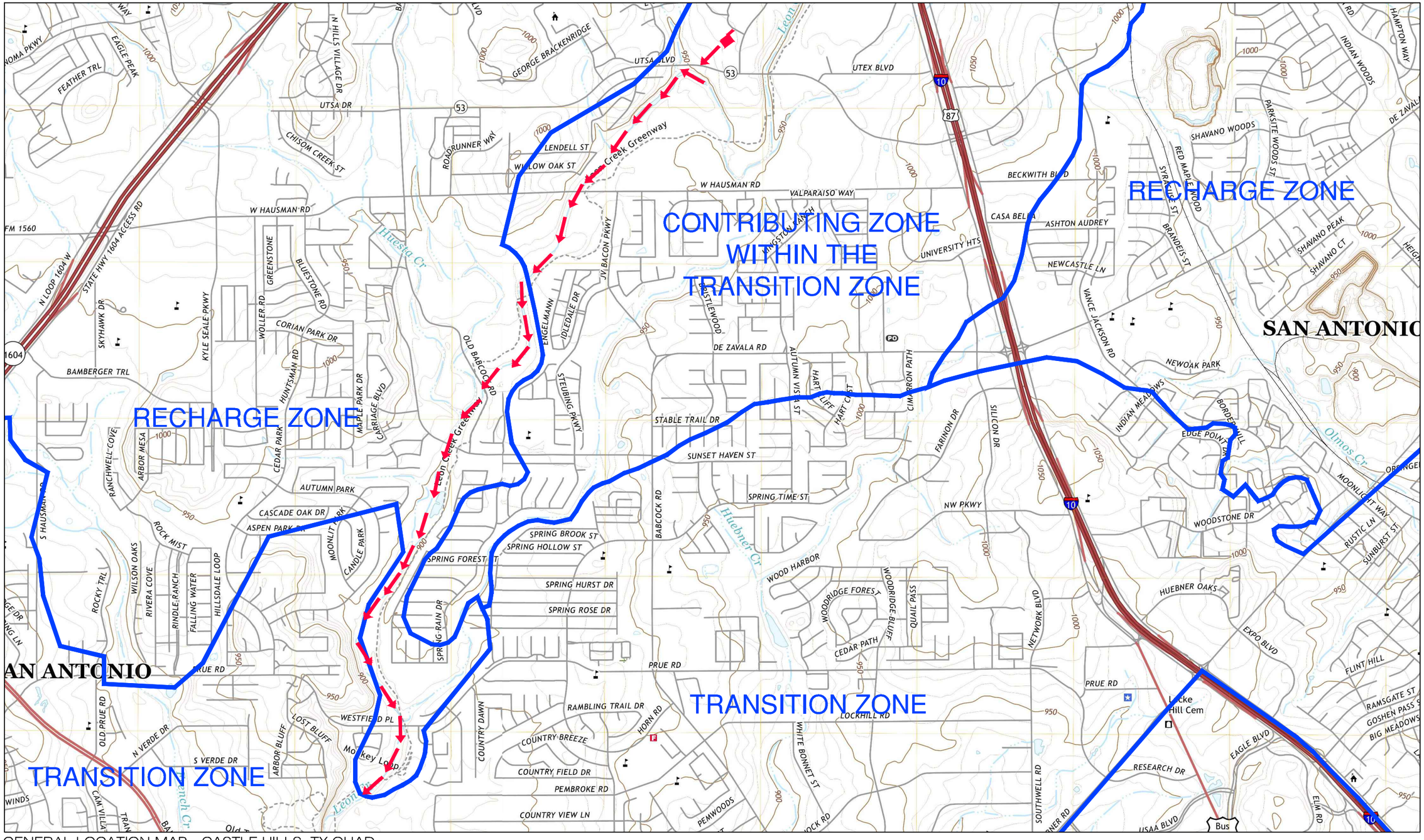
ATTACHMENT A
Road Map

ATTACHMENT B

UTSA - EAST CAMPUS DRONE ENCLOSURE
Recharge Zone Plan Exception Request

N

SCALE: 1" = 2000'



Date: May 01, 2023, 1:46pm User ID: mgregory
File: P:\74\91\61\Design\Exception Requests\CD 749161.dwg

GENERAL LOCATION MAP - CASTLE HILLS, TX QUAD
DRAINAGE FLOW → →
Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP
ATTACHMENT B

ATTACHMENT C

UTSA – EAST CAMPUS DRONE ENCLOSURE
Recharge Zone Exception Request

Attachment C – Project Description

The UTSA – East Campus Drone Enclosure is a 0.74-acre project site located within the existing University of Texas at San Antonio Campus. The location is approximately 400 LF southwest of the Valero Way and E Campus Dr intersection in the southeast area of campus. This 0.74-acre site is within the approved UTSA Masterplan – 2020 WPAP MOD (EAPP ID No. 13001257) overall project limits. There were no naturally occurring sensitive features identified within these project limits, and the geologic assessment is included with this application for reference.

This UTSA – East Campus Drone Enclosure Exception is being submitted for the erection of a drone enclosure net and associated walkway on 0.74 acres within the previously approved project limits. The site was previously a vegetated filter strip area and the adjacent areas will remain undeveloped. Proposed regulated activities include clearing, grading, erection of a drone enclosure net, and construction of a walkway. Approximately 0.05 acres of impervious cover, or 6.8% of the 0.74-acre project limits, are proposed for the site. Due to an overall impervious cover percentage below 20%, no Permanent Best Management Practices (BMPs) are required. Please refer to the included exhibits for details of the proposed construction.

This site will not generate wastewater or require any potable water.

GEOLOGIC ASSESSMENT FORM (TCEQ-0585)

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: Henry E. Stultz III — Telephone: 210-375-9000

Date: July 6, 2020 — Fax: 210-375-9090

Representing: Pape-Dawson Engineers, Inc., Texas Board of Professional Geoscientists No. 50351
(Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: UNIVERSITY OF TEXAS AT SAN ANTONIO

Section 1.01 Project Information

1. Date(s) Geologic Assessment was performed: May - November 2002; August 2009; April 2011; October 2017; January 2019; **June 3, 16, 17, and 23, 2020**
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Anhalt clay, 0 to 2 percent slopes (Ca)	D	2-3
Crawford, stony and Bexar soils, 0 to 5 percent slopes (Cb)	D	1-2
Krum clay, 1 to 5 percent slopes (Kr)	C	3-5
Lewisville silty clay, 1 to 3 percent slopes (LvB)	B	1-3
Patrick soils, 1 to 3 percent slopes, rarely flooded (PaB)	B	1-7
Eckrant cobbly clay, 1 to 8 percent slopes (TaB)	D	1-2
Eckrant very cobbly clay, 5 to 15 percent slopes (TaC)	D	1-2

** 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" = 300'
Site Geologic Map Scale: 1" = 300'
Site Soils Map Scale (if more than 1 soil type): 1" = 1500'

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 is one (1) well present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    ☐ The well is not in use and have been properly abandoned.
    ☐ The well is not in use and will be properly abandoned.
    ☒ The well is in use and comply with 16 TAC Chapter 76.
    ☐ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: **UNIVERSITY OF TEXAS AT SAN ANTONIO**																
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)	INFILLING	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)	TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-1	29.58241	-98.61502	MB	30	Kep/Kbu Kdr/Kgt								F,C	20	50		50	X		Hillside
S-2	29.58424	-98.63056	MB	30	Kep/Kbu Kdr/Kgt								F,C	20	50		50	X		Hillside
S-3	29.57982	-98.62000	MB	30	Kep/Kbu Kdr/Kgt								F,C	20	50		50		X	Hillside
S-4	29.58321	-98.62783	F	20	Kep/Kdr				N75°E				F	5	25	25			X	Hillside
S-5	29.58451	-98.61281	F	20	Kep-Kgt/ Kbu-Kef				N50°E	10			F	5	35	35			X	Hillside
S-6	29.58262	-98.62073	F	20	Kep/Kdr-Kgt				N21°W				F	5	25	25		X		Hillside
S-7	29.58058	-98.62615	F	20	Kdr/Kbu kgt				N55°E	10			F	5	35	35		X		Hillside
S-8	29.58085	-98.63159	CD	5	Kdr	12.0	12.0	2.0					F,O	10	15	15		X		Hillside
19-S-12	29.58480	-98.62884	CD	5	Kep	11	16	1					F	10	15	15		X		Hillside
09-F-2*	29.58510	-98.58530	CD	5	Kep	6	6	1					CV	15	20	20		X		Hilltop
09-F-3**	29.58530	-98.61948	SC	20	Kep	2.25	2.17	9.5					F	5	25	X		X		Hilltop
F-0*	29.58024	-98.61828	CD	5	Kep	3.5	3.5	0.5					F	10	15	15		X		Hilltop
F-1	29.58526	-98.62299	CD	5	Kep	3.0	3.0	0.5					F	10	15	15		X		Hillside
F-2	29.58523	-98.62307	CD	5	Kep	9.0	4.0	0.8					F	10	15	15		X		Hillside
F-3	29.58502	-98.62312	CD	5	Kep	4.0	4.0	0.8					F	10	15	15		X		Hillside
F-4	29.58457	-98.62282	CD	5	Kep	12.0	9.0	0.8					F	10	15	15		X		Hillside
F-5a*	29.58213	-98.62944	CD	5	Kdr	10.0	10.0	0.5					F	10	15	15		X		Hilltop
F-5b*	29.58221	-98.62945	CD	5	Kdr	10.0	10.0	0.5					F	10	15	15		X		Hilltop
F-5c*	29.58224	-98.62934	CD	5	Kdr	10.0	10.0	0.5					F	10	15	15		X		Hilltop
F-5d*	29.58227	-98.62928	CD	5	Kdr	10.0	10.0	0.5					F	10	15	15		X		Hilltop
F-6*	29.58173	-98.62972	CD	5	Kdr	6.0	6.0	0.8					F	10	15	15		X		Hilltop
F-7	29.58522	-98.62991	CD	5	Kep	3.5	3.5	0.5					F	10	15	15		X		Floodplain
F-8	29.58607	-98.62938	CD	5	Kep	3.5	3.5	0.5					F	10	15	15		X		Floodplain
F-9*	29.58645	-98.62908	CD	5	Kep	2.0	2.0	0.5					F	10	15	15		X		Floodplain
F-10	29.58630	-98.62847	CD	5	Kep	5.0	5.0	0.5					F	10	15	15		X		Hilltop
F-11	29.58756	-98.61002	SW	30	Kep	40.0	15.0	1.5					F	40	70		70		X	Drainage
F-12*	29.58655	-98.62752	CD	5	Kep	4.5	4.5	1.0					F	10	15	15		X		Hilltop
F-12a*	29.58653	-98.62754	CD	5	Kep	9.0	4.5	1.0					N	15	20	20		X		Hilltop
F-12b*	29.58643	-98.62750	CD	5	Kep	0.5	0.5	0.8					N	15	20	20		X		Hilltop
F-12c*	29.58649	-98.62763	CD	5	Kep	3.0	3.0	0.5					C	15	20	20		X		Hilltop
F-13	29.58629	-98.62704	C	30	Kep	4.0	2.0	13.0	N50°E	10			N	40	80		80	X		Hilltop
F-14	29.58641	-98.62718	CD	5	Rep	7.0	7.0	0.5					F	10	15	15		X		Hilltop
F-15	29.58680	-98.62688	CD	5	Kep	6.0	6.0	0.5					F	10	15	15		X		Hilltop
F-16	29.58694	-98.62402	CD	5	Kep	5.0	3.0	0.9					F	10	15	15		X		Hilltop

