### **CANYON GOLF RETAIL**

**Water Pollution Abatement Plan Modification** 





May 05, 2025

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

Re: Canyon Golf Retail

Water Pollution Abatement Plan Modification

Dear Ms. Reyes:

Please find included herein the Canyon Golf Retail Water Pollution Abatement Plan Modification. This Water Pollution Abatement Plan Modification has been prepared in accordance with the regulations of the Texas Administrative Code (30 TAC 213) and current policies for development over the Edwards Aquifer Recharge Zone.

This Water Pollution Abatement Plan Modification applies to an approximate 8.51-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 (\$6,500.00) 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

and E. Martin

David Martinez, P.E. Vice President

vice President

**Attachments** 

DAVID E. MARTINEZ

94900

CENSE

8/15/25

### **CANYON GOLF RETAIL**

**Water Pollution Abatement Plan Modification** 

# 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**

- 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: <a href="http://www.tceq.texas.gov/field/eapp">http://www.tceq.texas.gov/field/eapp</a>.
- 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**

- 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:					2. Regulated Entity No.:				
3. Customer Name:						4. Customer No.:			
5. Project Type: (Please circle/check one)	New		Modif	ication	D	Exter	nsion	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)	Resider	ntial	Non-r	residen	tial		8. Sit	te (acres):	
9. Application Fee:			10. P	ermai	nent I	BMP(	s):		
11. SCS (Linear Ft.):			12. AST/UST (No			o. Tai	ıks):		
13. County:			14. W	aters	hed:				

#### **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 AuthorityBarton Springs/ Edwards AquiferHays Trinity Plum Creek	Barton Springs/ Edwards Aquifer	NA		
City(ies) Jurisdiction	AustinBudaDripping SpringsKyleMountain CitySan MarcosWimberleyWoodcreek	AustinBee CavePflugervilleRollingwoodRound RockSunset ValleyWest Lake Hills	AustinCedar ParkFlorenceGeorgetownJerrellLeanderLiberty HillPflugervilleRound 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 HillsFair Oaks RanchHelotesHill Country VillageHollywood ParkSan 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.			
Print Name of Customer/Authorized Agent			
David E. Martin			
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):	Payable to TCEQ (Y/N):			
Core Data Form Complete (Y/N):	Check: 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** 

Print Name of Customer/Agent: David Martinez, P.E.

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:

Da	ate: <u>8/15/2</u> 5	
Sig	gnature of Customer/Agent:	
_	David E. Martin	
P	Project Information	
1.	Regulated Entity Name: Canyon Golf Retail	
2.	County: <u>Bexar</u>	
3.	Stream Basin: Mud Creek	
4.	Groundwater Conservation District (If applicable): Edwards Aquifer; Trinity Glen Rose	
5.	Edwards Aquifer Zone:	
	Recharge Zone Transition Zone	
6.	Plan Type:	
	WPAP ☐ AST   SCS ☐ UST   Modification ☐ Exception Request	

7.	Customer (Applicant):	
	Contact Person: Miguel Serra Entity: Stone Oak 11 Acres, LLC Mailing Address: 15555 Tradesman Dr, Ste 400 City, State: San Antonio, Tx Telephone: 210-265-1773 Email Address: crosstimber@me.com	Zip: <u>78249</u> FAX:
8.	Agent/Representative (If any):	
	Contact Person: <u>David Martinez</u> , <u>P.E.</u> Entity: <u>Pape-Dawson Engineers</u> Mailing Address: <u>2000 NW Loop 410</u> City, State: <u>San Antonio</u> , <u>Texas</u> Telephone: <u>(210) 375-9000</u> Email Address: <u>dmartinez@pape-dawson.com</u>	Zip: <u>78213</u> FAX: <u>(210) 375-9010</u>
9.	Project Location:	
	The project site is located inside the city limits of the project site is located outside the city limit jurisdiction) of  The project site is not located within any city's	s but inside the ETJ (extra-territorial
10.	The location of the project site is described bel detail and clarity so that the TCEQ's Regional st boundaries for a field investigation.	• •
	From TCEQ's regional office, turn right onto Jud miles toward N Loop 1604. Travel east on N to exit toward US Hwy 281 N. Travel north Evans Rd. Continue for approximately 1.8 n located at the NE corner of Canyon Golf Rd	I Loop 1604 E for approximately 5 miles for approximately 2.0 miles to exit at niles to Stone Oak Pkwy. The site is
11.	Attachment A – Road Map. A road map showing project site is attached. The project location and the map.	
12.	Attachment B - USGS / Edwards Recharge Zon USGS Quadrangle Map (Scale: 1" = 2000') of th The map(s) clearly show:	• • • •
	<ul> <li>☑ Project site boundaries.</li> <li>☑ USGS Quadrangle Name(s).</li> <li>☑ Boundaries of the Recharge Zone (and Tran</li> <li>☑ Drainage path from the project site to the boundaries.</li> </ul>	
13.	The TCEQ must be able to inspect the project sufficient survey staking is provided on the pro	

	ne boundaries and alignment of the regulated activities and the geologic or manmade eatures noted in the Geologic Assessment.
⊠ Sı	urvey staking will be completed by this date: When advised by TCEQ
n	ttachment C – Project Description. Attached at the end of this form is a detailed arrative description of the proposed project. The project description is consistent aroughout 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. Existi	ng 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:
Prohi	bited Activities
	am aware that the following activities are prohibited on the Recharge Zone and are not roposed for this project:
(1	L) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
(2	2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
(3	3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
(4	1) The use of sewage holding tanks as parts of organized collection systems; and
(5	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	5) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.
	am aware that the following activities are prohibited on the Transition Zone and are ot 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.

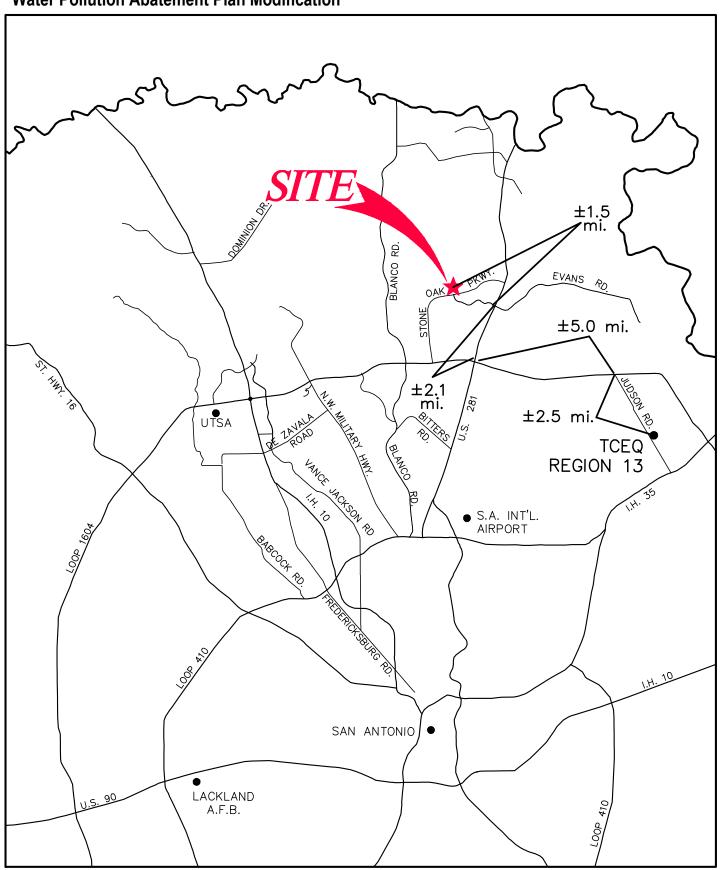
#### **Administrative Information**

18. The	e 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:
	<ul> <li>☐ TCEQ cashier</li> <li>☐ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)</li> <li>☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)</li> </ul>
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 regiona 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**

## **CANYON GOLF RETAIL**Water Pollution Abatement Plan Modification





Pape-Dawson Engineers, Inc.

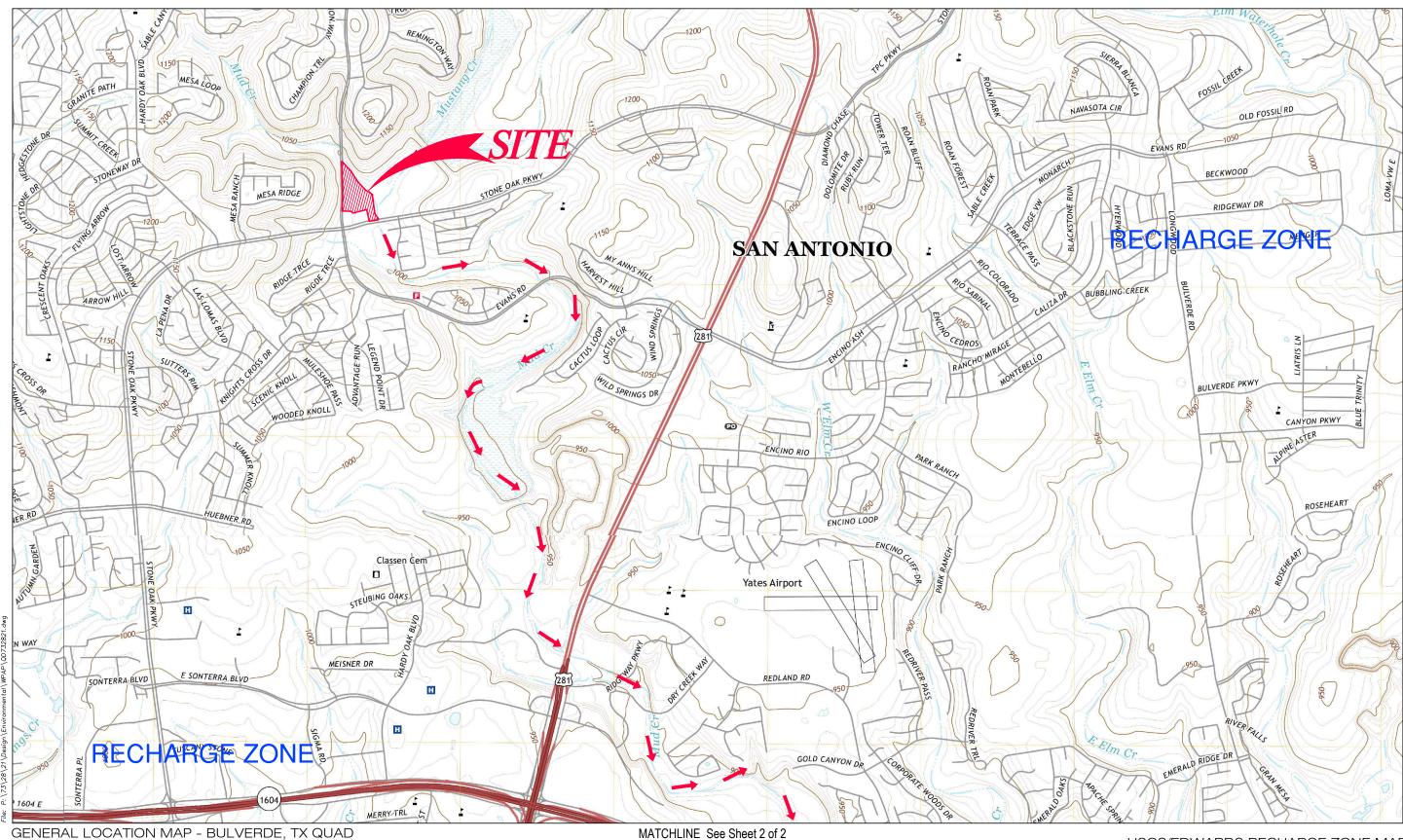
Date: Mar 26, 2025, 11:04am User ID: danaya
File: P:\73\28\21\Design\Environmenta\WPAP\RM 732821.dwg

ATTACHMENT A Road Map

## **ATTACHMENT B**

#### **CANYON GOLF RETAIL Water Pollution Abatement Plan Modification**





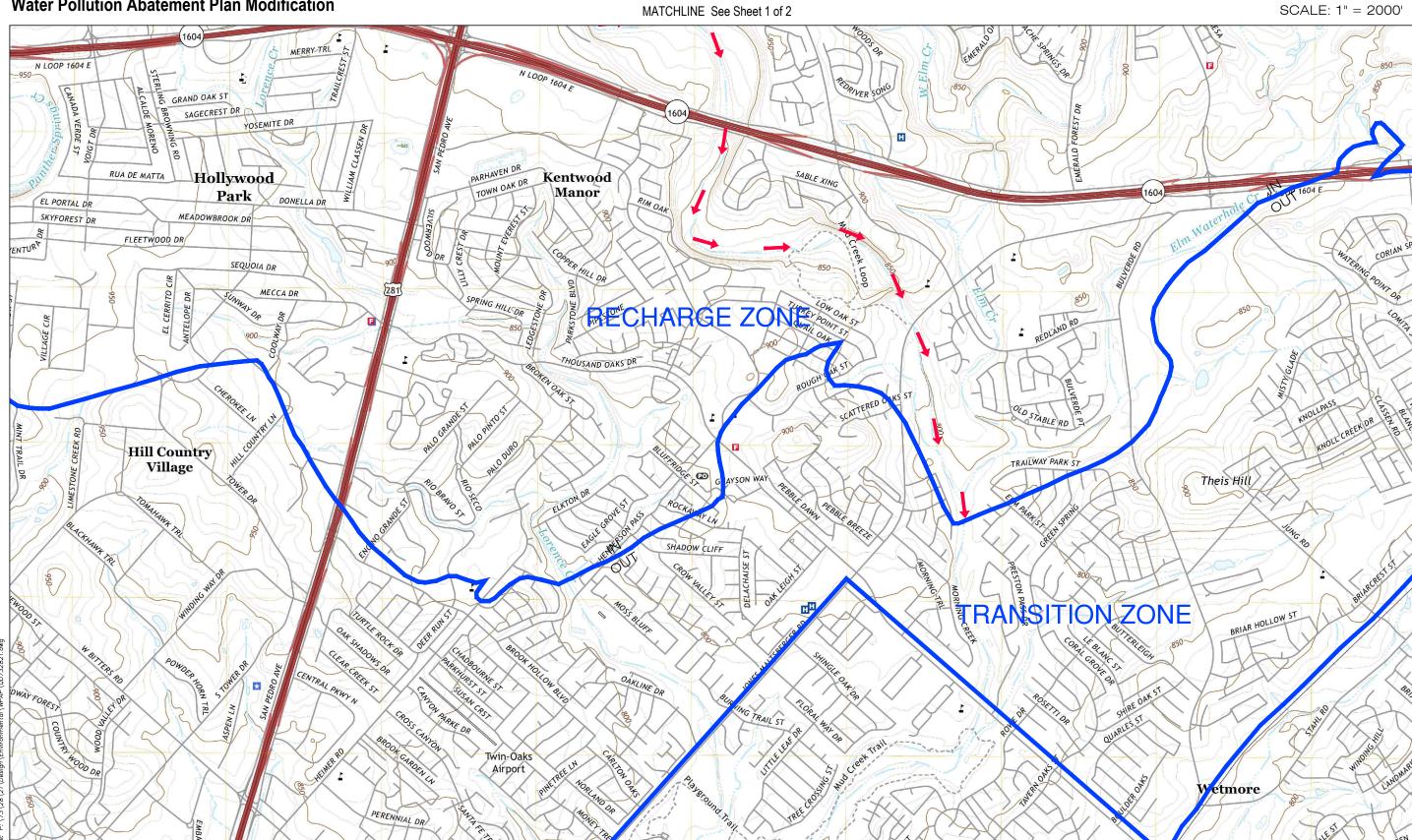
DRAINAGE FLOW ----Pape-Dawson Engineers, Inc.

