440 QUARRY IMPROVEMENTS

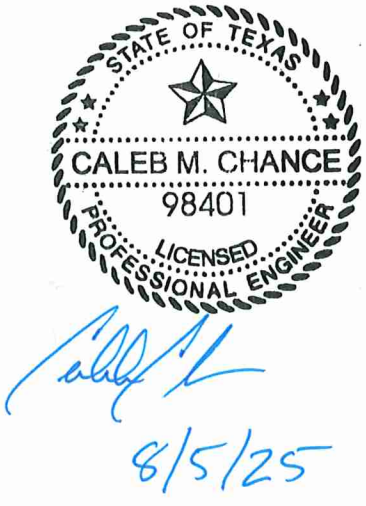
Water Pollution Abatement Plan Modification Application

PAPE-DAWSON ENGINEERS

Transportation | Water Resources | Land Development | Surveying | Environmental

440 QUARRY IMPROVEMENTS

Water Pollution Abatement Plan Modification



8/5/25

PAPE-DAWSON ENGINEERS

August 4, 2025

Mr. Robert Sadlier
Texas Commission on Environmental Quality (TCEQ)
Region 13
14250 Judson Road
San Antonio, Texas 78233-4480

Re: 440 Quarry Improvements
Water Pollution Abatement Plan Modification

Dear Mr. Sadlier:

Please find included herein the 440 Quarry Improvements 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 26.55-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 and fee application are included ($6,500). 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
Texas Registered Engineering Firm # 470
Texas Registered Surveying Firm # 10028800

Caleb Chance, P.E.
Sr. Vice President

Attachments

P:\129\34\00\Word\Reports\WPAP-SCS\2024 - WPAP Modification Cover Letter 032724.docx

EDWARDS AQUIFER APPLICATION COVER PAGE (TCEQ-20705)

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: 440 Quarry Improvements						**2. Regulated Entity No.:** 102748860			
3. Customer Name: Shavano Quarry Development, LTD						**4. Customer No.:** 606106151			
5. Project Type: **(Please circle/check one)**	New		(Modification)			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	(WPAP)	CZP	(SCS)	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		(Non-residential)			**8. Site (acres):**			28.16
9. Application Fee:	$8,743.50		**10. Permanent BMP(s):**			Batch Detention Basin, VFS			
11. SCS (Linear Ft.):	4,487		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Bexar		**14. Watershed:**			Upper Salado Creek			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	___
Region (1 req.)	___	___	___
County(ies)	___	___	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	✓	___	___	___	___
Region (1 req.)	✓	___	___	___	___
County(ies)	✓	___	___	___	___
Groundwater Conservation District(s)	✓ Edwards Aquifer Authority ✓ Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ✓ San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Caleb Chance, P.E.
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent 8/5/25 Date

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

GENERAL INFORMATION FORM (TCEQ-0587)

General Information Form

Texas Commission on Environmental Quality

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

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

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

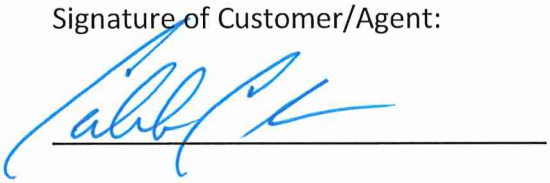
Signature

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

Print Name of Customer/Agent: Caleb Chance, P.E.

Date: 8/4/2025

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: 440 Quarry Improvements
2. County: Bexar
3. Stream Basin: Upper Salado Creek
4. Groundwater Conservation District (If applicable): Edwards Aquifer Authority, Trinity-Glen Rose
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

   ☒ WPAP
   ☐ SCS
   ☐ Modification
   ☐ AST

☐ UST ☐ Exception Request

7. Customer (Applicant):

Contact Person: Lloyd Denton
Entity: Shavano Quarry Development, LTD.
Mailing Address: 11 Lynn Batts Lane, Suite 100
City, State: San Antonio, Texas Zip: 78218
Telephone: (210) 828-6131 FAX: _____
Email Address: laddiedenton@bitterblue.com

8. Agent/Representative (If any):

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

9. Project Location:

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

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

From TCEQ's regional office, head north on Judson Road approximately 2.6 miles to Loop 1604. Travel west on Loop 1604 approximately 10.8 miles and exit toward FM 1535/Military Hwy/Shavano Park and turn right onto Shavano Ranch. The site is located approx. 0.25 miles north of the Shavano Ranch and NW Military Hwy intersection.

11. ☐ **Attachment A – Road Map**. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. ☒ **Attachment B - USGS / Edwards Recharge Zone Map**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

☒ Project site boundaries.
☒ USGS Quadrangle Name(s).
☒ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
☒ Drainage path from the project site to the boundary of the Recharge Zone.