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: **UNIVERSITY OF TEXAS AT SAN ANTONIO**																	
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)	INFILLING	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
F-17	29.58593	-98.62778	CD	5	Kep	5.0	5.0	0.6					F	10	15	15		X		Hilltop
F-18	29.58589	-98.62812	CD	5	Kep	1.0	0.4	1.0					F,N	10	15	15		X		Hilltop
F-19a	29.58438	-98.62860	CD	5	Kep	5.0	4.0	0.5					F	25	30	30		X		Hilltop
F-19b	29.58440	-98.62897	CD	5	Kep	3.0	3.0	0.5					C	25	30	30		X		Hilltop
F-19c*	29.58368	-98.62842	CD	5	Kep	3.0	3.0	0.5					C	25	30	30		X		Hilltop
F-20*	29.58508	-98.62904	CD	5	Kep	1.0	1.0	1.0					F,N	10	15	15		X		Hilltop
F-21	29.58535	-98.62632	SH	20	Kep	100.0	80.0	2.5					F	40	60		60	X		Hilltop
F-22*	29.58153	-98.62392	CD	5	Kdr	6.0	5.0	0.5					F	10	15	15		X		Hilltop
F-23	29.58780	-98.61010	CD	5	Kep	1.0	1.0	1.0					F	10	15	15		X		Hilltop
F-24	29.58783	-98.60995	CD	5	Kep	9.0	6.0	0.5					F	10	15	15		X		Hilltop
F-25	29.58767	-98.60893	SF	20	Kep	0.5	0.2	0.5	N70°W				O	20	40		40	X		Hilltop
F-26	29.58554	-98.61139	CD	5	Kdr	4.0	4.0	0.6					F	10	15	15		X		Hilltop
F-27*	29.58398	-98.60752	CD	5	Kbu	4.0	4.0	0.7					F	10	15	15		X		Hilltop
F-28	29.58784	-98.61889	CD	5	Kep	4.0	1.0	0.6					F	10	15	15		X		Hilltop
F-29	29.58761	-98.61867	CD	5	Kep	5.0	4.0	0.5					F	10	15	15		X		Hilltop
F-30	29.58813	-98.61596	CD	5	Kep	6.0	4.0	0.6					F	10	15	15		X		Hilltop
F-31	29.58820	-98.61581	CD	5	Kep	9.0	6.0	0.9					F	10	15	15		X		Hilltop
F-32	29.58801	-98.61565	CD	5	Kep	0.4	0.4	0.5					F	0	5	5		X		Hilltop
F-33	29.58789	-98.61408	MB	30	Kep	1.0	1.0	12.0					N	40	70		70	X		Hilltop
F-34	29.58764	-98.61465	CD	5	Kep	6.0	6.0	1.5					F	10	15	15		X		Hilltop
F-35	29.58753	-98.61539	CD	5	Kep	6.0	6.0	0.5					F	10	15	15		X		Hilltop
F-36	29.58749	-98.61565	CD	5	Kep	10.0	6.0	1.0					F	10	15	15		X		Hilltop
F-37*	29.58177	-98.60891	CD	5	Kbu	5.0	5.0	0.9					F	10	15	15		X		Hilltop
F-38	29.58160	-98.61100	CD	5	Kbu	15.0	10.0	1.5					F	10	15	15			X	Streambed
F-39	29.58346	-98.61458	SFZ	30	Kep	50.0	20.0	0.1	N30°E		3/4'	0.13	F	20	50		50		X	Streambed
F-40	29.58368	-98.61377	SC	20	Kep	1.0	0.5	2.5					N,C	30	50		50	X		Hillside
F-41	29.58094	-98.61159	CD	5	Kbu	4.0	1.5	0.9					F	10	15	15		X		Hillside
F-42a	29.58396	-98.61402	C	30	Kep	1.5	1.0	9.0	N46°E	10			N	40	80		80	X		Floodplain
F-42b	29.58396	-98.61396	SW	30	Kep	75.0	30.0	4.0	N48°E	10			F,O	40	80		80		X	Floodplain
F-43	29.58521	-98.61361	C	30	Kep	30.0	4.0	14.0	N50°E	10			N	50	90		90	X		Hilltop
F-44	29.58562	-98.61383	SF	20	Kep	1.5	0.3	1.0	N50°E	10			F,O	15	45		45	X		Hilltop
F-45	29.58606	-98.61430	SFZ	30	Kep	20.0	10.0	0.5	N50°E	10			C	20	60		60	X		Hillside
F-46	29.58668	-98.61431	CD	5	Kep	1.5	0.3	1.0					O	10	15	15		X		Hillside
F-47	29.58770	-98.61425	CD	5	Kep	5.0	3.5	0.5					F	10	15	15		X		Hillside
F-48	29.58813	-98.61385	SH	20	Kep	30.0	30.0	10.0	N50°E	10			C	50	80		80	X		Hilltop
F-49	29.58734	-98.61144	MB	30	Kep	1.0	1.0	12.0					N	40	70		70	X		Hilltop

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: **UNIVERSITY OF TEXAS AT SAN ANTONIO**

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A FEATURE ID	1B * LATITUDE	1C* LONGITUDE	2A FEATURE TYPE	2B POINTS	3 FORMATION	4 DIMENSIONS (FEET)			5 TREND (DEGREES)	5A DOM	6 DENSITY (NO/FT)	7 APERTURE (FEET)	8A INFILLING	8B RELATIVE INFILTRATION RATE	9 TOTAL	10 SENSITIVITY		11 CATCHMENT AREA (ACRES)		12 TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
F-50	29.58752	-98.61131	SH	20	Kep	50.0	40.0	6.0	N60°E	10			C	40	70		70	X		Hilltop
F-51	29.58731	-98.61241	SH	20	Kep	2.5	1.5	3.0					C	40	60		60	X		Hilltop
F-52	29.58811	-98.61151	CD	5	Kep	3.5	3.5	1.5					F	10	15	15		X		Hilltop
F-53	29.58812	-98.61046	CD	5	Kep	7.0	5.0	0.5					F	10	15	15		X		Hilltop
F-54	29.58829	-98.61045	CD	5	Kep	5.0	3.5	0.6					F	10	15	15		X		Hilltop
F-55	29.58880	-98.61006	CD	5	Kep	6.0	6.0	1.0					F	10	15	15		X		Hilltop
F-56	29.57947	-98.63115	SFZ	30	Kbu	75.0	35.0	0.1					N,C	5	35	35			X	Floodplain
F-57*	29.58066	-98.62759	CD	5	Kdr	5.0	5.0	0.6					F	10	15	15		X		Hillside
F-58	29.58175	-98.62847	CD	5	Kdr	5.5	1.5	0.5					F	10	15	15		X		Hillside
F-59	29.58726	-98.62258	SH	20	Kep	25.0	25.0	5.5	N60°E	10			N	45	75		75	X		Hilltop
F-60*	29.57910	-98.62367	CD	5	Kbu	4.0	4.0	1.5					F	10	15	15		X		Hilltop
F-61	29.58803	-98.61389	CD	5	Kep	4.0	3.5	1.0					F	10	15	15		X		Hilltop
F-62	29.58740	-98.61347	C	30	Kep	6.0	3.0	50.0	N50°E	10			N	50	90		90	X		Hilltop
F-63	29.58768	-98.61377	C	30	Kep	12.0	4.0	18.0	N40°E	10			N,C	50	90		90	X		Hilltop
F-64	29.58634	-98.61996	SH	20	Kep	45.0	30.0	9.0					C	50	70		70	X		Hilltop
F-65	29.58622	-98.61807	SH	20	Kep	6.0	6.0	2.0					C	50	70		70	X		Hilltop
F-67	29.58423	-98.63049	SFZ	30	Kep	1700	50.0	0.5	N40°E	10	1/2'	0.1	F,O	20	60		60		X	Floodplain
F-68	29.58379	-98.61379	SFZ	30	Kep	4000	40.0	0.5	N40°E	10	1/1'	0.2	F,O	30	70		70		X	Floodplain
F-71	29.58818	-98.60768	MB	30	Kep	0.3	0.3	320.0					N	50	80		80	X		Hilltop

DATUM: NAD 83 ^GRAYED Features are located within CHU-9 and were not re-evaluated during this Geologic Assessment, See Attachment C for more information.
* Features identified in previous assessments that were not observed during this assessment. ** Features not classified as sensitive, although previous assessments classified these features as sensitive or possibly sensitive.