MATCHLINE See Sheet 2 of 2

USGS/EDWARDS RECHARGE ZONE MAP ATTACHMENT B

## CANYON GOLF RETAIL Water Pollution Abatement Plan Modification





USGS/EDWARDS RECHARGE ZONE MAP ATTACHMENT B

## **ATTACHMENT C**

### CANYON GOLF RETAIL Water Pollution Abatement Plan Modification

#### Attachment C - Project Description

Canyon Golf Retail proposes the construction of a commercial development with associated parking on approximately 11.118 acres within the City of San Antonio, in Bexar County, Texas. The site is located at the northeast corner of the Canyon Golf and Stone Oak Parkway intersection. The site is cleared /undeveloped and lies within the Upper Salado Creek watershed and is adjacent to the 100-year floodplain. There were no naturally occurring sensitive geological features identified in the Geologic Assessment. The Canyon Golf Retail Water Pollution Plan Modification (WPAP MOD) is a modification of the previously approved Golf Canyon/Stone Oak Parkway Retail Water Pollution Abatement Plan (WPAP). The Golf Canyon/Stone Oak Parkway Retail WPAP was approved by TCEQ on January 26, 2024 (EAPP ID No. 13001858), for a 11.118-acre site to be mass graded in anticipation for future development. The overall project limits consisted of the 11.118 acres. There was no impervious cover approved with the previous WPAP. This modification shall be for the commercial development of the site.

This WPAP modification proposes additional clearing, grading, excavation, installation of utilities and drainage improvements, construction of one (1) batch detention basin, six (6) one-story buildings and associated parking. The proposed Permanent Best Management Practice (PBMP) for stormwater treatment is one (1) batch detention basin which is designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site. Approximately 6.32 acres of impervious cover, or 56.83% of the 11.118-acre property limits, are proposed for construction in this WPAP. In Watershed "PR-DA-1," approximately 6.15 acres of impervious cover from the building, parking, and drives will be treated by the basin; leaving 0.17 from the sidewalks and driveway as overtreatment from watershed "PR-DA-2." Please see the Treatment Summary table attached with this application.

Potable water service is to be provided by the San Antonio Water System (SAWS). The proposed development will generate approximately 30,000 gallons per day (average flow) of domestic wastewater based on the assumption of 200 gpd per EDU (200 gpd/EDU \* 150 EDUs \* =30,000 gpd).

Wastewater will be disposed of by conveyance to the existing Steven M. Clouse Water Recycling Center operated by SAWS.



## 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, P.G. Telephone: 210-375-9000

	T/ 0.2.02		
Dat	e: February 9, 2023	Fax:	210-375-9090
Rep	presenting: Pape-Dawson Engineers, Inc., TBPG	registration nur	mber 50351
Sig	nature of Geologist:		OF TELY OF THE PROPERTY OF THE
0	133		HENRY STULTZ III  RO GEOLOGY 12121  CENSE
Reg	gulated Entity Name: <u>STONE OAK / CANYON G</u>	OLF NEC	- Wall States
Pi	oject Information		
1.	Date(s) Geologic Assessment was performed:	February 2, 2023	
2.	Type of Project:		
3.	WPAP SCS Location of Project:	☐ AST ☐ UST	
	Recharge Zone Transition Zone Contributing Zone within the Transition Zone	e	

- 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)
Krum clay, 1 to 5 percent slopes	С	3-4
Eckrant-Rock outcrop association, 8 to 30 percent slopes	D	0-1

- \* Soil Group Definitions (Abbreviated)
  - A. Soils having a high infiltration rate when thoroughly wetted.
  - B. Soils having a moderate infiltration rate when thoroughly wetted.
  - C. Soils having a slow infiltration rate when thoroughly wetted.
  - D. Soils having a very slow infiltration rate when thoroughly wetted.
- 6. Attachment B Stratigraphic Column. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.
- 7. Attachment C Site Geology. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.
- 8. Attachment D Site Geologic Map(s). The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

Applicant's Site Plan Scale:  $1'' = \underline{40'}$ Site Geologic Map Scale:  $1'' = \underline{40'}$ 

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

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.	<ol> <li>Geologic or manmade features were discovered on the project site dur investigation. They are shown and labeled on the Site Geologic Map and are the attached Geologic Assessment Table.</li> </ol>	
	Geologic or manmade features were not discovered on the project site durinvestigation.	ing the field
13.	3. 🔀 The Recharge Zone boundary is shown and labeled, if appropriate.	
14.	<ol> <li>All known wells (test holes, water, oil, unplugged, capped and/or abandor applicable, the information must agree with Item No. 20 of the WPAP Application</li> </ol>	
	There is one (1) well present on the project site and the location is shown (Check all of the following that apply.)  The wells are not in use and have been properly abandoned.  The wells are not in use and will be properly abandoned.  The wells are in use and comply with 16 TAC Chapter 76.	·
	There are no wells or test holes of any kind known to exist on the project sit	6

#### **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

Sheet 1 of 1

GEOLO	GEOLOGIC ASSESSMENT TABLE	SMENT T	ABLE					PR	OJECT	NAM	E: STC	NE OA	C/CAN	PROJECT NAME: STONE OAK / CANYON GOLF NEC	NEC					
	LOCATION						FEAT	URE C	FEATURE CHARACTERISTICS	TERIS	TICS				EV	EVALUATION	NO	PHY	SICAL	PHYSICAL SETTING
1A	1B *	10*	ZA	2B	က		4		2	5A	9	7	8A	8B	6	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE		POINTS FORMATION	DIMENSIONS (FEET)	ONS (FEE		TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)	IT AREA	TOPOGRAPHY
	STATE				THE LABOR	×	<b>×</b>	2		10		W. A. H.				<40	>40	41.6	>1.6	
S-1	29.64496	-98.47943	MB	30	ХеĶ								F,C	20	20		20		×	Hillside
S-2	29.64554	-98.48001	0	2	Kek	10	60	1.5 N	M20°W				z	2	10	10			×	Drainage
S-3	29.64564	-98.47961	9	2	ХеĶ	80 8	08	7					Н	2	10	10		×		Hillside
S-4	29.64448	-98.47920	ட	20	Kek	>2000		_	N45°E	10			ட	2	35	35		×		Hillside
S-5	29.64534	-98.48050	MB	30	Kek		3	310					×	5	35	35		×		Hillside
																	-			
20 CA14 LEACH 22	20 0 0 0 0																			

8	3
NAN	
LI IM.	
  - 	

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

	8A INFILLING
z	None, exposed bedrock
ပ	Coarse - cobbles, breakdown, sand, gravel
0	Loose or soft mud or soil, organics, leaves, sticks, dark colors
ш	Fines, compacted clay-rich sediment, soil profile, gray or red colors
>	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
×	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.

HENRY STULTZIII TEONORY STULTZ



Date February 9,2023

## ATTACHMENT B Stratigraphic Column

## STONE OAK / CANYON GOLF NEC Geologic Assessment (TCEQ-0585)

#### <u>Attachment B – Stratigraphic Column</u>

Period	Epoch	Group	Formation	Member	Thickness	Lithology	Hydro- logic Unit	Hydro- stratigraphic Unit	Hydrologic Function	Porosity	Cavern Development
				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
		spı		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	Aquifer	VI	Aquifer	IG, MO, VUG, FR, BR, CV	Probably extensive cave development
		Edwards	Kainer	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 linterspersed; upper one-fourth composed mostly of hard, dense mudstone, wackestone, packstone, grainstone, and recrystallized dolomites with bioturbated beds	Edwards Aquifer	VII	Aquifer	IP, IC, IG, MO, BU, VUG, FR, BP, CV	Cave development as shafts with minor horizontal extent
Cretaceous	Early Cretaceous			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
					0–120 (absent in northern Comal Co.)			Cavernous	Aquifer	MO, BR, BP, FR, CV	
					120–230 (thicker in northern Comal Co.)	Alternating resistant and nonresistant beds of blue shale,	Upper Trinity Lower confining unit to the Edwards aquifer	Camp Bullis	Confining	BU, BP, FR, occasional CV	
		Trinity	Glen Rose Limestone	Upper Glen Rose	0–10	nodular mari, and impure, fossiliferous limestone; gray to yellowish gray; stair-step topography; contains two distinct evaporite zones; distinct <i>Corbula</i> sp. bed marks the contact with the underlying lower member of the Glen Rose Limestone; <i>Orbitulina texana</i>	Upper Trinity 3 unit to the Ed	Upper evaporite	Aquifer	IP, MO, BU, BR	Some surface cave development
					0–40		U confining u	Fossil-	Aquifer	MO, BU, FR, CV	
					80–150		Lower	iferous Lower	Confining	MO, BU, FR	
					8–10	ed from Stein and Ozuna (1995). Porosity types - Fabric selective: IP, Interparti		Lower evaporite		IP, MO, BU, BR	

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; FF, fenestral; BP, bedding plane porosity. Not fabric selective: FR, fracture porosity; CH, channel porosity; BR, breccia; VUG, vug porosity; CV, cave porosity.



## ATTACHMENT C Site Geology

STONE OAK / CANYON GOLF NEC Geologic Assessment

<u>Attachment C – Site Geology</u>

**SUMMARY** 

The ±11.089-acre Stone Oak / Canyon Golf NEC site is located within Bexar County within the City of San

Antonio. It is located near the northeast corner of Stone Oak Pkwy. and Canyon Golf Rd.

Based on the results of the field survey conducted in accordance with Instructions for Geologists for

Geologic Assessments in the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585 Instructions), no

naturally occurring sensitive features were identified on site. The overall potential for fluid migration to

the Edwards Aquifer for the site is low.

**SITE GEOLOGY** 

As observed through field evidence, the geologic formation which outcrops at the surface within the

subject site is the dolomitic (Kekd) is characterized as massively bedded, mudstone to grainstone,

crystalline limestone. Karst development in the Kekd is characterized by few small sinkholes and caves

developed as vertical shafts.

The predominant trend of faults in the vicinity of the site is approximately N45°E, based on faults identified

during the previous mapping of the area.

**FEATURE DESCRIPTIONS:** 

A description of the features observed onsite is provided below:

Feature S-1

Feature S-1 is a series of existing sewer lines. 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-2

Feature S-2 is a non-karst closed depression created by stream scour within intact limestone. Due to the

non-karst origin, the probability for rapid infiltration is low.

PAPE-DAWSON ENGINEERS

## STONE OAK / CANYON GOLF NEC Geologic Assessment

#### Feature S-3

Feature S-3 is a man-made non-karst closed depression within a raised berm. The depression appears to be a dry stock tank. Due to the non-karst origin, the probability of rapid infiltration is low.

#### Feature S-4

Feature S-4 is an intraformational fault within the Kek. It was identified by review of aerial photography and published maps. Due to the lack of evidence of enhanced permeability and the presence of fine-grained soil cover, the probability of rapid infiltration is low.

#### Feature S-5

Feature S-5 is a well that was identified on the Texas Water Development Board's Groundwater Database Viewer as State of Texas Well 6821702. The well casing was observed extending 1.5 feet above the ground surface, however the well appeared to be plugged as concrete was observed on the casing and up to the ground level within the casing. Water was observed pooled within the casing on top of the concrete. No plugging report was identified. Since water was observed pooled on top of the concrete within the well, the probability of rapid infiltration is low.

#### **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.

Nationwide Environmental Title Research, LLC. Historical Aerials, HistoricAerials.com. https://www.historicaerials.com/viewer, September 29, 2023.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. http://websoilsurvey.sc.egov.usda.gov/, September 29, 2023.

Stein, W.G., and Ozuna, G.B., 1995, Geologic framework and hydrogeologic characteristics of the Edwards Aquifer recharge zone, Bexar County, Texas: U.S. Geological Survey Water-Resources Investigations Report 95–4030, 8 p.

Texas Water Development Board, Wells in TWDB Groundwater Database Viewer, https://www3.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer, September 29, 2023.

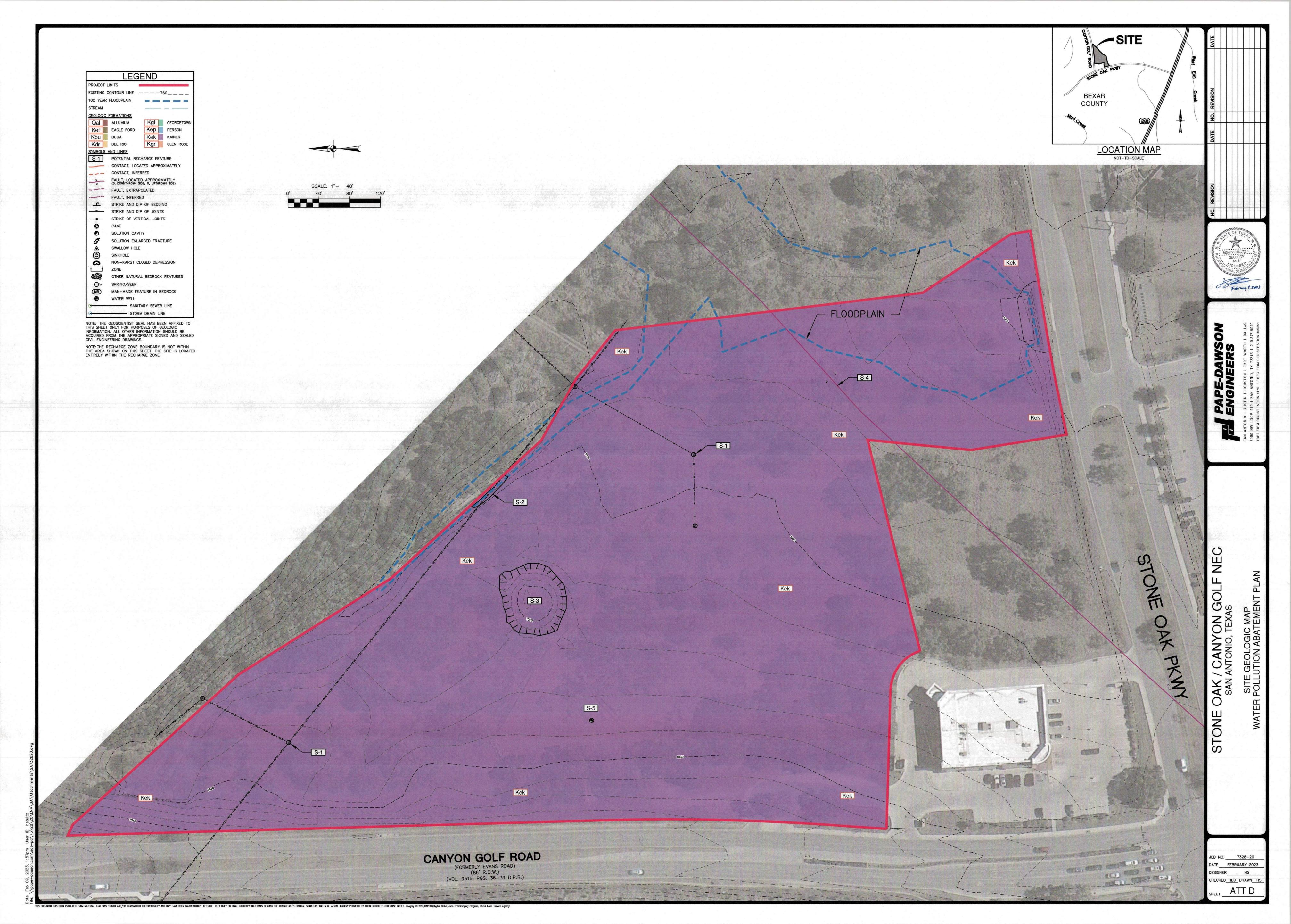


## STONE OAK / CANYON GOLF NEC Geologic Assessment

U.S. Geological Survey, National Water Information System: Mapper, https://maps.waterdata.usgs.gov/mapper/index.html, September 29, 2023.



## ATTACHMENT D Site Geologic Map(s)



## MODIFICATION OF A PREVIOUSLY APPROVED WATER POLLUTION ABATEMENT PLAN (TCEQ-0590)

# Modification of a Previously Approved Plan

### **Texas Commission on Environmental Quality**

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

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

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

# Signature

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

Print Name of Customer/Agent: David Martinez, P.E.

Date: 8/15/25

Signature of Customer/Agent:

# **Project Information**

Ocid E. Mortin

1.	Current Regulated Entity Name: Canyon Golf Retail Original Regulated Entity Name: Canyon Golf Stone Oak Pkwy Retail
	Regulated Entity Number(s) (RN): 111851572
	Edwards Aquifer Protection Program ID Number(s): <u>13001858</u>
	The applicant has not changed and the Customer Number (CN) is: 606205409
	The applicant or Regulated Entity has changed. A new Core Data Form has been provided.
2.	Attachment A: Original Approval Letter and Approved Modification Letters. A copy of

the original approval letter and copies of any modification approval letters are attached.

Physical or operation including but not linguished	or character of the regulated activity from that which was or a change which would significantly impact the ability of the tion of the Edwards Aquifer; previously identified as undeveloped in the original water						
necessary, and comple	te the information for each ad	lditional modification.					
WPAP Modification	Approved Project	Proposed Modification					
Summary							
Acres	<u>11.118</u>	<u>11.118</u>					
Type of Development	<u>Commercial</u>	<u>Commercial</u>					
Number of Residential	<u>0</u>	<u>0</u>					
Lots							
Impervious Cover (acres)	<u>0</u>	6.32					
Impervious Cover (%	<u>0</u>	<u>56.8</u>					
Permanent BMPs	<u>0</u>	<u>1</u>					
Other	<del></del>						
SCS Modification	Approved Project	Proposed Modification					
Summary							
Linear Feet							
Pipe Diameter							
Other		<u></u>					

AST N	<i>Modification</i>	Approved Project	Proposed Modification
Sumn	nary		
Numl	per of ASTs		
Volur	ne of ASTs		
Othe	•		
UST I	Modification	Approved Project	Proposed Modification
Sumn	nary		
Numl	per of USTs		
Volur	ne of USTs		
Othe	•		
5.	the nature of the propose	of Proposed Modification. A detad modification is attached. It discubilifications, and how this proposed	usses what was approved,
6.	the existing site developmed modification is attached. modification is required early subsequent modification document that the application is required early subsequent modification and subsequent modification in the approved construction is approved construction of the approv	te Plan of the Approved Project. And the inent (i.e., current site layout) at the A site plan detailing the changes pulsewhere.  It is a site plan detail the changes pulsewhere.  It is a site plan detail the changes pulsewhere.  It is a site pl	e time this application for roposed in the submitted ginal approval letter and ed as Attachment A to n completed. Attachment C . been completed. cructed as approved. been completed.
7.	provided for the new acre	red plan has increased. A Geologic age. ed to or removed from the approv	
8.	needed for each affected county in which the project	d one (1) copy of the application, princorporated city, groundwater conct will be located. The TCEQ will dings. The copies must be submitted	nservation district, and stribute the additional

# **ATTACHMENT A**

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



### TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 26, 2024

Mr. Miguel Serra Stone Oak 11 Acres, LLC. 15555 Tradesman Drive, Suite 400 San Antonio, Texas 78249

Re: Approval of a Water Pollution Abatement Plan (WPAP)

Canyon Golf Stone Oak Parkway Retail; Located at the northeast corner of Canyon Golf

Road and Stone Oak Parkway; San Antonio, Bexar County, Texas

Edwards Aquifer Protection Program ID: 13001858, Regulated Entity No. RN111851572

Dear Mr. Serra:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Pade-Dawson, LLC. on behalf of the applicant, Stone Oak 11 Acres, LLC. on November 27, 2023. Final review of the application was completed after additional material was received on January 25, 2024.

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

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

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

### PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 11.11-acres. The project will include clearing and grading. The impervious cover will be 0.0-acres (0 percent). No wastewater will be generated by this project.

### PERMANENT POLLUTION ABATEMENT MEASURES

No permanent BMPs or measures are required for the proposed project.

### **GEOLOGY**

According to the Geologic Assessment (GA) included with the application, the surficial units of the site are the Edwards Kainer dolomitic formation. No sensitive geologic features were identified in the GA. The site assessment conducted on January 22, 2024 by TCEQ staff determined the site to be generally as described by the GA.

### STANDARD CONDITIONS

- 1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and all technical specifications in the approved plan. The plan holder should also acquire and comply with additional and separate approvals, permits, registrations or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, Dam Safety, Underground Injection Control) as required based on the specifics of the plan.
- 2. In addition to the rules of the Commission, the plan holder must also comply with state and local ordinances and regulations providing for the protection of water quality as applicable.

### Prior to Commencement of Construction:

- 3. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the plan holder must submit to the EAPP proof of recordation of notice in the county deed records, with the volume and page number(s) of the county record. A description of the property boundaries shall be included in the deed recordation in the county deed records. TCEQ form, Deed Recordation Affidavit (TCEQ-0625), may be used.
- 4. The plan holder of any approved Edwards Aquifer protection plan must notify the EAPP and obtain approval from the executive director prior to initiating any modification to the activities described in the referenced application following the date of the approval.
- 5. The plan holder must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the EAPP no later than 48 hours prior to commencement of the regulated activity. Notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.
- 6. Temporary erosion and sedimentation (E&S) controls as described in the referenced application, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
- 7. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring or gravel. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation.

### **During Construction:**

Mr. Miguel Serra Page 3 January 26, 2024

- 8. This approval does not authorize the installation of temporary or permanent aboveground storage tanks on this project that will have a total storage capacity of five hundred gallons or more of static hydrocarbons or hazardous substances without prior approval of an Aboveground Storage Tank facility application.
- 9. If any sensitive feature is encountered during construction, replacement, or rehabilitation on this project, all regulated activities must be **immediately** suspended near it and notification must be made to TCEQ EAPP staff. Temporary BMPs must be installed and maintained to protect the feature from pollution and contamination. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality.
- 10. All water wells, including injection, dewatering, and monitoring wells shall be identified in the geologic assessment and must be in compliance with the requirements of the Texas Department of Licensing and Regulation 16 TAC Chapter §76 and all other locally applicable rules, as appropriate.
- 11. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
- 12. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge must be filtered through appropriately selected BMPs.
- 13. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
- 14. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

Mr. Miguel Serra Page 4 January 26, 2024

This action is taken as delegated by the executive director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Drew Evans, P.G. of the Edwards Aquifer Protection Program at (210) 403-4053 or the regional office at 512-339-2929.

Sincerely,

Lillian I. Butler, Section Manager

Edwards Aquifer Protection Program Texas Commission on Environmental Quality

LIB/de

cc: Taylor Dawson, P.E., Pape Dawson Engineers, LLC.

# **ATTACHMENT B**

### Attachment B - Narrative of Proposed Modification

Canyon Golf Retail proposes the construction of a commercial development with associated parking on approximately 11.118 acres within the City of San Antonio, in Bexar County, Texas. The site is located at the northeast corner of the Canyon Golf and Stone Oak Parkway intersection. The site is cleared /undeveloped and lies within the Upper Salado Creek watershed and is adjacent to the 100-year floodplain. There were no naturally occurring sensitive geological features identified in the Geologic Assessment. The Canyon Golf Retail Water Pollution Plan Modification (WPAP MOD) is a modification of the previously approved Golf Canyon/Stone Oak Parkway Retail Water Pollution Abatement Plan (WPAP). The Golf Canyon/Stone Oak Parkway Retail WPAP was approved by TCEQ on January 26, 2024 (EAPP ID No. 13001858), for a 11.118-acre site to be mass graded in anticipation for future development. The overall project limits consisted of the 11.118 acres. There was no impervious cover approved with the previous WPAP. This modification shall be for the commercial development of the site.

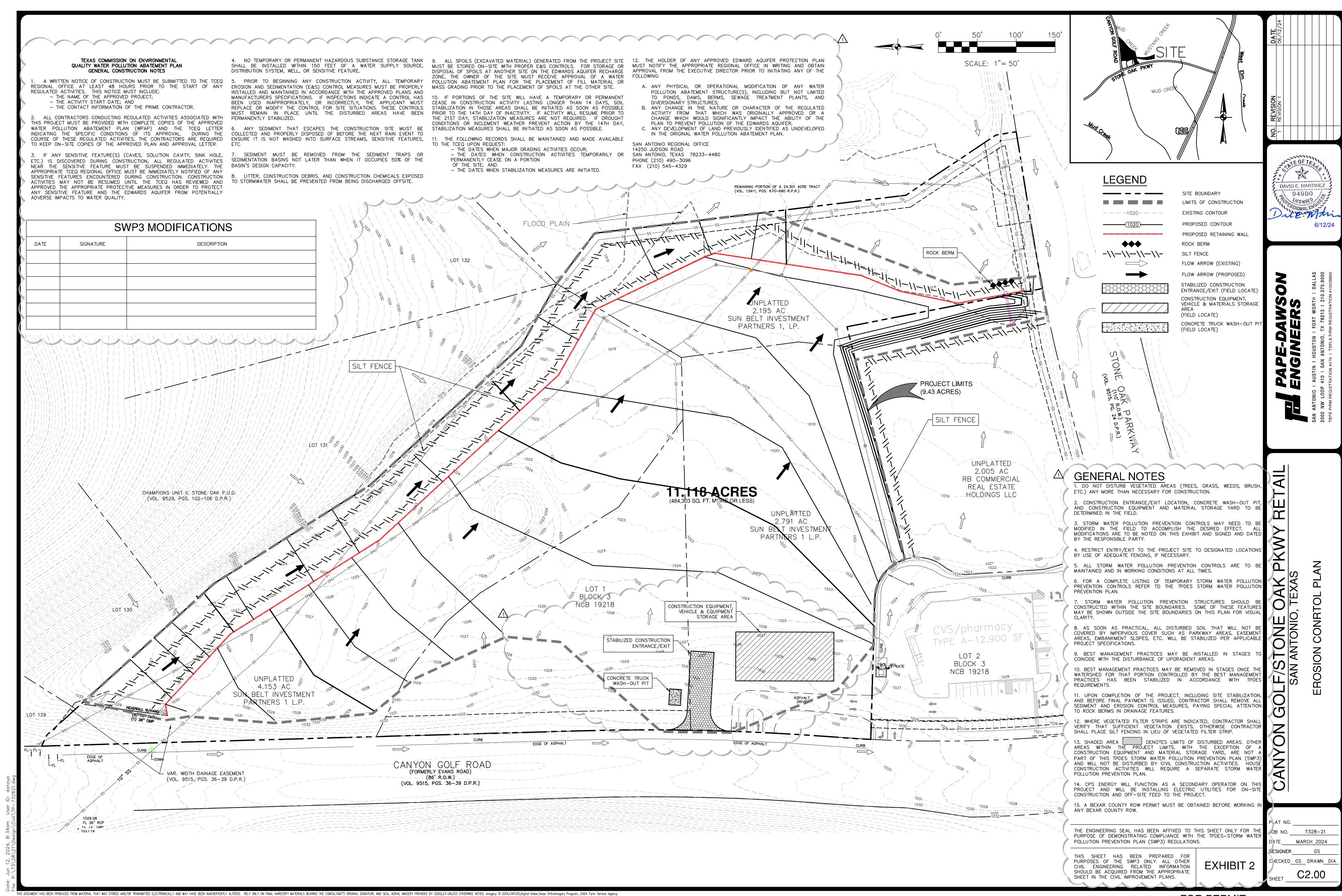
This WPAP modification proposes additional clearing, grading, excavation, installation of utilities and drainage improvements, construction of one (1) batch detention basin, six (6) one-story buildings and associated parking. The proposed Permanent Best Management Practice (PBMP) for stormwater treatment is one (1) batch detention basin which is designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site. Approximately 6.32 acres of impervious cover, or 56.83% of the 11.118-acre property limits, are proposed for construction in this WPAP. In Watershed "PR-DA-1," approximately 6.15 acres of impervious cover from the building, parking, and drives will be treated by the basin; leaving 0.17 from the sidewalks and driveway as overtreatment from watershed "PR-DA-2." Please see the Treatment Summary table attached with this application.