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

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

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

Date July 6, 2020

ATTACHMENT B

UNIVERSITY OF TEXAS AT SAN ANTONIO
Stratigraphic Column

Period	Epoch	Group	Formation	Member	Thickness	Lithology	Hydrologic Unit	Hydrostratigraphic Unit	Hydrologic Function	Porosity	Cavern Development
Cretaceous	Late Cretaceous	Eagle Ford	--	--	20–40	Brown, flaggy, sandy shale and argillaceous limestone; iron nodules; *Inoceramus* sp., shark teeth, and fossil fragments; some freshly fractured flagstone emits a petroliferous odor	Upper confining unit to the Edwards aquifer	--	Confining	IP, FR, BP	None
		Washita	Buda Limestone	--	40–50	Buff to light gray, dense nodular mudstone and wackestone containing calcite-filled veins and bluish dendrites; porcelaneous limestone that weathers from a smooth gray to grayish white; nodular surface has a conchoidal fracture; commonly contains iron nodules, iron staining, and shell fragments		--	Confining	FR	Minor surface karst
			Del Rio Clay	--	40–50	Fossiliferous blue-green to yellow-brown clay with thin beds of packstone; contains iron nodules; *Ilymatogyra arietina*		--	Confining	None	None
			Georgetown	--	20–30	Reddish-brown, gray to light tan, shaley mudstone and wackestone; commonly contains black dendrites, iron nodules, and iron staining; often fossiliferous with *Plesioturrilites brazoensis* , *Waconella wacoensis* common	Edwards Aquifer	I	Confining	MO	None
	Early Cretaceous	Edwards	Person	Cyclic and marine, undivided	80–90	Pelletal limestone; ranges from chalk to mudstone and miliolid grainstone; thin to massive beds; some crossbedding evident; a packstone containing large caprinids is present near contact with the overlying Georgetown Formations; chert is common as beds and large nodules		II	Aquifer	MO, BU, VUG, BP, FR, CV	Many subsurface; might be associated with earlier karst development
				Leached and collapsed,undivided	70–90	Hard, dense, recrystallized limestone;mudstone, wackestone, packstone, and grainstone; contains chert as beds and large nodules; heavily bioturbated with iron-stained beds; often stromatolitic; *Toucasia* sp. Often found above contact with the underlying regional dense member; *Montastrea roemeriana* and oysters rare		III	Aquifer	BU, VUG, FR, BP, BR, CV	Extensive lateral development; large rooms
				Regional dense	20–24	Dense, shaly limestone; oyster shell mudstone and iron wackestone; wispy iron staining; chert nodules rarer than in the rest of the chert-bearing Edwards Group		IV	Confining	FR, CV	Very few; only vertical fracture enlargement
			Kainer	Grainstone	40–50	Hard, dense limestone that consists mostly of a tightly cemented miliolid skeletal fragment grainstone; contains interspersed chalky mudstone and wackestone; chert as beds and nodules; crossbedding and ripple marks are common primarily at the contact with the overlying regional dense bed		V	Aquifer	IP, IG, BU, FR, BP, CV	Few
				Kirsch-berg Evaporite	40–50	Highly altered crystalline limestone and chalky mudstone with occasional grainstone associated with tidal channels; chert as beds and nodules, boxwork molds are common, matrix recrystallized to a coarse grain spar; intervals of collapse breccia and travertine deposits		VI	Aquifer	IG, MO, VUG, FR, BR, CV	Probably extensive cave development
				Dolomitic	90–120	Hard, dense to granular, dolomitic limestone; chert as beds and nodules (absent in lower 20 ft); *Toucasia* sp. abundant; lower three-fourths composed of sucrosic dolomites and grainstones with hard, dense limestones interspersed; upper one-fourth composed mostly of hard, dense mudstone, wackestone, packstone, grainstone, and recrystallized dolomites with bioturbated beds		VII	Aquifer	IP, IC, IG, MO, BU, VUG, FR, BP, CV	Caves related to structure or bedding planes
				Basal nodular	40–50	Moderately hard, shaly, nodular, burrowed mudstone to miliolid grainstone that also contains dolomite; contains dark, spherical textural features known as black rotund bodies; *Ceratostreon texana* , *Caprina* sp., miliolids, and gastropods		VIII	Aquifer, confining unit in areas without caves	IP, MO, BU, BP, FR, CV	Large lateral caves at surface

Source: Clark, Golab, and Morris (2016); Cavern development modified from Stein and Ozuna (1995). Porosity types - Fabric selective: IP, interparticle porosity; IG, intergranular porosity; IC, intercrystalline porosity; SH, shelter porosity; MO, moldic porosity; BU, burrowed porosity; FE, fenestral; BP, bedding plane porosity. Not fabric selective: FR, fracture porosity; CH, channel porosity; BR, breccia; VUG, vug porosity; CV, cave porosity.

ATTACHMENT B

ATTACHMENT C

SUMMARY

The University of Texas at San Antonio (UTSA) site is located in Bexar County, Texas. The project site encompasses an area that is bounded by Loop 1604 to the north, UTSA Boulevard to the south, Babcock Road to the west, and Valero Way to the East. The site is comprised of gently undulating topography, with surface waters draining to the south into two tributaries of Leon Creek.

Pape-Dawson and others have conducted previous mapping of portions of the project site in the past. These Geologic Assessment reports were reviewed during preparation of this report, and previously identified features were re-evaluated during the site visit. This report presents only those features that are still present and in accordance with *Instructions for Geologists for Geologic Assessments in the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585 Instructions).*

Twenty-one (21) naturally occurring sensitive features were identified on site in previous Geologic Assessments. Based on the results of the field survey conducted during this geologic assessment in accordance with *Instructions for Geologists for Geologic Assessments in the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585 Instructions),* no additional naturally occurring sensitive features were identified on site. Based on the frequency distribution of sensitive features, the overall potential for fluid migration to the Edwards Aquifer for the site is moderate (particularly in undeveloped areas within the Person Formation).

Excluded from this assessment are the areas where impervious cover prevents observation of geologic outcrops or features. These areas are shown on the Site Geologic Map, labeled as impervious cover. Additionally, the area within Critical Habitat Unit (CHU-9) is also excluded from this assessment as sensitive features within CHU-9 are protected by a buffer that exceeds compliance with *TCEQ RG-348 Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices / Chapter 5 and RG-348 Addendum.* Additional features identified in this area would not result in increasing the size of the existing buffer area.

Buffers for sensitive features outside of CHU-9 were created during previous Water Pollution Abatement Plan (WPAP) submittals to TCEQ. None of the previously approved sensitive feature buffers were modified during this geologic assessment.

SITE GEOLOGY

The subject site is located within the cyclic and marine (Kepcm) and leached and collapsed (Keplc) members of the Person formation, the Buda Limestone (Kbu), the Del Rio Clay (Kdr), and the Georgetown (Kgt) formation. These formations are described in further detail below:

- The Keplc is characterized by interbedded, iron-stained, massive and bioturbated limestone with abundant chert. Karst development within the Keplc is generally characterized by large

sinkholes. Caves often develop as large horizontal rooms.

- The Kepcm is characterized by a mudstone to pack stone miliolid grainstone, and chert. Karst development within the Kepcm is characterized by small sinkholes and caves developed as vertical shafts as well as lateral rooms.

- The Kbu is characterized by buff, light gray, dense mudstone. Karst development in the Kbu is generally minor.

- Kdr is a blue-green to yellow-brown waxy clay. Karst development within the Kdr does not occur.

- The Kgt formation is characterized by reddish-brown to light tan marly limestone. Karst development within the Kgt generally does not occur.

The predominant trend of faults in the vicinity of the site is approximately N55°E, based on faults identified during the previous mapping of the area.

Subsurface geotechnical, geophysical, hydrologic, and biological studies have been completed during the recent development of UTSA. Consequently, geologic formation outcropping, and features such as faults and man-made systems that were identified in previous geologic assessments have been assessed as new features in this geologic assessment.

FEATURE DESCRIPTIONS:

Features F-11, F-23 to F-26, F-30 to F-36, F-39, F-40, F-42a, F-42b, F-43 to F-55, and F-61 to F-63, are located within CHU-9 and were excluded from this geologic assessment, but are included in the Geologic Assessment table and on the Site Geologic Map for informational purposes.

Features 19-S-12, 19-F-2, F-0, F-4, F-5a, F-5b, F-5c, F-5d, F-6, F-9, F-12, F-12a, F-12b, F-12c, F-18, F-19a, F-19b, F-19c, F-20, F-22, F-27, F-37, F-56, F-57 and F-60 are non-sensitive features that were identified in previous Geologic Assessments that were not found during this Geologic Assessment and are presumed to be covered or destroyed due to development of UTSA infrastructure. Referenced features are included in the GA table and on the Site Geologic Map for informational purposes.

A description of the features observed onsite is provided below:

Feature S-1 and S-2 (multiple locations)
These man-made features are existing sewer lines that are partially located beneath pavement. The sewer lines have been trenched through bedrock and backfilled with a mix of fine and course fill material that may be more permeable than surrounding undisturbed areas. Therefore, the probability of rapid infiltration is intermediate.

Feature S-3 (multiple locations)
These man-made features are existing storm drain lines that are partially located beneath pavement. The storm drain lines have been trenched through bedrock and backfilled with a mix of fine and course fill material that may be more permeable than surrounding undisturbed areas. Therefore, the probability of rapid infiltration is intermediate.

Feature S-4
This feature is a hinge/interformational fault. Along the hinge portion of the fault, east of fault S-6, it displaces the Keplc and Kepcm. Along the interformational portion of the fault, west of fault S-6, it juxtaposes the Keplc to the northwest and the Kdr to the southeast. The fault was identified using aerial photographs and through field evidence. This fault is attributed to the regional activity associated with the Balcones Fault Zone. Approximately 60 feet of vertical displacement may have occurred along this fault on site. No areas of enhanced permeability along the fault were observed and an overall lack of field evidence suggests a low probability for rapid infiltration.

Feature S-5
This feature is an interformational fault that juxtaposes the Kepcm and Kgt to the northwest and the Kbu and Kef to the southeast. The fault was identified using aerial photographs and through field evidence. This fault is attributed to the regional activity associated with the Balcones Fault Zone. Approximately 90 feet of vertical displacement may have occurred along this fault on site. No areas of enhanced permeability along the fault were observed and an overall lack of field evidence suggests a low probability for rapid infiltration.

Feature S-6
This feature is an interformational fault that juxtaposes the Kepcm to the east and the Kdr and Kgt to the west. The fault was identified using aerial photographs and through field evidence. This cross fault is likely the secondary result of vertical displacement of faults S-4 and S-5. Approximately 30-50 feet of vertical displacement may have occurred along this fault on site. No areas of enhanced permeability along the fault were observed and an overall lack of field evidence suggests a low probability for rapid infiltration.

Feature S-7
This feature is an intraformational fault within the kdr. The fault was identified through subsurface studies for development of UTSA. These studies indicate that displacement of this fault is due to secondary stress associated with fault S-4. Less than 20 feet of vertical displacement may have occurred along this fault on site. No areas of enhanced permeability along the fault were observed

and an overall lack of field evidence suggests a low probability for rapid infiltration.

Features S-8, F-1 to F-4, F-7, F-8, F-10, F-14 to F-17, F-28, F-29, F-38, F-41, and F-58
These features are non-karst closed depressions caused by uplift and decay of tree roots, scour along drainage areas, or anthropogenic activities. The non-karst origin and lack of evidence of direct infiltration suggests a low probability of rapid infiltration.