Potable water service is to be provided by the San Antonio Water System (SAWS). The proposed development will generate approximately 30,000 gallons per day (average flow) of domestic wastewater based on the assumption of 200 gpd per EDU (200 gpd/EDU \* 150 EDUs \* =30,000 gpd).

Wastewater will be disposed of by conveyance to the existing Steven M. Clouse Water Recycling Center operated by SAWS.



# **ATTACHMENT C**



# WATER POLLUTION ABATEMENT PLAN APPLICATION FORM (TCEQ0584)

# Water Pollution Abatement Plan Application

**Texas Commission on Environmental Quality** 

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

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

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

# Signature

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

Print Name of Customer/Agent: <u>David Martinez, P.E.</u>
Date: <u>8/15/2</u> 5
Signature of Customer/Agent:
David E. Martin

# Regulated Entity Name: Canyon Golf Retail Regulated Entity Information

L.	The type of project is:
	Residential: Number of Lots: Residential: Number of Living Unit Equivalents:
	Commercial
	Industrial
	Other:

- 2. Total site acreage (size of property): 11.118
- 3. Estimated projected population:N/A
- 4. The amount and type of impervious cover expected after construction are shown below:

**Table 1 - Impervious Cover Table** 

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	42,792	÷ 43,560 =	0.98
Parking	205,010	÷ 43,560 =	4.71
Other paved surfaces	27,591	÷ 43,560 =	0.63
Total Impervious Cover	275,393	÷ 43,560 =	6.32

Total Impervious Cover  $\underline{6.32}$  ÷ Total Acreage  $\underline{11.118}$  X 100 =  $\underline{56.8}$ % Impervious Cover

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

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

# For Road Projects Only

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

7.	Type of project:
	<ul> <li>TXDOT road project.</li> <li>County road or roads built to county specifications.</li> <li>City thoroughfare or roads to be dedicated to a municipality.</li> <li>Street or road providing access to private driveways.</li> </ul>
8.	Type of pavement or road surface to be used:
	Concrete Asphaltic concrete pavement Other:
9.	Length of Right of Way (R.O.W.): feet.
	Width of R.O.W.: feet. $L \times W = Ft^2 \div 43,560 Ft^2/Acre = acres.$
10.	Length of pavement area: feet.
	Width of pavement area: feet. L x W = $Ft^2 \div 43,560 \ Ft^2/Acre = acres.$ Pavement area acres $\div$ R.O.W. area acres x $100 = \%$ impervious cover.
11.	A rest stop will be included in this project.
	A rest stop will not be included in this project.

12.	Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.
Sto	rmwater to be generated by the Proposed Project
13.	Attachment B - Volume and Character of Stormwater. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on the area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.
Was	stewater to be generated by the Proposed Project
14. Th	e character and volume of wastewater is shown below:
_	0% Domestic 30,000Gallons/day Mindustrial Gallons/day Gallons/day TOTAL gallons/day 30,000 gpd (based on 150 EDU * 200 gpd/EDU)
15. W	astewater will be disposed of by:
	On-Site Sewage Facility (OSSF/Septic Tank):
	Attachment C - Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.  Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.
	Sewage Collection System (Sewer Lines):
	<ul> <li>Private service laterals from the wastewater generating facilities will be connected to an existing SCS.</li> <li>Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.</li> </ul>
	<ul> <li>The SCS was previously submitted on 8/12/25.</li> <li>The SCS was submitted with this application.</li> <li>The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.</li> </ul>

	The sewage collection system will convey the wastewater to the <u>Steven Clouse WRC</u> (name) Treatment Plant. The treatment facility is:
	<ul><li>☑ Existing.</li><li>☐ Proposed.</li></ul>
16. [	$\boxtimes$ All private service laterals will be inspected as required in 30 TAC §213.5.
Sit	e Plan Requirements
Item	ns 17 – 28 must be included on the Site Plan.
17. [	$\boxtimes$ The Site Plan must have a minimum scale of 1" = 400'.
9	Site Plan Scale: 1" = <u>50</u> '.
18. 1	100-year floodplain boundaries:
	Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
r	No part of the project site is located within the 100-year floodplain. The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): <a href="https://documents.com/documents.com/DFIRM">DFIRM (Digital Flood Insurance Rate Map for Bexar County, Texas and ncorporated Areas) Panel No. 48029C0140G, Dated 09/29/2010</a>
19. [	The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, open space, etc. are shown on the plan.
[	The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, open space, etc. are shown on the site plan.
20. <i>A</i>	All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
	$\overline{\hspace{0.1in}}$ There are $\underline{1}$ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
	<ul> <li>The wells are not in use and have been properly abandoned.</li> <li>The wells are not in use and will be properly abandoned.</li> <li>The wells are in use and comply with 16 TAC §76.</li> </ul>
	There are no wells or test holes of any kind known to exist on the project site.
21. (	Geologic or manmade features which are on the site:
	<ul> <li>All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.</li> <li>No sensitive geologic or manmade features were identified in the Geologic Assessment.</li> </ul>

Attachment D - Exception to the Required Geologic Assessment. A request justification for an exception to a portion of the Geologic Assessment is attached	
22. $igotimes$ The drainage patterns and approximate slopes anticipated after major grading a	activities
23. 🔀 Areas of soil disturbance and areas which will not be disturbed.	
24. \(\sime\) Locations of major structural and nonstructural controls. These are the tempor permanent best management practices.	rary and
25. 🔀 Locations where soil stabilization practices are expected to occur.	
26. Surface waters (including wetlands).	
⊠ N/A	
27. Locations where stormwater discharges to surface water or sensitive features a occur.	re to
There will be no discharges to surface water or sensitive features.	
28. 🔀 Legal boundaries of the site are shown.	
Administrative Information	
29. Submit one (1) original and one (1) copy of the application, plus additional copie needed for each affected incorporated city, groundwater conservation district, county in which the project will be located. The TCEQ will distribute the additio copies to these jurisdictions. The copies must be submitted to the appropriate office.	and onal
30. Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropries.	

# **ATTACHMENT A**

### **Attachment A - Factors Affecting Water Quality**

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

- Soil erosion due to the clearing of the site;
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings;
- Hydrocarbons from asphalt paving operations;
- Miscellaneous trash and litter from construction workers and material wrappings;
- Concrete truck washout.
- Potential overflow/spills from portable toilets

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

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



# **ATTACHMENT B**

### Attachment B - Volume and Character of Stormwater

Stormwater runoff will increase as a result of this development. For a 25-year storm event, the overall project will generate approximately 75 cfs. The runoff coefficient for the site changes from approximately 0.47 before development to 0.97 after development. Values are based on the Rational Method using runoff coefficients per the City of San Antonio Unified Development Code.



# 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: <u>David Martinez</u>, P.E.

and E. Martin

Date: <u>8/15/25</u>

Signature of Customer/Agent:

Regulated Entity Name: Canyon Golf Retail

# **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 to	or cons	stru	ction	equi	pmer	nt and	d hazar	dous	subs	tances	s which	ch w	ill be	used	durir	١g
	constru	uction:															
	<u> </u>					, .						_				_	

The following fuels and/or hazardous substances will be stored on the site: <u>construction</u> <u>staging area</u>

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.

	<ul> <li>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.</li> <li>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.</li> </ul>			
	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.	. X 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.			
	<ul> <li>For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.</li> <li>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.</li> </ul>			
6.	Name the receiving water(s) at or near the site which will be disturbed or which will			

# Temporary Best Management Practices (TBMPs)

receive discharges from disturbed areas of the project: Salado Creek

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.
	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.
$\boxtimes$	N/A
	<b>Attachment I - Inspection and Maintenance for BMPs.</b> 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.
	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.
	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).
	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
mulchii	les: establishment of temporary vegetation, establishment of permanent vegetation, ng, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or vation of mature vegetation

preservation of mature vegetation.

17. X 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. <a href="https://www.tceq.texas.gov/response/spills/spill\_rq.html">https://www.tceq.texas.gov/response/spills/spill\_rq.html</a>
- 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.



### **CANYON GOLF RETAIL**

### Water Pollution Abatement Plan Modification

- 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**

### <u>Attachment B – Potential Sources of Contamination</u>

Other potential sources of contamination during construction include:

Potential Source	Preventative Measure
Asphalt products used on this project.	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.
Oil, grease, fuel, and hydraulic fluid contamination	<ul> <li>Vehicle maintenance when possible, will be</li> </ul>
from construction equipment and vehicle dripping.	<ul> <li>performed within the construction staging area.</li> <li>Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.</li> </ul>
Accidental leaks or spills of oil, petroleum products,	Contractor to incorporate into regular safety
and substances listed under 40 CFR parts 110, 117,	meetings, a discussion of spill prevention and
and 302 used or stored temporarily on site.	appropriate disposal procedures.
	<ul> <li>Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.</li> </ul>
	<ul> <li>Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.</li> </ul>
	<ul> <li>A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.</li> </ul>
Miscellaneous trash and litter from construction	Trash containers will be placed throughout the
workers and material wrappings.	site to encourage proper trash disposal.
Construction debris.	<ul> <li>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.</li> </ul>
Spills/Overflow of waste from portable toilets	<ul> <li>Portable toilets will be placed away from high-traffic vehicular areas and storm drain inlets.</li> <li>Portable toilets will be placed on a level ground surface.</li> <li>Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time</li> </ul>
	intervals that will maintain sanitary conditions.



# **ATTACHMENT C**

### <u>Attachment C – Sequence of Major Activities</u>

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 temporary BMPS and clearing and grubbing of vegetation where applicable. This will disturb approximately 8.57 acres. The second is construction that will include construction of commercial buildings, the batch detention basin, construction of new pavement area, landscaping and site cleanup. This will disturb approximately 8.51 acres.



# **ATTACHMENT D**

#### <u>Attachment D – Temporary Best Management Practices and Measures</u>

a. 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. Upgradient water will be intercepted through the earthen channel on the eastern side of the side of the property around 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 rock berms with silt fencing downgradient from areas of concentrated stormwater flow for temporary erosion control, (3) Installation of gravel bags and drain inlet protection at inlets and downgradient areas of construction activities for sediment control (4) installation of stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, and (5) 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.

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.



#### **CANYON GOLF RETAIL**

#### **Water Pollution Abatement Plan Modification**

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.

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 along the downgradient boundary of construction activities and rock berms with silt fence for secondary protection, as located on Exhibit 1 and illustrated in Exhibit 2.
- Installation of gravel bags and drain inlet protection at inlets and downgradient areas 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.

The following structural measures will be installed at the initiation of construction activities or as appropriate based on the construction sequencing:

• Installation of concrete truck washout pit(s), as required and 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 within a common drainage area at one time. All TBMPs utilized are adequate for the drainage areas served.



# **ATTACHMENT I**

#### **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.



### **CANYON GOLF RETAIL**

### **Water Pollution Abatement Plan Modification**

Pollution	.E	Corrective Action Required	
Prevention	ed		
Measure	nspected i	Description	Date
	ို မ	(use additional sheet if necessary)	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 qu	ualificatio	ns of the inspector is included in th	iis SWP3.
"I certify under penalty of law that this document a system designed to assure that qualified personnel p or persons who manage the system, or those persons of my knowledge and belief, true, accurate, and com the possibility of fine and imprisonment for knowing	roperly gath directly res plete. I am	er and evaluate the information submitted. ponsible for gathering the information, the in	Based on my inquiry of the person formation submitted is, to the best
"I further certify I am an authorized signatory in acco	rdance with	the provisions of 30 TAC §305.128."	
Inspector's Name	Inspector	's Signature Date	e



#### **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** <u>Date</u> 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 14<sup>th</sup> day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practicable.



# PERMANENT STORMWATER SECTION (TCEQ-0600)

### **Permanent Stormwater Section**

**Texas Commission on Environmental Quality** 

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

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

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

### Signature

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

Print Name of Customer/Agent: <u>David Martinez</u>, P.E.

Date: 8/15/25

Signature of Customer/Agent

Regulated Entity Name: Canyon Golf Retail

aid E. Martin

### Permanent Best Management Practices (BMPs)

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

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

	A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is:
	□ N/A
3.	Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.
	□ N/A
4.	Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.
	<ul> <li>The site will be used for low density single-family residential development and has 20% or less impervious cover.</li> <li>The site will be used for low density single-family residential development but has more than 20% impervious cover.</li> </ul>
	$oxedsymbol{oxed}$ The site will not be used for low density single-family residential development.
5.	The executive director may waive the requirement for other permanent BMPs for multifamily residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.
	<ul> <li>☐ Attachment A - 20% or Less Impervious Cover Waiver. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.</li> <li>☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.</li> <li>☐ The site will not be used for multi-family residential developments, schools, or small business sites.</li> </ul>
6.	

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

11. Attachment G - Inspection, Maintenance, Repair and Retrofit Plan. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:
<ul> <li>✓ Prepared and certified by the engineer designing the permanent BMPs and measures</li> <li>✓ Signed by the owner or responsible party</li> <li>✓ Procedures for documenting inspections, maintenance, repairs, and, if necessary</li> </ul>
retrofit  A discussion of record keeping procedures
□ N/A
12. Attachment H - Pilot-Scale Field Testing Plan. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.
⊠ N/A
13. Attachment I -Measures for Minimizing Surface Stream Contamination. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.
□ N/A
Responsibility for Maintenance of Permanent BMP(s)
Responsibility for maintenance of best management practices and measures after construction is complete.
14. The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.
□ N/A
15. A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.
□ N/A

# **ATTACHMENT B**

#### Attachment B - BMPs for Upgradient Stormwater

Upgradient stormwater will cross the site from the adjacent undeveloped site at the northeast. This stormwater will be rerouted around the site via proposed grading and retaining wall. The onsite PBMP has not been sized to account for the flows from these areas.

The proposed Permanent Best Management Practices (PBMPs) for stormwater treatment is one (1) batch detention basin which is designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.



# **ATTACHMENT C**

#### <u>Attachment C – BMPs for On-Site Stormwater</u>

The proposed Permanent Best Management Practices (PBMPs) for stormwater treatment is one (1) batch detention basin which is designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.



# **ATTACHMENT D**

#### <u>Attachment D - BMPs for Surface Streams</u>

The proposed Permanent Best Management Practices (PBMPs) for stormwater treatment is one (1) batch detention basin which is designed in accordance with the TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.



# **ATTACHMENT F**

#### <u>Attachment F – Construction Plans</u>

Please refer to the Exhibits Section of this application for the Water Pollution Abatement Site Plans.



# **ATTACHMENT G**

### PERMANENT POLLUTION ABATEMENT MEASURES MAINTENANCE SCHEDULE AND MAINTENANCE PROCEDURES

This document has been prepared to provide a description and schedule for the performance of maintenance on permanent pollution abatement measures. Maintenance measures to be performed will be dependent on what permanent pollution abatement measures are incorporated into the project. The project specific water pollution abatement plan should be reviewed to determine what permanent pollution abatement measures are incorporated into a project.

It should also be noted that the timing and procedures presented herein are general guidelines, adjustment to the timing and procedures may have to be made depending on project specific characteristics as well as weather related conditions but may not be altered without TCEQ approval.

Where a project is occupied by the owner, the owner may provide for maintenance with his own skilled forces or contract for recommended maintenance of Permanent Best Management Practices. Where a project is occupied or leased by a tenant, the owner shall require tenants to contract for such maintenance services either through a lease agreement, property owners association covenants, or other binding document.

I understand that I am responsible for maintenance of the Permanent Pollution Abatement Measures included in this project until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or ownership is transferred.

I, the owner, have read and understand the requirements of the attached Maintenance Plan and Schedule.

Miguel Serra 8/15/2025

Date

Owner Stone Oak 11 Acres LLC

# INSPECTION AND MAINTENANCE SCHEDULE FOR PERMANENT POLLUTION ABATEMENT MEASURES

Recommended Frequency	Task to be Performed												
	1	2	3	4	5	6	7	8	9	10	11	12	13
After Rainfall													$\sqrt{}$
Biannually*	V	V	V		V								$\sqrt{}$

<sup>\*</sup>At least one biannual inspection must occur during or immediately after a rainfall event.  $\sqrt{\text{Indicates maintenance procedure that applies to this specific site.}}$ 

See description of maintenance task to be performed on the following pages. Frequency of maintenance tasks may vary depending on amount of rainfall and other weather-related conditions but may not be altered without TCEQ approval.

A written record should be kept of inspection results and maintenance performed.

Task No. & Description	Included in this project
1. Mowing	Yes No
2. Litter and Debris Removal	Yes No
3. Erosion Control	Yes <del>No</del>
4. Level Sensor	Yes <del>No</del>
5. Nuisance Control	Yes <del>No</del>
6. Structural Repairs and Replacement	Yes <del>No</del>
7. Discharge Pipe	Yes <del>No</del>
8. Detention and Drawdown Time	Yes <del>No</del>
9. Sediment Removal	Yes <del>No</del>
10. Logic Controller	Yes <del>No</del>
11. Vegetated Filter Strips	Yes No
12. Visually Inspect Security Fencing for Damage or Breach	Yes <del>No</del>
13. Recordkeeping for Inspections, Maintenance, and Repairs	Yes <del>No</del>

#### MAINTENANCE PROCEDURES FOR PERMANENT POLLUTION ABATEMENT MEASURES

Note: Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 3.5.

Inspections. Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately. A written record should be kept of inspection results and corrective measures taken

- 1. Mowing. The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.
- <u>Litter and Debris Removal</u>. Litter and debris removal should take place at least twice a year, as
  part of the periodic mowing operations and inspections. Debris and litter should be removed
  from the surface of the basin. Particular attention should be paid to floatable debris around the
  outlet structure. The outlet should be checked for possible clogging or obstructions and any
  debris removed.
- 3. <u>Erosion control</u>. The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.
- 4. <u>Level Sensor</u>. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin.
- 5. <u>Nuisance Control</u>. Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).
- 6. <u>Structural Repairs and Replacement</u>. With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and



repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced. A written record should be kept of inspection results and corrective measures taken

- 7. <u>Discharge Pipe</u>. The basin discharge pipe shall be checked for accumulation of silt, debris or other obstructions which could block flow. Soil accumulations, vegetative overgrowth and other blockages should be cleared from the pipe discharge point. Erosion at the point of discharge shall be monitored. If erosion occurs, the addition of rock rubble to disperse the flow should be accomplished. A written record should be kept of inspection results and corrective measures taken
- 8. Detention and Drawdown Time. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. This characteristic can be a sign of the need for maintenance. The minimum drawdown time is 24 hours. If drawdown time is less than 24 hours, the actuator valve shall be checked and partially closed to limit the drawdown time. Extensive drawdown time greater than 48 hours may indicated blockage of the discharge pipe. Corrective actions should be performed and completed within 15 working days. A written record of the inspection findings and corrective actions performed should be made.
- 9. Sediment Removal. A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.
- 10. Logic Controller. The Logic Controller should be inspected as part of the twice-yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.
- 11. Vegetated Filter Strips. Vegetation height for native grasses shall be limited to no more than 18-inches. When vegetation exceeds that height, the filter strip shall be cut to a height of approximately 4 inches. Turf grass shall be limited to a height of 4-inches with regular maintenance that utilizes a mulching mower. Trash and debris shall be removed from filter strip prior to cutting. Check filter strip for signs of concentrated flow and erosion. Areas of filter strip showing signs of erosion shall be repaired by scarifying the eroded area, reshaping, regrading,



and placement of solid block sod over the affected area. A written record of the inspection findings and corrective actions performed should be made

- 12. <u>Visually Inspect Security Fencing for Damage or Breach</u>. Check maintenance access gates for proper operation. Damage to fencing or gates shall be repaired within 5 working days. *A written record should be kept of inspection results and maintenance performed.*
- 13. Recordkeeping Procedures for Inspections, Maintenance, Repairs, and Retrofits.
  - Written records shall be kept by the party responsible for maintenance or a designated representative.
  - Written records shall be retained for a minimum of five years.



# **ATTACHMENT I**

#### <u>Attachment I – Measures for Minimizing Surface Stream Contamination</u>

Any points where discharge from the site is concentrated and erosive velocities exist will include appropriately sized energy dissipators to reduce velocities to non-erosive levels.



# 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

T	Miguel Serra	
	Print Name	
	Owner	
	Title - Owner/President/Other	
of	Stone Oak 11 Acres, LLC Corporation/Partnership/Entity Name	
have authorized	Pape-Dawson Engineers, Inc.	<u> </u>
	Print Name of Agent/Engineer	
of	Print Name of Firm	
	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.
- 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:

Notary ID 130072954

MY COMMISSION EXPIRES: 8/29/2024

Manidela Ramon
Typed or Printed Name of Notary

# APPLICATION FEE FORM (TCEQ-0574)

## **Application Fee Form**

### **Texas Commission on Environmental Quality** Name of Proposed Regulated Entity: Canyon Golf Retail Regulated Entity Location: NE Corner of Canyon Golf And Stone Oak Parkway Intersection Name of Customer: Stone Oak 11 Acres, LLC Contact Person: Miguel Serra Phone: <u>210-265-1773</u> Customer Reference Number (if issued):CN 606205409 Regulated Entity Reference Number (if issued):RN <u>111851572</u> **Austin Regional Office (3373)** Hays Travis Williamson San Antonio Regional Office (3362) 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:

Tuno	of Dlan	Cizo	Foo Du
Recharge Zone	Contributing Zone	Transi	ition Zone
Site Location (Check All Th	at Apply):		
Austin, TX 78711-3088	(	512)239-0357	
P.O. Box 13088	A	Austin, TX 78753	

San Antonio Regional Office

12100 Park 35 Circle

Building A, 3rd Floor

Overnight Delivery to: TCEQ - Cashier

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	11.118 Acres	\$ 6,500
Sewage Collection System	L.F.	\$
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

Signature: Date: 9/03/25

**Austin Regional Office** 

**Revenues Section** 

Mail Code 214

Mailed to: TCEQ - Cashier

## **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	\$1,500
	5 < 10	\$3,000
	10 < 40	\$4,000
	40 < 100	\$6,500
	100 < 500	\$8,000
	≥ 500	\$10,000
Non-residential (Commercial, industrial, institutional,	< 1	\$3,000
multi-family residential, schools, and other sites	1 < 5	\$4,000
where regulated activities will occur)	5 < 10	\$5,000
	10 < 40	\$6,500
	40 < 100	\$8,000
	≥ 100	\$10,000

Organized Sewage Collection Systems and Modifications

organized berrage concernor by sterns and	· ······	
	Cost per Linear	Minimum Fee-
Project	Foot	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

# POLLUTANT LOAD AND REMOVAL CALCULATIONS

TSS Removal Calculations 04-20-2009

**Project Name: Canyon Golf Retail** Date Prepared: 8/12/2025

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

Page 3-29 Equation 3.3:  $L_{M} = 27.2(A_{N} \times P)$ 

where:

 $L_{M TOTAL PROJECT}$  = Required TSS removal resulting from the proposed development = 80% of increased load  $A_N$  = Net increase in impervious area for the project

P = Average annual precipitation, inches

inches

Site Data: Determine Required Load Removal Based on the Entire Project **Bexar** Total project area included in plan \*= 8.51 acres Predevelopment impervious area within the limits of the plan \* = 0.00 acres Total post-development impervious area within the limits of the plan\* = 6.32 acres Total post-development impervious cover fraction \* = 0.74 30

> 5157 L<sub>M TOTAL PROJECT</sub> = lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

9/03/25

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

Drainage Basin/Outfall Area No. =

Total drainage basin/outfall area = 8.34 acres Predevelopment impervious area within drainage basin/outfall area = 0.00 acres Post-development impervious area within drainage basin/outfall area = 6.15 acres Post-development impervious fraction within drainage basin/outfall area = 0.74 L<sub>M THIS BASIN</sub> = 5018 lbs.

### 3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention Removal efficiency = percent

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

## 4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7:  $L_R = (BMP \text{ efficiency}) \times P \times (A_1 \times 34.6 + A_2 \times 0.54)$ 

where:

 $A_C$  = Total On-Site drainage area in the BMP catchment area  $A_{l}$  = Impervious area proposed in the BMP catchment area  $A_P$  = Pervious area remaining in the BMP catchment area

L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

 $A_C =$ 8.34 acres  $A_{l} =$ 6.15 acres  $A_P =$ 2.19 acres 5841 lbs

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

Desired  $L_{M THIS BASIN} =$ 5157 lbs.

> F = 0.88

## 6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = 1.50 inches Post Development Runoff Coefficient = 0.55 On-site Water Quality Volume = 24771 cubic feet

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

Off-site area draining to BMP = 0.00 acres Off-site Impervious cover draining to BMP = 0.00 acres Impervious fraction of off-site area = 0 Off-site Runoff Coefficient = 0.00 Off-site Water Quality Volume = 0 cubic feet

> Storage for Sediment = 4954

Total Capture Volume (required water quality volume(s) x 1.20) = 29725 cubic feet

# 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.)												
Renewa	Renewal (Core Data Form should be submitted v				al form,	) [		Other				
2. Customer	Referenc	e Number <i>(if i</i> ss		Follow this lin		<u> </u>	B. Re	gulated	Entity	Reference	e Number <i>(i</i>	f issued)
CN 6062	CN 606205409				number egistry**		RN	11185	51572	2		
SECTION	II: Cu	stomer Info	<u>ormation</u>									
4. General C	ustomer l	nformation	5. Effective D	ate for Cu	stomer	Inform	ation	Update	es (mm	/dd/yyyy)		
☐ New Cust☐ Change in		me (Verifiable wit		odate to Cus cretary of St				troller of		•	Regulated E	Entity Ownership
The Custo	mer Nan	ne submitted	here may be	updated	auto	matica	ally l	based	on wh	nat is cu	rrent and	active with the
Texas Sec	retary of	f State (SOS)	or Texas Co	mptroller	of Pu	ıblic A	ссо	unts (	CPA).			
6. Customer	Legal Nar	<b>ne</b> (If an individua	l, print last name f	first: eg: Doe,	John)		<u>If</u>	new Cus	stomer,	enter previ	ous Custome	er below:
Stone Oak	11 Acr	es, LLC										
7. TX SOS/C		*	8. TX State Ta	ax ID (11 digi	ts)		9.	. Federa	ıl Tax II	D (9 digits)	10. DUNS	Number (if applicable)
08045389	60		320842844	499			9	20288	3436			
11. Type of C	Customer:		on		Individ	ual	•	Par	tnershi	p: 🔲 Gener	al 🔲 Limited	
Government:	☐ City ☐ (	County 🔲 Federal 🗆	☐ State ☐ Other		Sole P	roprieto	rship		Other:			
12. Number			□ 054 500			-	1:		enden		and Opera	ted?
	21-100	101-250	251-500		nd high		L bio fo	Yes	no obook	∐ No	following	
	r Kole (Pi	oposed or Actual) -		-	-			IIII. Pieas	зе спеск	t one or the	lollowing	
☐Owner ☐Occupatio	nal Licens	☐ Operation	nsible Party			Operat y Clean		plicant		Other:		
	15555	Tradesman I	Or, Ste 400									
15. Mailing Address:												
/ tudi ooo:	City	San Antonio	0	State	TX		ZIP	7824	19		ZIP + 4	
16. Country	Mailing In	formation (if outsi	de USA)	•		17. E-l	Mail A	Address	if appli	icable)		
						cross	tim	ber@r	ne.co	m		
18. Telephor	e Numbe	1	1	19. Extensi	on or C	Code			20. Fa	ax Numbe	<b>r</b> (if applicab	ole)
(210)26	5-1773								(	)	-	
SECTION	III: Re	egulated En	tity Inforn	<u>mation</u>								
21. General F	Regulated	Entity Informat	ion (If 'New Reg	gulated Entit	ty" is se	elected l	pelow	this for	m shou	ld be acco	mpanied by	a permit application)
☐ New Regi	ulated Enti	ty 🔲 Update	to Regulated Er	ntity Name	⊠l	Update	to Re	gulated	Entity I	nformation	1	
					ed in o	order t	to m	eet TC	EQ A	gency D	ata Stand	lards (removal
		ndings such			l "	1- 4-11	1	1				
-		ame (Enter name	of the site where i	tne regulated	action i	is taking	place	.)				
Canyon G	olf Reta	1l										