Feature 09-F-03**
This feature is a solution cavity that has tightly packed clay at a depth of 3 feet below the ground surface. Initial discovery of this feature recommended additional evaluation. Representatives from Pape-Dawson, including a geologist, UTSA personnel, and a geologist from TCEQ met in the field on November 28, 2017 to re-evaluate 09-F-03. It was concluded at that meeting that 09-F-03 did not appear to have a hydrogeologic connection to the Edwards Aquifer and should be classified as non-sensitive. On December 21, 2017, the TCEQ issued a letter confirming this non-sensitive rating of the feature. Additionally, this feature is no longer observable as development as covered the feature. The probability of rapid infiltration is low.

Feature F-13
This feature initially consisted of a sinkhole measuring roughly 10' x 8' x 3.5'. Excavation through fractured rock using a rock bar and jackhammer exposed a portal into an open void measuring approximately 1' in diameter at a depth of approximately 3' below the surface. The portal occurs at the juncture between the ceiling and southern wall of a small shaft measuring roughly 4' long by 2' wide by 13' deep. A solution cavity continues downward from the base of the cave for an unknown distance but is humanly inaccessible. The cave is formed along fractures trending N50E and N68E. The probability of rapid infiltration is high.

Feature F-21
This feature is a sinkhole. It is located immediately northwest of the eastern end of Chisolm Hall dormitory. No excavation was attempted due to the size of the feature. Standing water in the sinkhole was observed during the course of investigations of other nearby features following heavy overnight rains. Standing water in the feature diminished faster than the background rate of dissipation. Therefore, the probability of rapid infiltration is high.

Feature F-56
This feature is a fractured rock outcrop in the bed of Maverick Creek measuring approximately 75' x 35' containing numerous slightly solution enlarged fractures. Since the lithology consists of Kgt, it is not considered to be a potential Edwards aquifer recharge feature. Therefore, the probability of rapid infiltration is low.

Feature F-59
This feature is a composite solution sinkhole with three solution cavity surface expressions located in an area measuring approximately 30' in diameter. Excavation of two cavities revealed humanly inaccessible solution cavities and solution-enlarged fractures extending downward. After

excavation, the northernmost solution cavity measured approximately 3' x 2.5' x 5.5' and the southernmost solution cavity measured approximately 8' x 4' x 3. The probability of rapid infiltration is high.

Feature F-64
This feature is a sinkhole surrounded by parking facilities to the north, east, and west. It is one of the largest karst features on the UTSA campus and a site of rapid recharge. Additional subsurface void space (cave passage) is very likely to occur beneath and perhaps adjacent to the feature. No excavation was attempted due to the size of the feature and boulders found within. A rock gabion was installed around the southern portion of the sinkhole. Immediately adjacent to the west of the sinkhole is an asphalt parking lot. A storm drain was installed to divert surface run-off from entering the feature. The probability of rapid infiltration is high.

Feature F-65
This feature is a sinkhole surrounded by parking areas and roadways. It is covered by a section of chain-link fence. No excavation of this feature has been attempted. The probability of rapid infiltration is high.

Feature F-67
This feature is a zone of intermittently exposed solution enlarged fractured rock outcrops occurring in the 100-year floodplain of Maverick Creek upstream of the fault that juxtaposes the Person Formation with the Del Rio Clay. Fractures closest to the fault are predominantly oriented between N40E and N80E. The probability of rapid infiltration is intermediate.

Feature F-68
This feature is a zone of intermittently exposed solution enlarged fractured rock outcrops occurring in the 100-year floodplain of unnamed tributaries of Leon Creek upstream of the fault that juxtaposes the Person Formation with the Del Rio Clay. Fractures closest to the fault are predominantly oriented between N40E and N80E. The probability of rapid infiltration is intermediate.

Feature F-71
This feature is a monitoring well (Texas Water Development Board Ground Water Data System well number 68-28-113, LUSUR #24) operated by the Edwards Aquifer Authority. It is 320 feet deep and is completed within the Edwards Aquifer. The wellhead is located along the western curb of Valero Drive.

REFERENCES

Clark, A.K., Golab, J.A., and Morris, R.R., 2016, Geologic Framework and Hydrostratigraphy of the Edwards and Trinity Aquifers Within Northern Bexar and Comal Counties, Texas: U.S. Geological Survey Scientific Investigations Map 3366, scale 1:24,000, 20 p. pamphlet.

Frost GeoSciences, 2017, Geologic Assessment: The UTSA East Campus Tract +/-17 Acres.

Frost GeoSciences, 2019, Geologic Assessment: UTSA Residential Lot #5 Tract +/-6 Acres.

Nationwide Environmental Title Research, LLC. Historical Aerials, historicalaerials.com, June 5, 2020.

Pape-Dawson, 2014, Geologic Assessment: UTSA Intramural Fields.

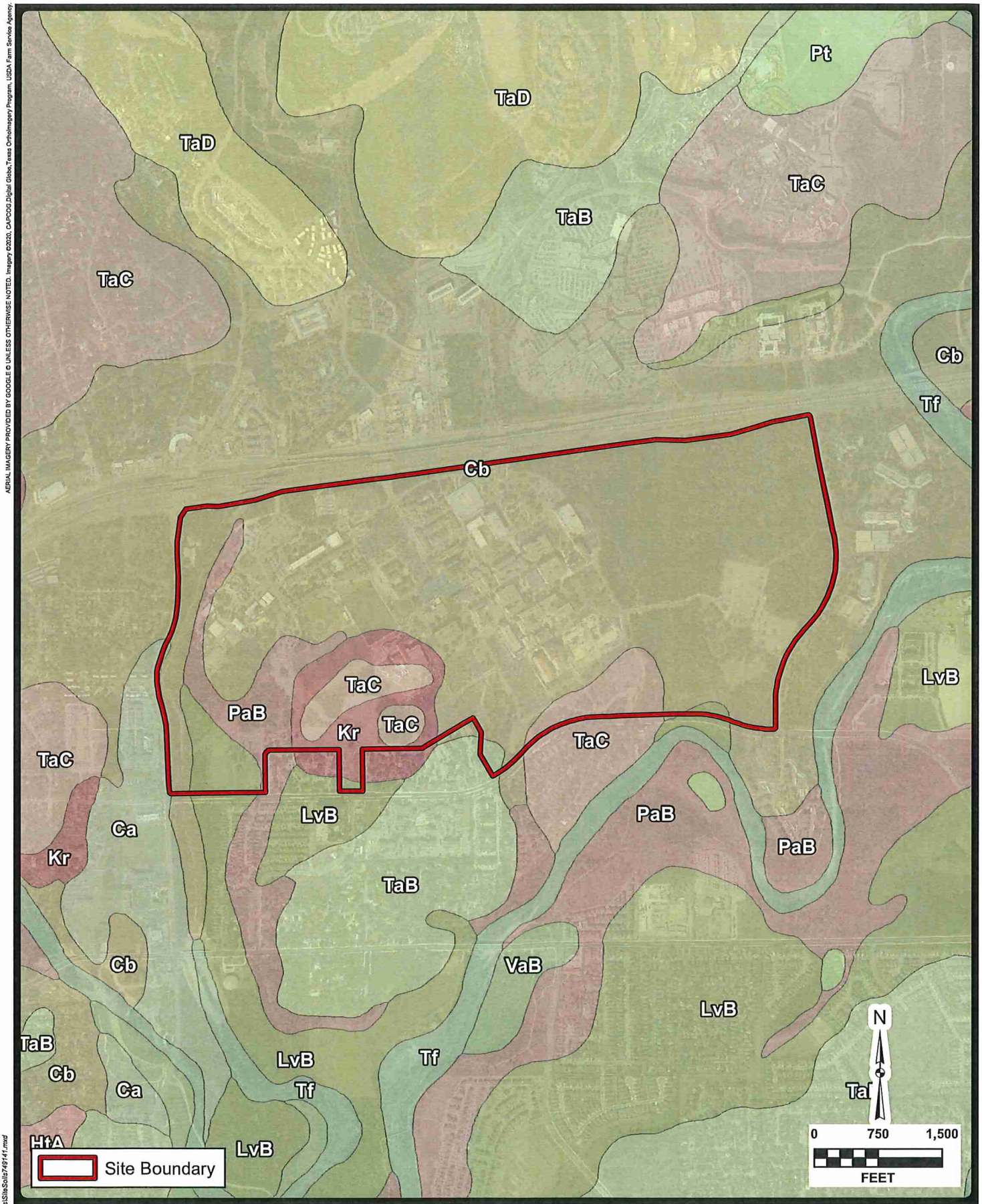
Pape-Dawson, 2019, Geologic Assessment: UTSA – Roadrunner Athletic Center of Excellence.

SWCA, 2003, Geologic Assessment: Undeveloped Portions of the 568.36-Acre UTSA Campus.

SWCA, 2009, Geologic Assessment: 2.34-acre Project Area North of the HSS Building at the University of Texas at San Antonio Campus.

Texas Water Development Board, Wells in TWDB Groundwater Database Viewer, http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer, June 5, 2020.

ATTACHMENT D



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Date: Jun 24, 2020 3:15:12 PM User: HStultz
File: P:\7491\41\ENVIGIA\Attachments\SiteSoils\749141.mxd

JOB NO.	7491-41
DATE	Jun 2020
DESIGNER	HS
CHECKED	HDJ
DRAWN	HS
SHEET	Attachment D

UNIVERSITY OF TEXAS AT SAN ANTONIO

SAN ANTONIO, TEXAS
SITE SOILS MAP

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

LEGEND

PROJECT LIMITS
FLOODPLAIN
STREAM
IMPERVIOUS COVER

GEOLOGIC SYMBOLS AND LINES

- S-1 — POTENTIAL RECHARGE FEATURE
- CONTACT, LOCATED APPROXIMATELY
- CONTACT, INFERRED
- FAULT, LOCATED APPROXIMATELY (D, DOWNTHROWN SIDE; U, UPTHROWN SIDE)
- FAULT, EXTRAPOLATED
- FAULT, INFERRED
- STRIKE AND DIP OF BEDDING
- STRIKE AND DIP OF JOINTS
- STRIKE OF VERTICAL JOINTS
- C — CAVE
- SOLUTION CAVITY

GEOLOGIC FORMATIONS

Qal	ALLUVIUM	Kgt	GEORGETOWN
Kef	EAGLE FORD	Kep	PERSON
Kbu	BUDA	Kek	KAINER
Kdr	DEL RIO	Kgr	GLEN ROSE

- SOLUTION ENLARGED FRACTURE
- SWALLOW HOLE
- SINKHOLE
- NON-KARST CLOSED DEPRESSION
- OTHER NATURAL BEDROCK FEATURES
- SPRING/SEEP
- MB — MAN-MADE FEATURE IN BEDROCK
- W — WATER WELL
- S-1 (SANITARY SEWER LINE: EAST MAIN)
- S-2 (SANITARY SEWER LINE: WEST MAIN)
- S-3 (VARIOUS STORM DRAIN LINES)

NOTE: THE GEOSCIENTIST SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR PURPOSES OF GEOLOGIC INFORMATION. ALL OTHER INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SIGNED AND SEALED CIVIL ENGINEERING DRAWINGS.

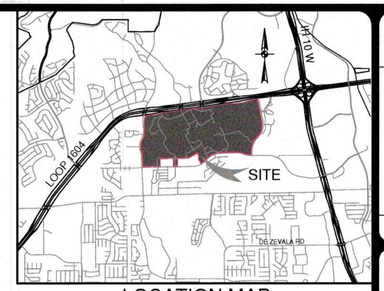
NOTE: ONLY THOSE GEOLOGIC FEATURES WITHIN THE AREA OF THIS ASSESSMENT ARE INCLUDED. THEREFORE, THE FEATURES MAY NOT BE NUMBERED SEQUENTIALLY.

"*" DENOTES FEATURES IDENTIFIED IN PREVIOUS ASSESSMENTS THAT WERE NOT OBSERVED DURING THIS ASSESSMENT.

"**" DENOTES FEATURES NOT CLASSIFIED AS SENSITIVE, ALTHOUGH PREVIOUS ASSESSMENTS CLASSIFIED THESE FEATURES AS SENSITIVE OR POSSIBLY SENSITIVE.

NOTE: AREAS OUTLINED IN YELLOW ARE BUFFER AREAS AS APPROVED IN PREVIOUS WPAP'S, OR FOR CRITICAL HABITAT UNIT 9.

SCALE: 1"= 300'
0' 300' 600' 900'



LOCATION MAP
NOT-TO-SCALE

NO.	REVISION	DATE

STATE OF TEXAS
HENRY STULTZ III
GEOLOGY
12121
LICENSED
PROFESSIONAL GEOSCIENTIST
July 6, 2020

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 | TBPG FIRM REGISTRATION #50351

UNIVERSITY OF TEXAS AT SAN ANTONIO

SAN ANTONIO, TEXAS
SITE GEOLOGIC MAP
WATER POLLUTION ABATEMENT PLAN

JOB NO. 7491-41
DATE JULY 2020
DESIGNER HS
CHECKED HDJ DRAWN HS

ATTACHMENT D

Date: Jul 06, 2020, 12:51pm User ID: hstultz
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RECHARGE AND TRANSITION ZONE EXCEPTION REQUEST FORM (TCEQ-0628)

Recharge and Transition Zone Exception Request Form

Texas Commission on Environmental Quality
30 TAC §213.9 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 **Recharge and Transition Zone Exception Request Form** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Jason T. Diamond, P.E.
Date: 5-3-23
Signature of Customer/Agent:

Jason T. Diamond

Regulated Entity Name: UTSA - East Campus Drone Enclosure

Exception Request

1. ☒ **Attachment A - Nature of Exception**. A narrative description of the nature of each exception requested is attached. All provisions of 30 TAC §213 Subchapter A for which an exception is being requested have been identified in the description.
2. ☒ **Attachment B - Documentation of Equivalent Water Quality Protection**. Documentation demonstrating equivalent water quality protection for the Edwards Aquifer is attached.

Administrative Information

3. ☒ 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.
4. ☒ The applicant understands that no exception will be granted for a prohibited activity in Chapter 213.
5. ☒ The applicant understands that prior approval under this section must be obtained from the executive director for the exception to be authorized.

ATTACHMENT A

UTSA – EAST CAMPUS DRONE ENCLOSURE
Recharge Zone Plan Exception Request

Attachment A – Nature of Exception

The UTSA – East Campus Drone Enclosure is a 0.74-acre project site located within the existing University of Texas at San Antonio Campus. The location is approximately 400 LF southwest of the Valero Way and E Campus Dr intersection in the southeast area of campus. This 0.74-acre site is within the approved UTSA Masterplan – 2020 WPAP MOD (EAPP ID No. 13001257) overall project limits. There were no naturally occurring sensitive features identified within these project limits, and the geologic assessment is included with this application for reference.

This UTSA – East Campus Drone Enclosure Exception is being submitted for the erection of a drone enclosure net and associated walkway on 0.74 acres within the previously approved project limits. The site was previously a vegetated filter strip area and the adjacent areas will remain undeveloped. Proposed regulated activities include clearing, grading, erection of a drone enclosure net, and construction of a walkway. Approximately 0.05 acres of impervious cover, or 6.8% of the 0.74-acre project limits, are proposed for the site. Due to an overall impervious cover percentage below 20%, no Permanent Best Management Practices (BMPs) are required. Please refer to the included exhibits for details of the proposed construction.

This site will not generate wastewater or require any potable water.

ATTACHMENT B

UTSA – EAST CAMPUS DRONE ENCLOSURE
Recharge Zone Plan Exception Request

Attachment B – Documentation of Equivalent Water Quality Protection

This UTSA – East Campus Drone Enclosure is being submitted for the erection of a drone enclosure net and associated walkway on 0.74-acres within the previously approved UTSA Masterplan – 2020 WPAP MOD (EAPP ID No. 13001257) project limits. The site was previously a vegetated filter strip area and the adjacent areas will remain undeveloped. Proposed regulated activities include clearing, grading, erection of the drone enclosure net, and construction of the walkway. Approximately 0.05 acres of impervious cover, or 6.8% of the 0.74-acre project limits, are proposed for this site. Due to an overall impervious cover percentage below 20%, no Permanent Best Management Practices (BMPs) are required.

Due to limited disturbance and impervious cover, and the surrounding areas to remain undeveloped, equivalent protection is satisfied.

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: Jason T. Diamond, P.E.

Date: 5-3-23

Signature of Customer/Agent:

Jason T. Diamond

Regulated Entity Name: UTSA - East Campus Drone Enclosure

Project Information

Potential Sources of Contamination

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

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

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

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Leon Creek

Temporary Best Management Practices (TBMPs)

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

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

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

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

☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. ☒ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

   ☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

   ☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. ☒ **Attachment F - Structural Practices**. A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.

10. ☒ **Attachment G - Drainage Area Map**. A drainage area map supporting the following requirements is attached:

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

    ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

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

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

☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. ☐ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

20. ☒ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

ATTACHMENT A

Attachment A – Spill Response Actions

In the event of an accidental leak or spill:

- Spill must be contained and cleaned up immediately.
- Spills will not be merely 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 should be spread over the spill area to 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:

- Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site. https://www.tceq.texas.gov/response/spills/spill_rq.html
- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.

- Notification should first be made by telephone and followed up with a written report.

- The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.

- Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

- 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

Attachment B – Potential Sources of Contamination

Other potential sources of contamination during construction include:

- Potential Source
  - Asphalt products used on this project.
- Preventative Measure
  - After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain.
- Potential Source
  - Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.
- Preventative Measure
  - Vehicle maintenance when possible will be performed within the construction staging area.
  - Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.
- Potential Source
  - Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.
- Preventative Measure
  - Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.
  - Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.
  - Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.
  - A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.
- Potential Source
  - Miscellaneous trash and litter from construction workers and material wrappings.
- Preventive Measure
  - Trash containers will be placed throughout the site to encourage proper trash disposal.
- Potential Source
  - Construction debris.
- Preventive Measure
  - Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.

- Potential Source
  - Spills/Overflow of waste from portable toilets
- Preventative Measure
  - Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets.
  - Portable toilets will be placed on a level ground surface.
  - Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.

ATTACHMENT C

Attachment C – Sequence of Major Activities

The sequence of major activities which disturb soil during construction on this site will be divided into two stages. The first is site preparation that will include installation of TBMPs, clearing and grubbing of vegetation where applicable. This will disturb approximately 0.74 acres. The second is construction that will include erection of the drone enclosure net, construction of the crushed granite walkway, landscaping and site cleanup. This will disturb approximately 0.74 acres.

ATTACHMENT D

Attachment D – Temporary Best Management Practices and Measures

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 cross the site. All TBMPs are adequate for the drainage areas they serve.

b. 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.

Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of this work can begin, 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 stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, and (3) installation of construction staging area(s).

Prior to the initiation of construction, all previously installed control measures will be repaired or reestablished for their designed or intended purpose. This work, which is the remainder of all activity on the project, may also disturb additional soil. 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 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.

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

There are no sensitive features observed within the project limits.. 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. 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.

There are no sensitive features observed within the project limits. Temporary BMPs utilized are adequate for the drainage areas served.

BMP measures utilized in this plan are intended to allow stormwater to continue downstream after passing through the BMPs. This will allow stormwater runoff to continue downgradient to streams or features that may exist downstream of the site.

ATTACHMENT F

Attachment F – Structural Practices

The following structural measures will be installed prior to the initiation of site preparation activities:

- Erection of silt fences or sediment control rolls along the downgradient boundary of construction activities, as located on Exhibit 1 and illustrated in Exhibit 2.
- Installation of stabilized construction entrance/exit(s) and construction staging area(s), as located on Exhibit 1, and illustrated on Exhibit 2.

ATTACHMENT G

Attachment G – Drainage Area Map

No more than ten (10) acres will be disturbed. All TBMPs utilized are adequate for the drainage areas served.

ATTACHMENT I

INSPECTIONS

Designated and qualified person(s) shall inspect Pollution Control Measures weekly and within 24 hours after a storm event. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of Storm Water TPDES data for a period of three years after the Notice of Termination (NOT) has been filed. A copy of the Inspection Report Form is provided in this Storm Water Pollution Prevention Plan.

As a minimum, the inspector shall observe: (1) significant disturbed areas for evidence of erosion, (2) storage areas for evidence of leakage from the exposed stored materials, (3) structural controls (rock berm outlets, silt fences, drainage swales, etc.) for evidence of failure or excess siltation (over 6 inches deep), (4) vehicle exit point for evidence of off-site sediment tracking, (5) vehicle storage areas for signs of leaking equipment or spills, (6) concrete truck rinse-out pit for signs of potential failure, (7) embankment, spillways, and outlet of sediment basin (where applicable) for erosion damage, and (8) sediment basins (where applicable) for evidence that basin has accumulated 50% of its volume in silt. Deficiencies noted during the inspection will be corrected and documented within seven calendar days following the inspection or before the next anticipated storm event if practicable.

Contractor shall review Sections 1.3 and 1.4 of TCEQ's Technical Guidance Manual for additional BMP inspection and maintenance requirements.