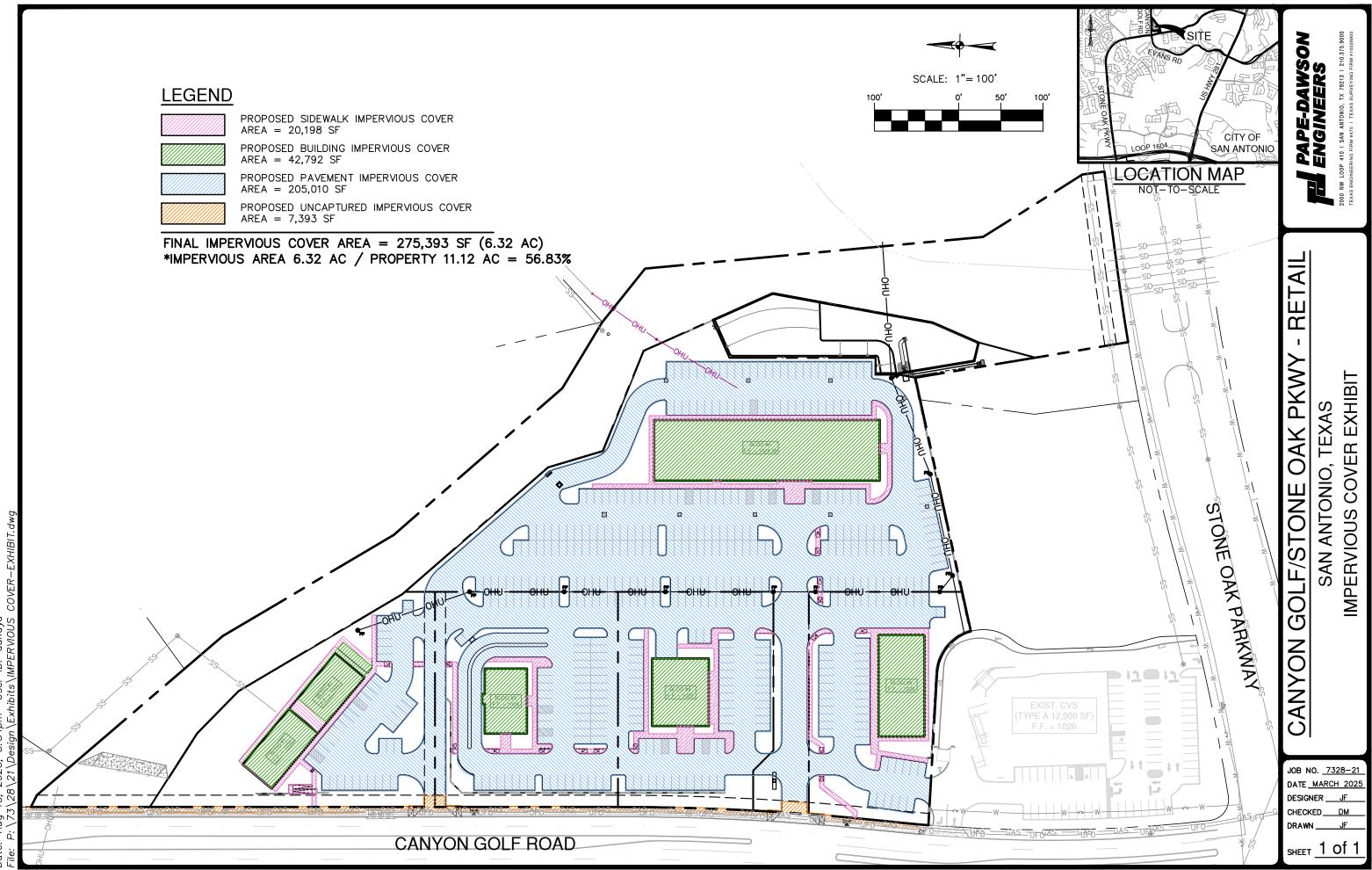
TCEQ-10400 (02/21) Page 1 of 2

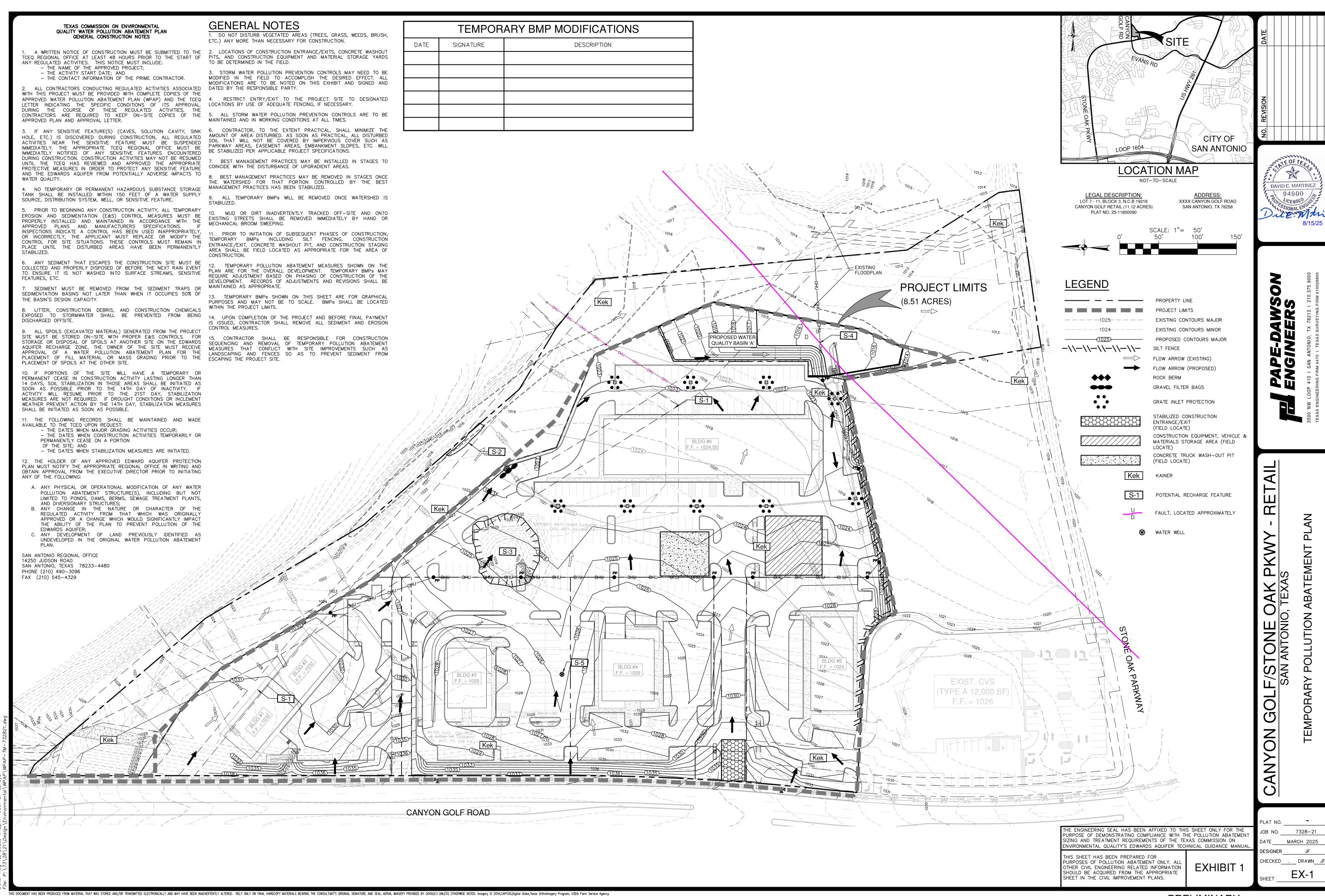
22 Stre	eet Address of											
	gulated Entity:											
(No PO	Boxes)	City				State		ZIP			ZIP + 4	
24. Cou	ınty				[		I					L
	-		En	ter Physical	Locat	tion Description	on if no stre	et address	is provid	ed.		
	25. Description to Physical Location:  Northeast corner of Canyon Golf and Stone Oak Parkway intersection											
26. Nea	26. Nearest City State Nearest ZIP Code											
San A	Intonio								TX		78	258
27. Lati	itude (N) In Decir	nal:		29.645919	9 N		28. Lo	ongitude (V	V) In Decir	mal:	-98.4797	716 W
Degrees		Minutes	3		Secor	nds	Degree	S	Mir	utes		Seconds
	29		3	8		45.3		-98		2	28	47.0
29. Prir	mary SIC Code (4	digits)	30. 8	Secondary SI	C Cod	de (4 digits)	31. Primar (5 or 6 digits)	-	ode	<b>32. Se</b> (5 or 6 d	condary NA	AICS Code
1542			162	.3			236220			2371	10	
33. Wh	at is the Primary	Busine	ss of	this entity?	(Do n	ot repeat the SIC	or NAICS desc	ription.)				
Comr	nercial Reatil											
						1	5555 Trade	sman Dr, S	Ste 400			
3	34. Mailing							<u> </u>				
Address:		Cit	City San Antonio		nio	State	TX	ZIP	783	249	ZIP + 4	
35	. E-Mail Address	-	-9									
33			nber			37. Extensio		imber@me		Fax Nun	nber <i>(if app</i>	licable)
	36. Teleph	one Nur				37. Extensio				Fax Nun	nber <i>(if app</i>	licable)
9. TCEQ	36. Telepho ( 210 ) 2 Programs and II	one Nur 265-177 ) Numb	3 ers Cl				n or Code		38.	(	) -	,
9. TCEQ	36. Telepho ( 210 ) 2 Programs and II he Core Data Form	265-177 Numb	ers Ch	additional guid	ance.	d write in the per	n or Code mits/registrat	on numbers	38. I	( affected l	) - by the update	,
9. TCEQ	36. Telepho ( 210 ) 2 Programs and II	265-177 Numb	3 ers Cl	additional guid	ance.		n or Code mits/registrat	on numbers	38.	( affected l	) - by the update	s submitted on this
9. TCEQ orm. See tl	36. Telepho ( 210 ) 2 Programs and II he Core Data Form	265-177 D Numb instructio	ers Clons for istricts	additional guid	ance.	d write in the per	n or Code mits/registrat	on numbers	38. I	( affected l	) - by the update	s submitted on this
9. TCEQ orm. See tl	36. Telepho ( 210 ) 2 Programs and II the Core Data Form Safety	265-177 D Numb instructio	ers Clons for istricts	additional guid	ance.	d write in the per ☑ Edwards Aqui	n or Code mits/registrat	on numbers	38. Interest of that will be	( affected l	) - by the update	s submitted on this
9. TCEQ orm. See tl	36. Telepho ( 210 ) 2 Programs and IE he Core Data Form Safety	265-1773  Numbinstructio	ers Clons for istricts	additional guid	ance.	d write in the per ☑ Edwards Aqui	n or Code mits/registrat	on numbers	38. Interest of that will be	( affected l	) - by the update	s submitted on this al Hazardous Waste
9. TCEQ orm. See the Dam :	36. Telepho ( 210 ) 2 Programs and IE he Core Data Form Safety	265-1773  Numbinstructio	ers Clons for istricts	additional guid	ance.	d write in the per ☑ Edwards Aqui ☑ OSSF	n or Code mits/registrat	on numbers  Emissio	38. Interest of that will be	( affected l	by the update	s submitted on this al Hazardous Waste
9. TCEQ orm. See tl Dam	36. Telepho ( 210 ) 2 Programs and IE he Core Data Form Safety	Diagram Struction No.	ers Clons for istricts	additional guid urce Review Ai	ance.	d write in the per ☑ Edwards Aqui ☑ OSSF	n or Code mits/registrat	on numbers  Emissio	that will be ons Inventor	( affected l	by the update	s submitted on this al Hazardous Waste
9. TCEQ orm. See tl Dam	36. Telepho ( 210 ) 2 Programs and II he Core Data Form Safety cipal Solid Waste	Diagram Struction No.	ers Clons for istricts	additional guid urce Review Ai	ance.	d write in the per  Edwards Aqui OSSF Title V Air	n or Code mits/registrat	on numbers  Emission  Petrole  Tires	that will be ons Inventor	( affected l	by the update	s submitted on this al Hazardous Waste
9. TCEQ orm. See tl Dam	36. Telepho ( 210 ) 2 Programs and II he Core Data Form Safety cipal Solid Waste	Diagram No.	ers Clons for istricts ew Solutorm W	additional guid urce Review Ai //ater	r C	d write in the per  Edwards Aqui OSSF Title V Air	n or Code mits/registrat	on numbers  Emission  Petrole  Tires	that will be ons Inventor	( affected l	by the update	s submitted on this al Hazardous Waste
9. TCEQ orm. See tl Dam	36. Telepho (210) 2 Programs and II he Core Data Form Safety  sipal Solid Waste	Done Nur 265-177:  O Numb instructio  Di  No	3 ers Cl ins for ins for ew Sol down W	additional guid urce Review Ai //ater	r C	d write in the per  Edwards Aqui OSSF Title V Air	n or Code mits/registrat	on numbers  Emission  Petrole  Tires  Water F	that will be ons Inventor	( affected l y Air Tank	by the update	s submitted on this al Hazardous Waste
9. TCEQ orm. See tl Dam: Sludg Volun SECTI 40. Name:	36. Telepho (210) 2 Programs and III he Core Data Form Safety Cipal Solid Waste  The Core Data Form Safety  Cipal Solid Waste  The Core Data Form Safety	Done Nur 265-177:  O Numb instructio  Di  No  St  D No	3 ers Cl ins for istricts ew Sol //aste V	additional guid urce Review Ai /ater Vater	r C	d write in the per  Edwards Aqui OSSF Title V Air	mits/registrat fer griculture 41. Title:	on numbers  Emission  Petrole  Tires  Water F	that will be ons Inventor um Storage	( affected l y Air Tank	by the update	s submitted on this al Hazardous Waste
9. TCEQ orm. See th Dam s  Sludg Volun  SECTI 40. Name:	36. Telepho (210) 2 Programs and II he Core Data Form Safety  cipal Solid Waste  tele tary Cleanup  ION IV: Pre	Done Nur 265-177:  O Numb instructio  Di  No  St  D No	3 ers Cl ins for istricts ew Sol //aste V	additional guid urce Review Ai Vater Vater 44. F	r C	d write in the per  Edwards Aqui OSSF Title V Air Wastewater A	mits/registrat fer griculture 41. Title:	on numbers  Emission  Petrole  Tires  Water F	that will be ons Inventor um Storage	( affected I y Air  Tank  ager	by the update	s submitted on this al Hazardous Waste
9. TCEQ orm. See the Dam see t	36. Telepho (210) 2 Programs and II he Core Data Form Safety  sipal Solid Waste  e tary Cleanup  ION IV: Pre Joshua Ficar phone Number	Done Number Diagram   N	gers Clause for instricts  ew Solidorm W  //aste V	additional guid  urce Review Ai  /ater  Vater  formation  44. F  ( 21)	ance. r	d write in the per Edwards Aqui OSSF Title V Air Wastewater A	mits/registrat fer griculture 41. Title:	on numbers  Emission  Petrole  Tires  Water F	that will be ons Inventor um Storage	( affected I y Air  Tank	by the update	s submitted on this al Hazardous Waste

Company:	Pape-Dawson Engineers	Job Title:	Vice Pres	sident	
Name (In Print):	David Martinez, P.E.				( 210 ) 375- <b>9000</b>
Signature:	David E. Mortins			Date:	9/03/25

TCEQ-10400 (02/21) Page 2 of 2

## **EXHIBITS**





## SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT

## MATERIALS

8-INCHES.