UTSA – EAST CAMPUS DRONE ENCLOSURE
Recharge Zone Plan Exception Request

Pollution Prevention Measure	Inspected in Compliance	Corrective Action Required	
		Description (use additional sheet if necessary)	Date Completed
Best Management Practices			
Natural vegetation buffer strips			
Temporary vegetation			
Permanent vegetation			
Sediment control basin			
Silt fences			
Rock berms			
Gravel filter bags			
Drain inlet protection			
Other structural controls			
Vehicle exits (off-site tracking)			
Material storage areas (leakage)			
Equipment areas (leaks, spills)			
Concrete washout pit (leaks, failure)			
General site cleanliness			
Trash receptacles			
Evidence of Erosion			
Site preparation			
Roadway or parking lot construction			
Utility construction			
Drainage construction			
Building construction			
Major Observations			
Sediment discharges from site			
BMPs requiring maintenance			
BMPs requiring modification			
Additional BMPs required			

_____ A brief statement describing the qualifications of the inspector is included in this SWP3.

"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 gather and evaluate 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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

"I further certify I am an authorized signatory in accordance with the provisions of 30 TAC §305.128."

Inspector's Name _____ Inspector's Signature _____ Date _____

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date
Installation of BMPs	

Dates when construction activities temporarily or permanently cease on all or a portion of the project:

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date
Removal of BMPs	

ATTACHMENT J

Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

Interim on-site stabilization measures, which are continuous, will include minimizing soil disturbances by exposing the smallest practical area of land required for the shortest period of time and maximizing use of natural vegetation. As soon as practical, all disturbed soil will be stabilized as per project specifications in accordance with pages 1-35 to 1-60 of TCEQ's Technical Guidance Manual (TGM) RG-348 (2005). Mulching, netting, erosion blankets and seeding are acceptable.

Stabilization measures will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, will be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practicable.

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 **Corrina Green**,
Print Name

Director of Major Capital Projects & Real Estate,
Title - Owner/President/Other

of **The University of Texas at San Antonio**,
Corporation/Partnership/Entity Name

have authorized **Pape-Dawson Engineers Consulting Engineers, LLC**
Print Name of Agent/Engineer

of **Pape-Dawson Engineers Consulting Engineers, LLC**
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

3/21/23
Date

THE STATE OF TX §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Corinna Cerna 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 21st day of March, 2023.

NOTARY PUBLIC

Typed or Printed Name of Notary

CHERI LYNN WIESE
Notary ID #[illegible]
My Commission Expires
October 23, 2023

MY COMMISSION EXPIRES:

APPLICATION FEE FORM (TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: UTSA - East Campus Drone Enclsoure

Regulated Entity Location: 400 LF SW of Valero Way and E Campus Dr, San Antonio, TX 78249

Name of Customer: The University of Texas at San Antonio

Contact Person: Corrina Green Phone: (210) 458-8072

Customer Reference Number (if issued):CN 603531864

Regulated Entity Reference Number (if issued):RN 102841897

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☒ Bexar ☐ Medina ☐ Uvalde

☐ Comal ☐ Kinney

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

☐ Austin Regional Office

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

☐ San Antonio Regional Office

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

Site Location (Check All That Apply):

☒ Recharge Zone ☒ Contributing Zone ☒ Transition Zone

Type of Plan	*Size*	*Fee Due*
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	1 Each	$ 500
Extension of Time	Each	$

Date: 5-3-23 Signature: Jason T. Diamond

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 603531864		RN 102841897

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:*

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

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:

City		State		ZIP		ZIP + 4	

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

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

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.*)

UTSA - East Campus Drone Enclosure

23. Street Address of the Regulated Entity: *(No PO Boxes)*								
	City		**State**		**ZIP**		**ZIP + 4**	
24. County	Bexar							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	400 LF southwest of Valero Way and E Campus Dr				
26. Nearest City			**State**	**Nearest ZIP Code**	
San Antonio			TX	78249	
27. Latitude (N) In Decimal:	29.581300 N		**28. Longitude (W) In Decimal:**	-98.609933 W	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	34	52.7	-98	36	35.8

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
1799		238990	

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

Drone Enclosure netting

34. Mailing Address:	**1 UTSA Cir**							
	City	**San Antonio**	**State**	**TX**	**ZIP**	**78249**	**ZIP + 4**	

35. E-Mail Address:	**corrina.green@utsa.edu**	
36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(210) 458-4201		**( ) -**

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:	Jean Autrey, P.E., CESSWI	**41. Title:**	Senior Project Engineer

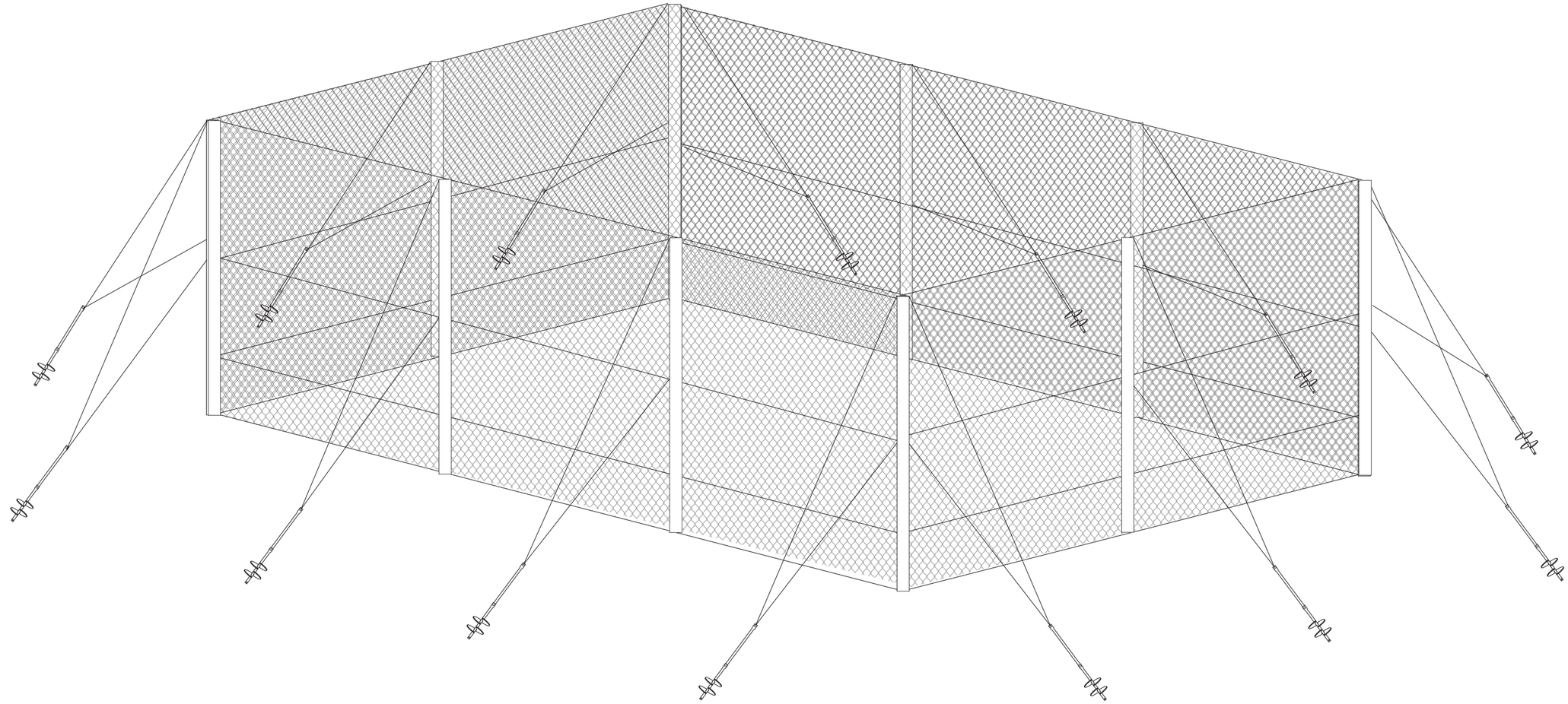
42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(210) 375-9000		(210) 375-9010	jautrey@pape-dawson.com

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:	Pape-Dawson Consulting Engineers, LLC	**Job Title:**	Vice President
Name *(In Print):*	Jason T. Diamond, P.E.	**Phone:**	(210) 375- **9000**
Signature:	Jason T. Diamond	**Date:**	5-3-23

EXHIBITS



PROJECT NAME:

UNIVERSITY OF TEXAS SAN ANTONIO

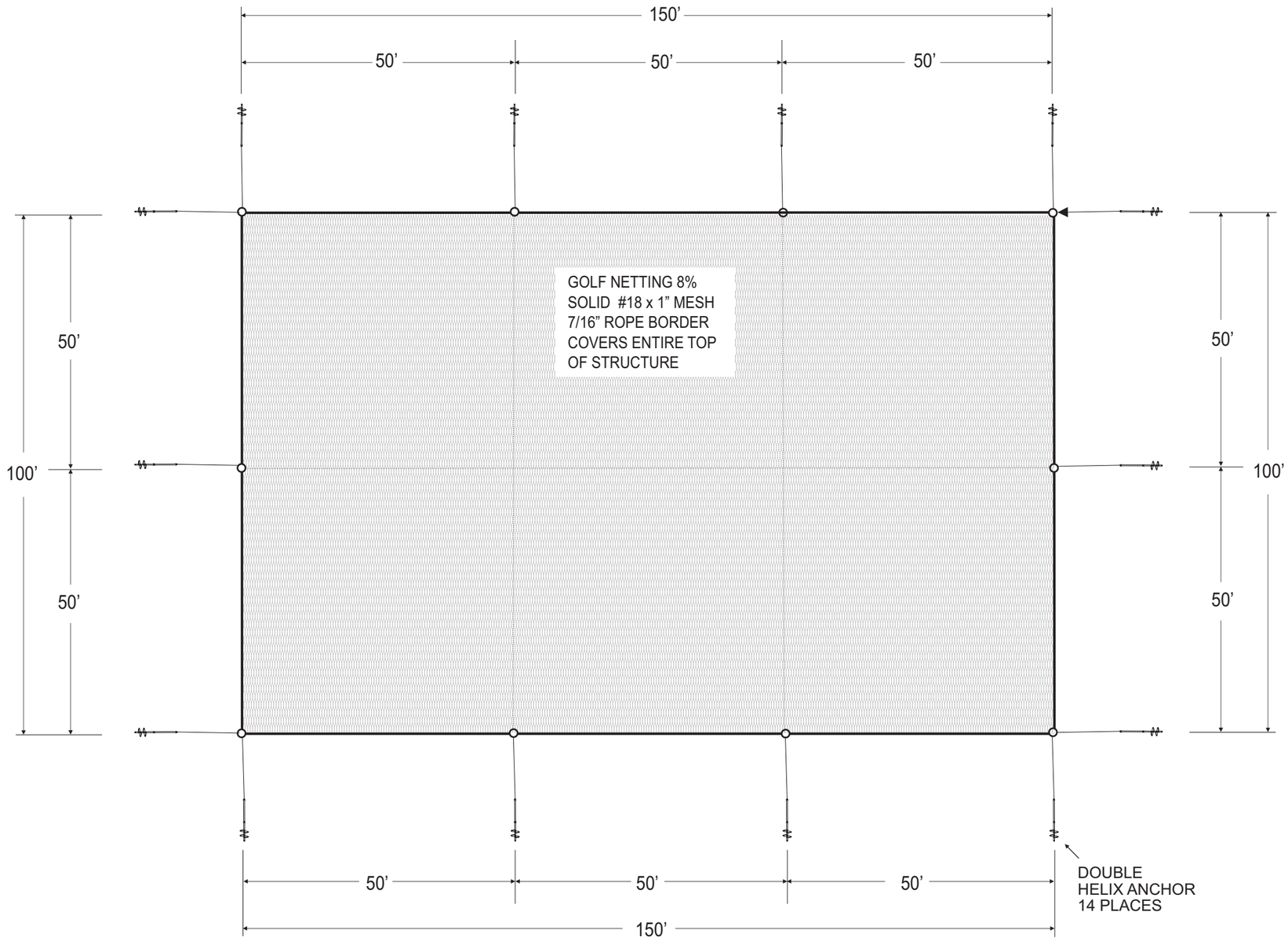
1 UTSA Cir., San Antonio, Texas 78249

DATE: 3-8-2023 | **REVISIONS:** NONE

CONCEPT DESIGN: GOLF RANGE NETTING

GOLF RANGE Netting

40351 U.S. Highway19 North Suite 303
Tarpon Springs, Florida 34689
727.938.4448 fax 727.938.4135



NOTE:
THESE POLES AND THEIR FOUNDATIONS (DIRECT BURIED & BACKFILLED WITH CRUSHED STONE) HAVE BEEN DESIGNED TO SUPPORT THE NETS AS SHOWN IN A 110 mph WIND PER THE REQUIREMENTS OF 2014 FBC, ASCE 7-10 & 2005 NDS. WHEN WINDS ARE EXPECTED ABOVE 110 mph NETS MUST BE LOWERED TO 39 FEET. THESE POLES WILL SUPPORT THESE NETS IN A 150 mph WIND PER THE FBC REQUIREMENTS FOR RISK CAT 1 AND EXP CAT B.

SEE ATTACHED CALCULATIONS, SHEET 2 THRU 6.

PLAN VIEW

PROJECT NAME:

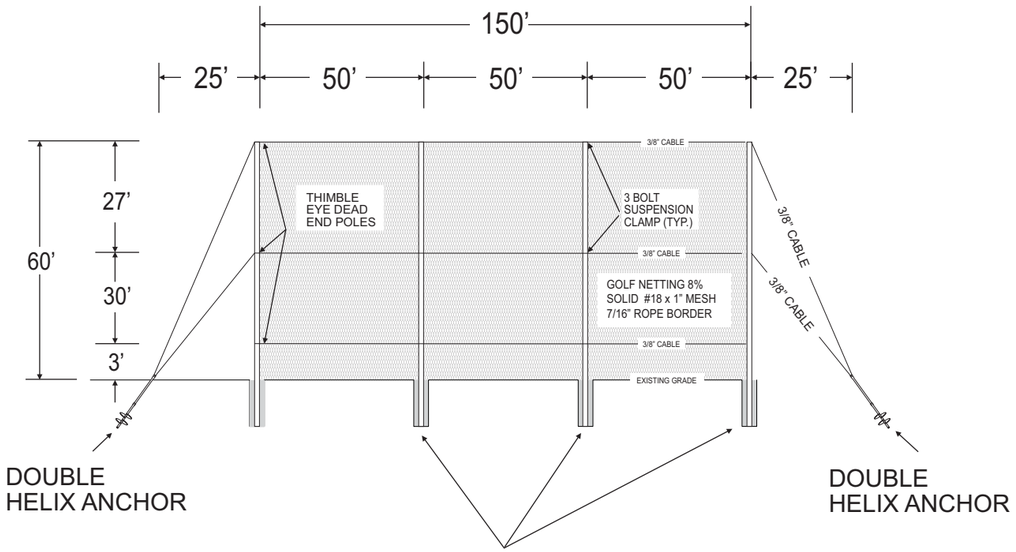
UNIVERSITY OF TEXAS SAN ANTONIO

1 UTSA Cir., San Antonio, Texas 78249

DATE: 3-8-2023 | **REVISIONS:** NONE

CONCEPT DESIGN: GOLF RANGE NETTING

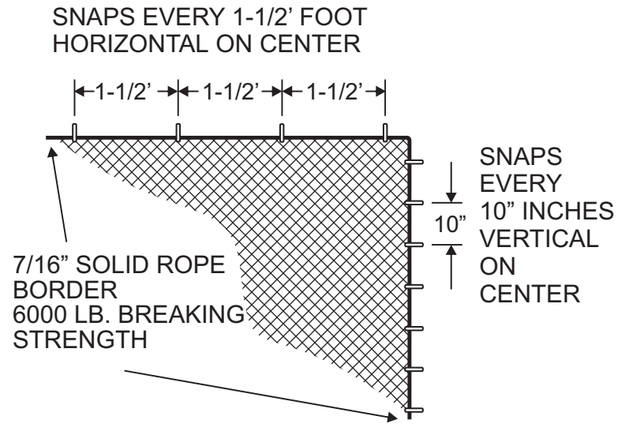
GOLF RANGE Netting
40351 U.S. Highway19 North Suite 303
Tarpon Springs, Florida 34689
727.938.4448 fax 727.938.4135

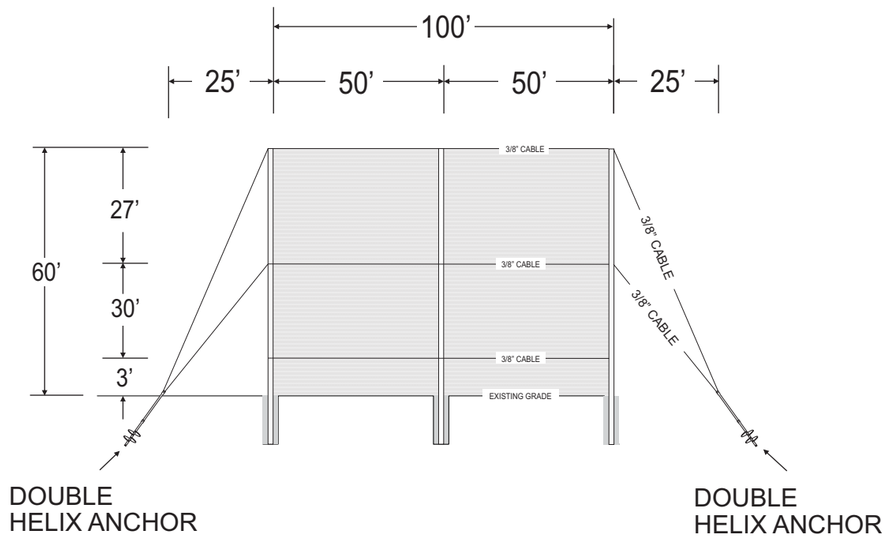


60’ CLASS H-2 SYP CCA TREATED WOOD POLES -10’ BURIAL DEPTH - BACKFILLED WITH NATIVE SOIL - 30” DIAMETER HOLE - OVERALL HEIGHT 50’ ABOVE GRADE

ELEVATION VIEW
2 SIDES

SNAP PLACEMENT DETAIL





ELEVATION VIEW
2 SIDES

PROJECT NAME:

UNIVERSITY OF TEXAS SAN ANTONIO

1 UTSA Cir., San Antonio, Texas 78249

DATE: 3-8-2023 | **REVISIONS:** NONE

GOLF RANGE Netting
40351 U.S. Highway19 North Suite 303
Tarpon Springs, Florida 34689
727.938.4448 fax 727.938.4135

TEMPORARY BMP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
RECHARGE ZONE
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.

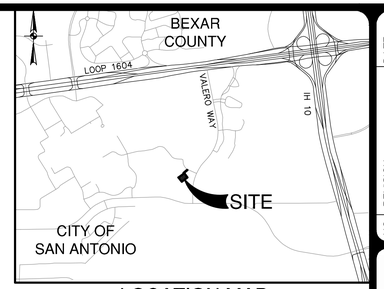
10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES 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 FOLLOWNG:

   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.

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



LOCATION MAP
NOT-TO-SCALE

SCALE: 1"= 40'
0' 40' 80' 120'

LEGEND

- PROJECT LIMITS
- 976 EXISTING CONTOUR
- FLOW ARROW (EXISTING)
- SILT FENCE OR SEDIMENT CONTROL ROLL
- ROCK BERM
- GRAVEL FILTER BAGS
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)

GENERAL NOTES

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

2. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD 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. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.

7. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.

8. 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.

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

10. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.

11. UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.

12. WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.

13. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TXDOT RIGHT-OF-WAY WITH TXDOT.

14. CPS ENERGY MAY FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND MAY BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE RECHARGE ZONE PLAN EXCEPTION REQUEST.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE EXCEPTION REQUEST 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
JASON T. DIAMOND
96532
LICENSED
PROFESSIONAL ENGINEER
Jason T. Diamond
5-3-23

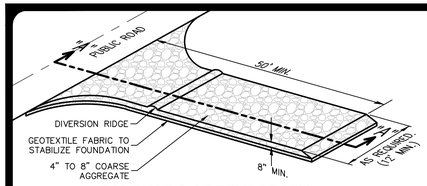
PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX. 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #100288-00

UTSA - EAST CAMPUS DRONE ENCLOSURE
SAN ANTONIO, TEXAS

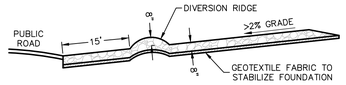
RECHARGE ZONE EXCEPTION REQUEST
TEMPORARY POLLUTION ABATEMENT PLAN

PLAT NO.
JOB NO. 7491-61
DATE APRIL 2023
DESIGNER MG
CHECKED JA DRAWN MG
SHEET 1 of 1

Date: April 27, 2023, 2:22 PM - User ID: mgregory
File: P:\74\91\Design\Exception Request\M 7491e1.dwg



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.