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

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 OF

## 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

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

STABILIZE FOUNDATION

## COMMON TROUBLE POINTS

1. INADEQUATE RUNOFF CONTROL-SEDIMENT WASHES ONTO PUBLIC ROAD. . STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY

CONDITION AS STONE IS PRESSED INTO SOIL. 5. 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 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.

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

2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC

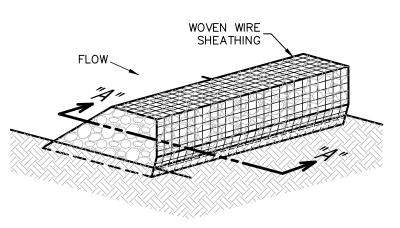
WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN

INCORRECT

SOD INSTALLATION

USE PEGS OR STAPLES TO FASTEN SOD

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



## ISOMETRIC PLAN VIEW

## **ROCK BERMS**

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

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS

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

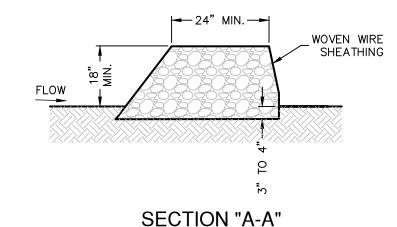
REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.

3. REPAIR ANY LOOSE WIRE SHEATHING.

WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION 5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS

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



SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT 2. CLEAN, OPEN GRADED 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF

FLOW ARE EXPECTED, WHERE 5-INCH TO 8-INCH DIAMETER ROCKS MAY BE

THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE

## INSTALLATION

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

2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H: V) OR FLATTER. 3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO

A HEIGHT NOT LESS THAN 18". 4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.

5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE. 6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE

AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4

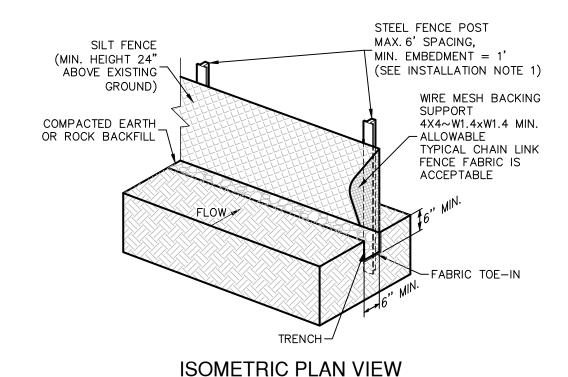
## INCHES DEEP TO PREVENT FAILURE OF THE CONTROL. COMMON TROUBLE POINTS

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

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

## **ROCK BERM DETAIL**

NOT-TO-SCALE

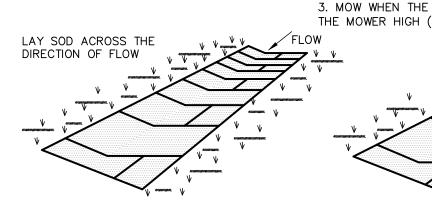


## STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL NOT-TO-SCALE

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.

 ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED



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

## GENERAL INSTALLATION (VA. DEPT. OF

CONSERVATION, 1992 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.

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 OF 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 UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE

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 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

## SILT FENCE

PEG OR

STAPLI

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.

## 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. . 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 1/4 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. 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

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 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.

ENDS OF FABRIC MEET.

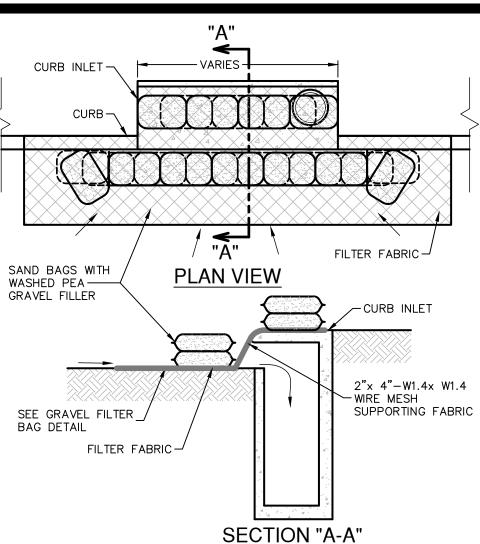
3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

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.

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



## GENERAL NOTES

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 . INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE

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.

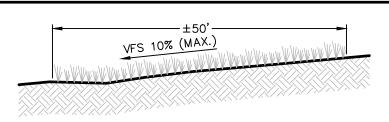
4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.

5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER

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

## THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED. **BAGGED GRAVEL CURB INLET**

PROTECTION DETAIL NOT-TO-SCALE



## NATURAL VEGETATIVE

NOT-TO-SCALE

## MIN. 10 MIL PLASTIC SAND BAGS (TYP.) SECTION "A-A

## GENERAL NOTES

SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.

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

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

## **MATERIALS**

**MAINTENANCE** WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED

AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT

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

## PIT DETAIL

**PLAN VIEW** -WASHED PEA GRAVEL FILLER GRATE DRAIN INLET SEE GRAVEL FILTER BAG DETAIL FILTER FABRIC-

## SECTION "A-A"

## GENERAL NOTES

THE CONTRACTOR.

THE SANDBAGS SHOULD BE FILLED WITH WASHED PEA GRAVEL AND STACKED TO FORM A CONTINUOUS BARRIER ABOUT 1 FOOT HIGH AROUND 2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO

PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS. INSPECTION AND MAINTENANCE GUIDELINES . INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY

. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MATTER THAT IT WILL NOT ERODE. 3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE

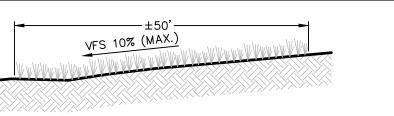
AND CURB. 4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR

5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY

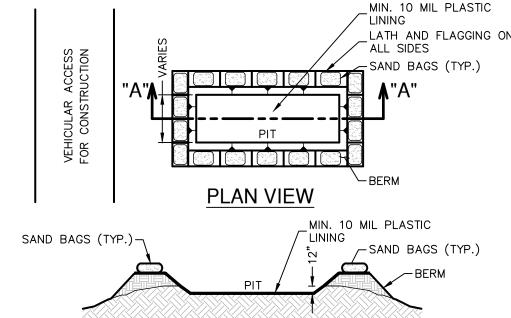
AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

## BAGGED GRAVEL GRATE INLET

PROTECTION DETAIL NOT-TO-SCALE



## **BUFFER DETAIL**



DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.

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

### 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

FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED

BACKFILLED AND REPAIRED. CONCRETE TRUCK WASHOUT

**PLAN VIEW** SECTION "A-A' THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WEIGHT OF 4

JLTRAVIOLET STABILITY EXCEEDING 70%. THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER). . SAND SHALL <u>NOT</u> BE USED TO FILL THE FILTER BAGS.

NOT-TO-SCALE

OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND

## GRAVEL FILTER BAG DETAIL

CONSTRUCTION EQUIPMENT & VEHICLE STORAGE AN MAINTENANCE AREA OFFICE **ENTRANCE** CONSTRUCTION AND WASTE **LEGEND** MATERIAL -\\-\\- SILT FENCE STORAGE AREA → FLOW ARROWS

## CONSTRUCTION STAGING AREA NOT-TO-SCALE

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

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

MARCH 2025 SIGNER . DRAWN . EX-2

7328-21

Z

N

DAVID E. MARTINEZ

94900

PON LICENSED

**PRELIMINARY** 

## SOD INSTALLATION DETAIL

NOT-TO-SCALE

ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD

FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

## INSTALLATION IN CHANNELS

TIGHTLY (SEE FIGURE ABOVE).

## SHOOTS OR GRASS BLADES. GRASS SHOULD BE GREEN AND HEALTHY: MOWED AT A 2"-3" -THATCH- GRASS CLIPPINGS AND DEAD LEAVES, UP TO 1/2" THICK. ROOT ZONE- SOIL AND ROOTS. SHOULD BE 1/2"-3/4" THICK, WITH DENSE ROOT MAT FOR STRENGTH. APPEARANCE OF GOOD SOD

 ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE 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").

## **MATERIALS** 1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH

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%.

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

SITE PREPARATION TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

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

SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS

## (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.

TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE. 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.

PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL

INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

. 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

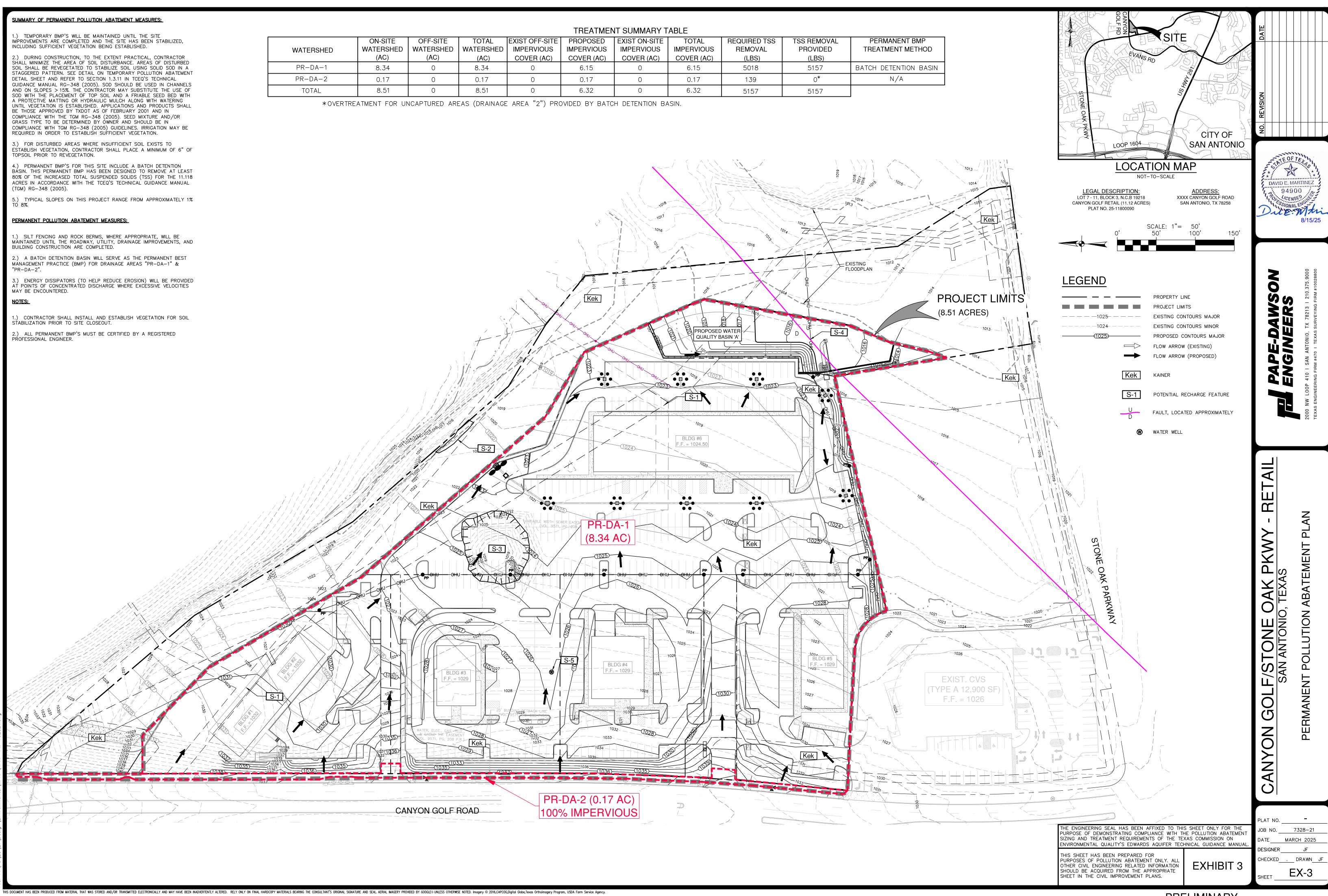
## FIRMLY - AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3-4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW. DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND

SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER.

ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4

## SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO

SOON AS PRACTICAL.



PROPERTY LINE EXISTING CONTOURS MAJOR EXISTING CONTOURS MINOR

PROPOSED CONTOURS MAJOR FLOW ARROW (PROPOSED) DAVID E. MARTINEZ 94900

OK LICENSED

NOTES:

1.) CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION IN BÁSIN PER BASIN DETAIL SHEET PRIOR TO SITE CLOSEOUT. 2.) UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S (BASINS) MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER. 3.) ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASIN SHALL BE REVEGETATED PRIOR TO COMPLETION.

## **OVERLOW WEIR CALCULATIONS**

FLOW ARROW (EXISTING)

(Cw)(L)(h) 75 cfs 3.087  $(3.087)(60)(h)^{72}$ = 0.55 ft

## **BASIN DESIGN DATA**

= 8.34 AC. BASIN WATERSHED = 1.50 INCH RAINFALL DEPTH REQUIRED CAPTURE VOLUME = 30,173 CF BASIN WATER STORAGE DEPTH = 5 FT = 44,496 CF BASIN CAPTURE VOLUME

- 1. PROJECT RETAINING WALL DESIGNER (TEXAS LICENSED STRUCTURAL ENGINEER) TO PROVIDE A SIGNED AND SEALED SET OF STRUCTURAL RETAINING WALL PLANS, DETAILS AND SPECIFICATION, INSPECT RETAINING WALL CONSTRUCTION DURING BASIN CONSTRUCTION AND PROVIDE RETAINING WALL CONSTRUCTION CERTIFICATION UPON COMPLETION OF THE BASIN.
- 2. UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.
- 3. ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASIN SHALL BE REVEGETATED PRIOR TO COMPLETION.
- 4. BASIN HAS BEEN DESIGNED USING TSS REMOVAL AND BMP SIZING
- CALCULATIONS AS PER THE TCEQ TGM RG-348 (2005). 5. BASIN PLAN DEPICTS MINIMUM INTERIOR DIMENSIONS (LENGTH, WIDTH & HEIGHT FOR TCEQ REVIEW & APPROVAL. ACTUAL STRUCTURAL PLANS FOR
- 6. BASIN DRAWDOWN IS CONTROLLED BY THE 8" PVC PIPE. BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 2 HOURS - VALVE THROTTLE FLOW
- 7. CONTRACTOR TO SET THE VALVE POSITION TO FULLY OPEN. AFTER INSTALLATION, OWNER/OPERATOR TO SET VALVE TO 25 DEGREES TO THROTTLE FLOW SO BASIN DRAINS WITHIN 24 HOURS.
- 8. CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION IN BASIN PER BASIN DETAIL SHEET PRIOR TO SITE CLOSEOUT.
- 9. UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.
- 10. ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASIN SHALL BE REVEGATATED PRIOR TO COMPLETION.

## SEQUENCE OF OPERATION

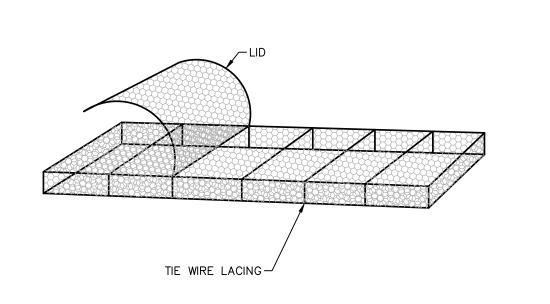
- 1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION
- 2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE.
- 3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 8" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETÄINED WATER BASIN.
- 4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START
- 5. DETENTION TIMER #2 TO BE MANUALLY SET TO 7 HOURS AND TO BE USER
- 6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 8" BUTTERFLY VALVE IS TO
- 7. VALVE TO BE ACTUATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.

HE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT

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

7328-21 MARCH 2025 ESIGNER HECKED . DRAWN JI



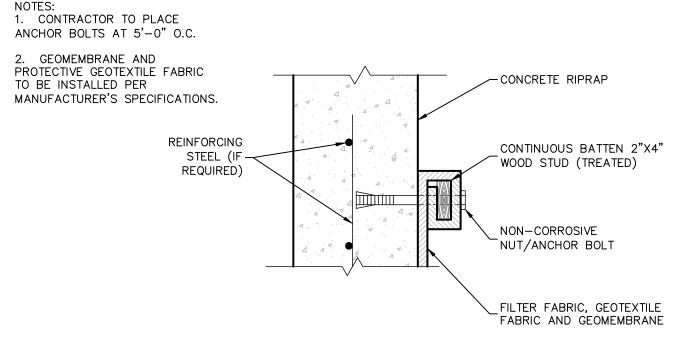


TYPICAL ASSEMBLED GABION BASKET DETAIL

NOT-TO-SCALE

## TYPICAL ASSEMBLED GABION MATTRESS DETAIL

NOT-TO-SCALE



## FILTER FABRIC ANCHORING DETAIL NOT-TO-SCALE

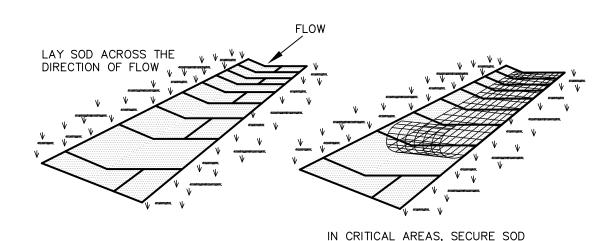
LAY SOD IN A STAGGERED PATTERN. BUTT

IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES. <u>BUTTING</u> — ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED

CORRECTLY.

THE STRIPS TIGHTLY AGAINST EACH OTHER.

DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL



GENERAL INSTALLATION (VA. DEPT. OF

DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY

IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND

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

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

5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE

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

7. UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE

ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN

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

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

2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE

RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON

AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.

INSPECTION AND MAINTENANCE GUIDELINES

ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.

CONSERVATION, 1992)

REDUCE ROOT BURNING AND DIEBACK.

PERPENDICULAR TO THE SLOPE (ON CONTOUR).

LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

FIGURE ABOVE).

THOROUGHLY WET.

AND REPAIR ANY DAMAGE.

### WHICH DEMONSTRATES THE RISER PIPE HAS BEEN SET AT PROPER ELEVATION AND GRADE. b.) BASIN HAS BEEN COMPLETELY FINISHED INCLUDING SOD OR SEED 3. WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION AT EACH STAGE. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE. IN CRITICAL AREAS, SECURE SOD WITH NETTING. USE STAPLES.

4. UPON SUBSTANTIAL COMPLETION, OR AS REQUESTED BY ENGINEER, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELD SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:

- TOP OF BANK/WALL AT EACH CORNER OF BASIN

NOTES TO CONTRACTOR

(EACH PHASE OF BASIN CONSTRUCTION)

. CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO

PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR PRIOR

2. CONTRACTOR SHALL NOTIFY CERTIFYING ENGINEER WHEN BASIN CONSTRUCTION HAS PROGRESSED TO THE FOLLOWING MILESTONES:

a.) REINFORCING STEEL FOR BASIN WALL OR RIPRAP LINER HAS BEEN

SET, CONCRETE HAS NOT BEEN PLACED AND DRAIN AND RISER PIPE IS

IN PLACE. CONTRACTOR SHALL PROVIDE ENGINEER WITH SURVEY DATA

- TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE) - SPLASH PAD/INLET PIPES OVERFLOW WEIRS

5. BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE CONTRACTOR WILL REMOVE ALL TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE BASINS AND REESTABLISH THEM TO THE PROPER OPERATING CONDITION.

## SEE PLAN SHEETS FOR ELEVATIONS AND GRADING. \_\_2~#3 BARS -2~#3 BARS 6" CONCRETE RIPRAP

## BAFFLE BLOCK DETAIL

SPLASH PAD DETAIL

NOT-TO-SCALE

±4' OF 6"-8"

FILTER FABRIC

-ROCK RUBBLE WITH

CONCRETE CURB

WITH 2"ø WEEP

\_HOLES @ 12" 0.0

6" CONCRETE RIPRAP W/

HIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE® UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.

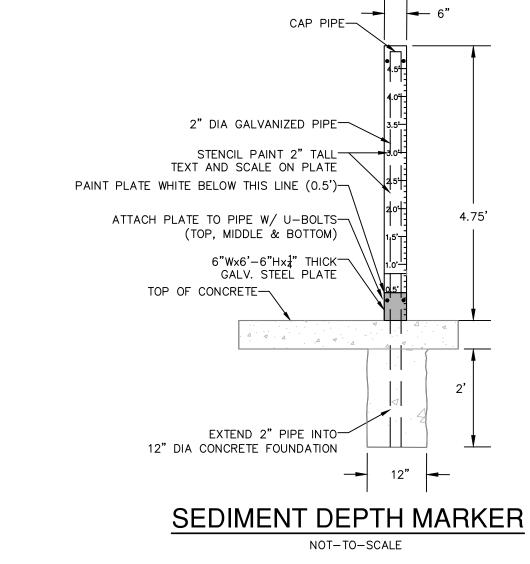
#3 BARS @ 18" O.C.E.W.

NOT-TO-SCALE

BAFFLE BLOCKS (SEE

(ALL AROUND)

DETAIL THIS SHEET)

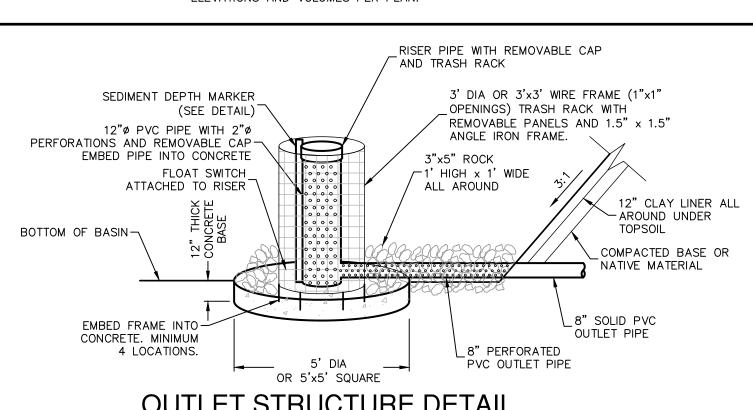


### ELEVATIONS AND VOLUMES PER PLAN. RISER PIPE WITH REMOVABLE CAP AND TRASH RACK 3' DIA OR 3'x3' WIRE FRAME (1"x1" SEDIMENT DEPTH MARKER OPENINGS) TRASH RACK WITH (SEE DETAIL) REMOVABLE PANELS AND 1.5" x 1.5" 12"ø PVC PIPE WITH 2"ø ANGLE IRON FRAME. PERFORATIONS AND REMOVABLE CAP-EMBED PIPE INTO CONCRETE 3"x5" ROCK FLOAT SWITCH -1' HIGH x 1' WIDE ATTACHED TO RISER ALL AROUND 12" CLAY LINER ALL - AROUND UNDER TOPSOIL BOTTOM OF BASIN-COMPACTED BASE OR NATIVE MATERIAL 8" SOLID PVC EMBED FRAME INTO OUTLET PIPE CONCRETE. MINIMUM 4 LOCATIONS. 8" PERFORATED 5'DIA OR 5'x5' SQUARE **OUTLET STRUCTURE DETAIL**

WITH OUTFALL PIPE

NOT-TO-SCALE

NOTE: ONCE SEDIMENT IS ABOVE THE 6" DESIGNATION, THE BASIN MUST BE CLEANED OUT TO DESIGN



1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH

( $\pm$  1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE

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

3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT

THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM

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

. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO

THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD

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

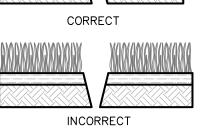
OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR

. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS

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.



SOD INSTALLATION

**MATERIALS** 

36 HOURS.

SHOOT GROWTH AND THATCH.

SITE PREPARATION

OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.

A FIRM GRASP ON ONE END OF THE SECTION.

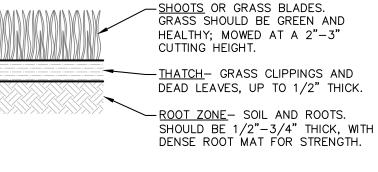
FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

TIGHTLY (SEE FIGURE ABOVE).

INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

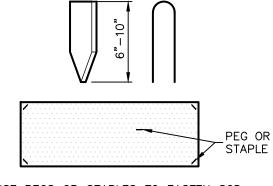


## APPEARANCE OF GOOD SOD

THE MOWER HIGH (2"-3").

1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE

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



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.

## FILTER FABRIC SPECIFICATIONS

LAYERS SHALL BE A DRAINAGE MATTING CONSISTING OF NON-WOVEN FILTER FABRIC MEETING THE FOLLOWING SPECIFICATIONS: <u>PROPERTY</u> TEST METHOD SPECIFICATION WEIGHT (OZ/SY) ASTM D 5261 ≥ 4.0 GRAB STRENGTH (LBS.) ASTM D 4632 ≥90 ELONGATIONS (%) ASTM D 4632 ≤ 55 TRAPEZOID TEAR (LBS) ASTM D 4533 ≥ 50 CBR PUNCTURE STRENGTH (LBS) ASTM D 6241 ≥ 300 UV RESISTANCE AFTER 500 HRS. (%) ASTM D 4355 ≥ 70 AOS (SIEVE #) ASTM D 4751 70-80

FABRIC OVERLAP SHALL BE A MINIMUM OF 24". ALL OVERLAPS SHALL BE WIRE TIED AT A MAXIMUM OF 36" INTERVALS

ASTM D 4491

≥125

### 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.

FLOW RATE (GPM/SF)

PROPERTY PERMEABILITY (CM/SEC)	TEST METHOD ASTM D 2434	SPECIFICATION  1 X 10 -6
PLASTICITY INDEX OF CLAY (%)	ASTM D 423/D 424	NOT LESS THAN 15
LIQUID LIMIT OF CLAY (%)	ASTM D 2216	NOT LESS THAN 30
CLAY PARTICLES PASSING (%)	ASTM D 422	NOT LESS THAN 30
CLAY COMPACTION (%)	ASTM D 2216	95% OF STANDARD PROCTOR DENSITY
110750		

## **CLAY LINER SPECIFICATIONS**

PROPERTY PERMEABILITY (CM/SEC)	TEST METHOD SPECIFICATION ASTM D 2434 1 X 10 -6	
PLASTICITY INDEX OF CLAY (%)	ASTM D 423/D 424 NOT LESS THAI	N 15
LIQUID LIMIT OF CLAY (%)	ASTM D 2216 NOT LESS THAI	۱ 30
CLAY PARTICLES PASSING (%)	ASTM D 422 NOT LESS THAI	۱ 30
CLAY COMPACTION (%)	ASTM D 2216 95% OF STAND PROCTOR DENS	
NOTES:		

. THE CLAY LINER SHALL HAVE A MINIMUM THICKNESS OF TWELVE (12

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

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

7328-21 MARCH 2025 ESIGNER HECKED . DRAWN . EX-5

PLAT NO.

SOD INSTALLATION DETAIL

NOT-TO-SCALE

**PRELIMINARY**