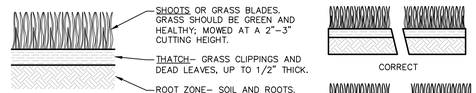
5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

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.



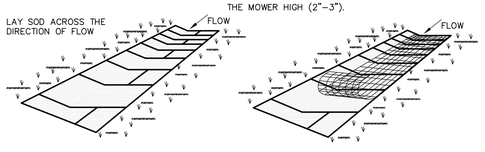
APPEARANCE OF GOOD SOD

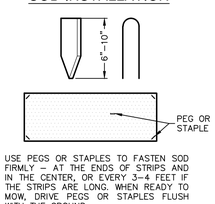
NOTES:
1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

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





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.

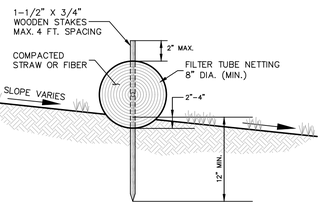
INSPECTION AND MAINTENANCE GUIDELINES

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



CROSS-SECTION

NOT–TO–SCALE

SEDIMENT CONTROL ROLLS

SEDIMENT CONTROL ROLLS ARE ELONGATED TUBES OF COMPACTED STRAW AND/OR OTHER FIBERS THAT ARE INSTALLED ALONG CONTOURS OR AT THE BASE OF SLOPES TO HELP REDUCE SOIL EROSION AND RETAIN SEDIMENT. THEY FUNCTION BY SHORTENING SLOPE LENGTH, REDUCING RUNOFF WATER VELOCITY, TRAPPING DISLODGED SOIL PARTICLES AND REDUCING THE EFFECTS OF SLOPE STEEPNESS.

MATERIALS

CORE MATERIAL: CORE MATERIALS SHALL BE BIODEGRADABLE NAD NOXIOUS WEED FREE. MATERIAL MAY BE COMPOST, MULCH, ASPEN EXCELSIOR WOOD FIBERS, CHIPPED SITE VEGETATION, AGRICULTURAL RICE OR WHEAT STRAW, COCONUT FIBER, OR OTHER 100% BIODEGRADABLE FIBERS.
CONTAINMENT MESH: CONTAINMENT MESH SHALL BE 100% BIODEGRADABLE, PHOTODEGRADABLE OR RECYCLABLE SUCH AS BURLAP TWINE, UV PHOTODEGRADABLE PLASTIC OR POLYESTER.
USE BIODEGRADABLE OR PHOTODEGRADABLE MESH WHEN WATTLE WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. USE RECYCLABLE MESH FOR TEMPORARY INSTALLATIONS.
WATTLES SHALL HAVE A MINIMUM DIAMETER OF 8 INCHES AND A MAXIMUM DIAMETER OF 20 INCHES.
NO MORE THAN 5% OF THE FILL MATERIAL SHALL BE PERMITTED TO ESCAPE FROM THE CONTAINING MESH. MESH SHALL BE 0.5" X 0.5" HIGH DENSITY POLYETHYLENE AND ETHYLY VINYL ACETATE AND CONTAIN ULTRA–VIOLET INHIBITORS. WATTLE ENDS SHALL BE TIED CLOSED.

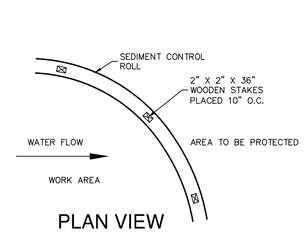
SEDIMENT CONTROL ROLLS IN A TEMPORARY EROSION CONTROL APPLICATION

WHEN NO LONGER REQUIRED FOR THE INTENDED PURPOSE, TEMPORARY ROLLS SHALL BE REMOVED FROM THE SITE. AS AN OPTION, THE STRAW ROLLS MAY BE SLIT DOWN THE LENGTH OF THE NETTING AND THE STRAW MAY BE USED ON SLOPES OR OTHER AREAS.

TRENCHES, DEPRESSIONS OR ANY OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY STRAW ROLLS SHALL BE BACKFILLED AND REPAIRED WITH THE EXCESS SEDIMENT CAPTURED BY THE ROLLS, PRIOR TO SPREADING THE STRAW OR OTHER FINAL EROSION CONTROL PROTECTION.

SEDIMENT CONTROL ROLLS IN A PERMANENT EROSION CONTROL APPLICATION

LEAVE ROLLS AS INSTALLED TO PHOTODEGRADE OR BIODEGRADE OVER TIME AS NATIVE AND APPLIED VEGETATION ULTIMATELY STABILIZE THE REPAIRED SITE.



PLAN VIEW

NOT–TO–SCALE

INSTALLATION

1. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED ROLLS WILL HAVE DIRECT CONTACT WITH THE SOIL.

2. A SMALL TRENCH, 2–4 INCHES IN DEPTH SHOULD BE EXCAVATED ON THE SLOPE CONTOUR AND PERPENDICULAR TO WATER FLOW. SOIL FROM THE EXCAVATION SHOULD BE PLACED UPSLOPE NEXT TO THE TRENCH.

3. INSTALL THE ROLLS IN THE TRENCH, INSURING THAT NO GAPS EXIST BETWEEN THE SOIL AND THE BOTTOM OF THE ROLL. ROLL SHOULD BE LAPPED 6" MINIMUM TO PREVENT SEDIMENT PASSING THROUGH THE FIELD JOINT.

4. WOODEN STAKES SHOULD BE USED TO FASTEN THE ROLLS TO THE SOIL. WHEN CONDITIONS WARRANT, A STRAIGHT METAL BAR CAN BE USED TO DRIVE A "PILOT HOLE" THROUGH THE ROLL AND INTO THE SOIL.

5. WOODEN STAKES SHOULD BE PLACED 6" FROM THE ROLL END ANGLED TOWARDS THE ADJACENT ROLL AND SPACED AT 4 FEET CENTERS LEAVING LESS THAN 1–2 INCHES OF STAKE EXPOSED ABOVE THE ROLL. ALTERNATELY, STAKES MAY BE PLACED ON EACH SIDE OF THE ROLL TYING ACROSS WITH WITH A NATURAL FIBER TWINE OR STAKING IN A CROSSING MANNER ENSURING DIRECT SOIL CONTACT AT ALL TIMES.

6. TERMINAL ENDS OF ROLLS MAY BE "DOG LEGGED" UP SLOPE TO ENSURE CONTAINMENT AND PREVENT CHANNELING OF SEDIMENT.

7. BACKFILL THE UPSLOPE LENGTH OF THE ROLL WITH THE EXCAVATED SOIL AND COMPACT.

8. CARE SHALL BE TAKEN DURING INSTALLATION SO AS TO AVOID DAMAGE OCCURRING TO THE ROLL AS A RESULT OF THE INSTALLATION PROCESS. SHOULD THE ROLL BE DAMAGED DURING INSTALLATION, A WOODEN STAKE SHALL BE PLACED EITHER SIDE OF THE DAMAGED AREA TERMINATING THE LOG SEGMENT.

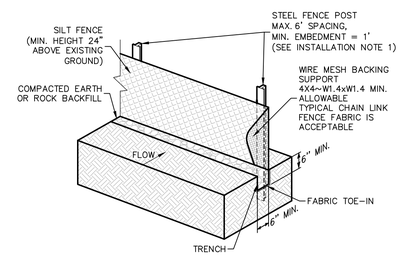
INSPECTION AND MAINTENANCE

1. THE SEDIMENT CONTROL ROLLS SHALL BE INSPECTED AFTER INSTALLATION TO INSURE THAT THEY ARE TRENCHED–IN AND THAT NO GAPS EXIST UNDER THE ROLLS OR BETWEEN ADJACENT ENDS OF THE ROLLS.

2. ROLLS SHALL BE INSPECTED AFTER SIGNIFICANT RAINFALL EVENTS. RILLS OR GULLIES UPSLOPE OF THE ROLL AND ANY UNDERCUTTING IS TO BE REPAIRED.

SEDIMENT CONTROL ROLLS

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.

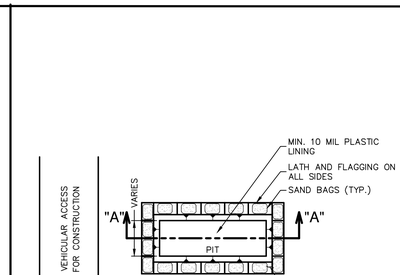
3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

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.

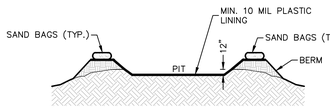
5. WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

SILT FENCE DETAIL

NOT–TO–SCALE



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.

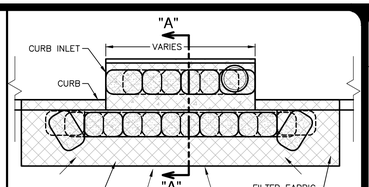
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.

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.

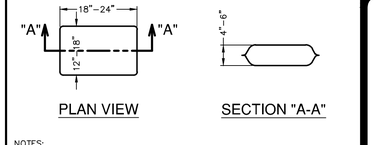
BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT–TO–SCALE



PLAN VIEW

SECTION "A-A"



PLAN VIEW

SECTION "A-A"

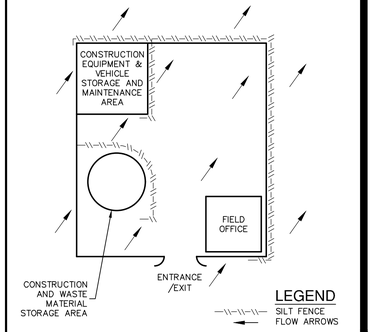
NOTES:
1. THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WEIGHT OF 4 OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.

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

NOT–TO–SCALE

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.

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.

CONCRETE TRUCK WASHOUT PIT DETAIL

NOT–TO–SCALE

NO.	REVISION	DATE

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

STATE OF TEXAS
JASON T. DIAMOND
96532
LICENSED PROFESSIONAL ENGINEER
Jason T. Diamond
5-3-23

UTSA - EAST CAMPUS DRONE ENCLOSURE

SAN ANTONIO, TEXAS

RECHARGE ZONE EXCEPTION REQUEST
TEMPORARY POLLUTION ABATEMENT PLAN DETAILS

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE RECHARGE ZONE PLAN EXCEPTION REQUEST.

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

EXHIBIT 2

PLAT NO.
JOB NO. 7491–61
DATE APRIL 2023
DESIGNER MG
CHECKED JA DRAWN MG
SHEET 1 of 1

Date: April 27, 2023, 2:23 PM – User ID: mgregory
File: P:\74\91\Design\Exception Request\TM 749161.dwg