13. ☒ **The TCEQ must be able to inspect the project site or the application will be returned**. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

☒ Survey staking will be completed by this date: When advised by TCEQ of site visit

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

(1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);

(2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;

(3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;

(4) The use of sewage holding tanks as parts of organized collection systems; and

(5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

(6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

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

    (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

    (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

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

Administrative Information

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

    ☒ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
    ☒ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
    ☐ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
    ☐ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
    ☐ A request for an extension to a previously approved plan.

19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

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

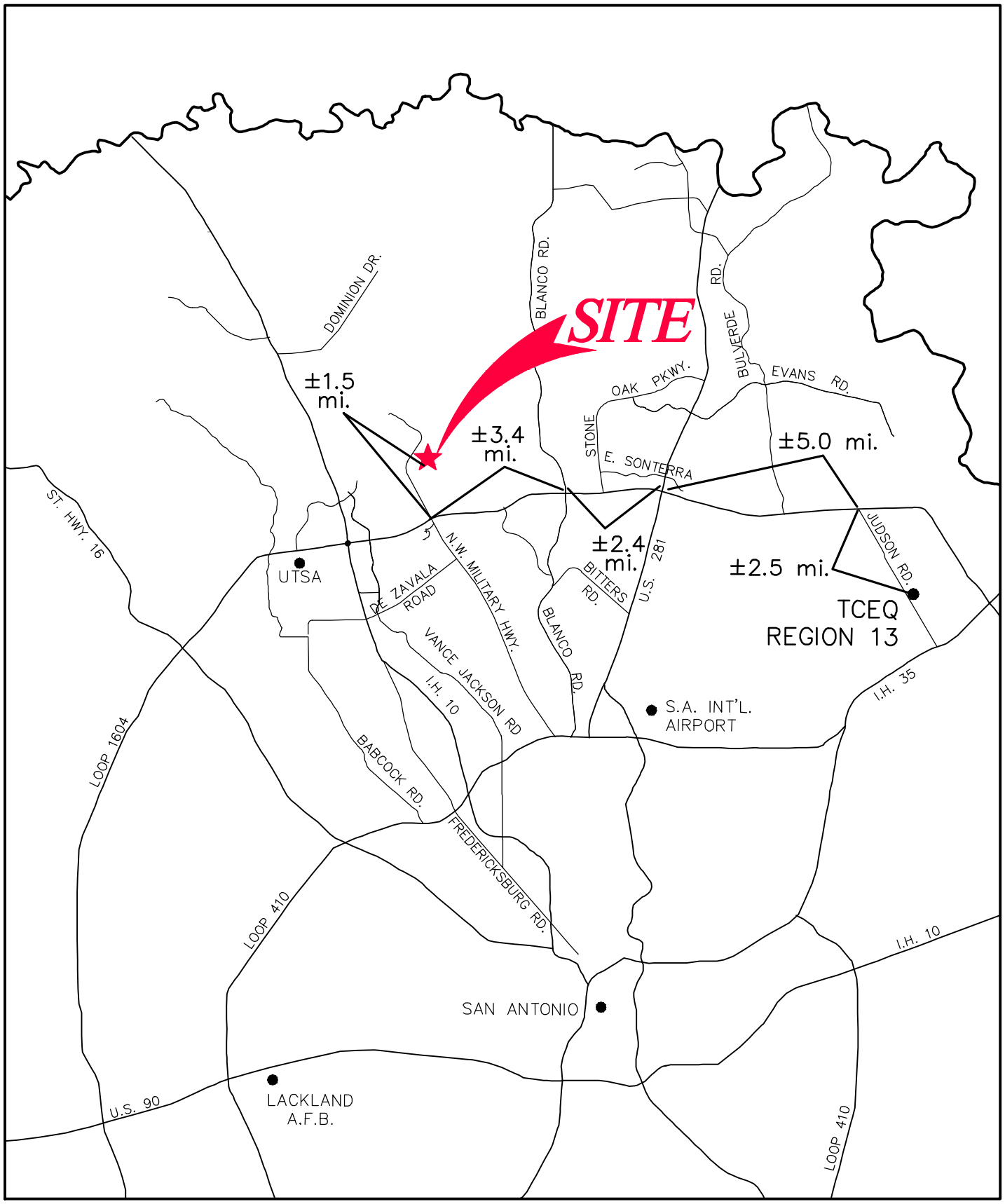
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

21. ☒ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

ATTACHMENT A

440 QUARRY IMPROVEMENTS
Water Pollution Abatement Plan Modification

N
NOT TO SCALE



Pape-Dawson Engineers, Inc.
Date: Aug 29, 2023, 7:08pm User ID: dlevine
File: P:\129\34\00\Design\Environmental\WPAP\RM-1293400.dwg

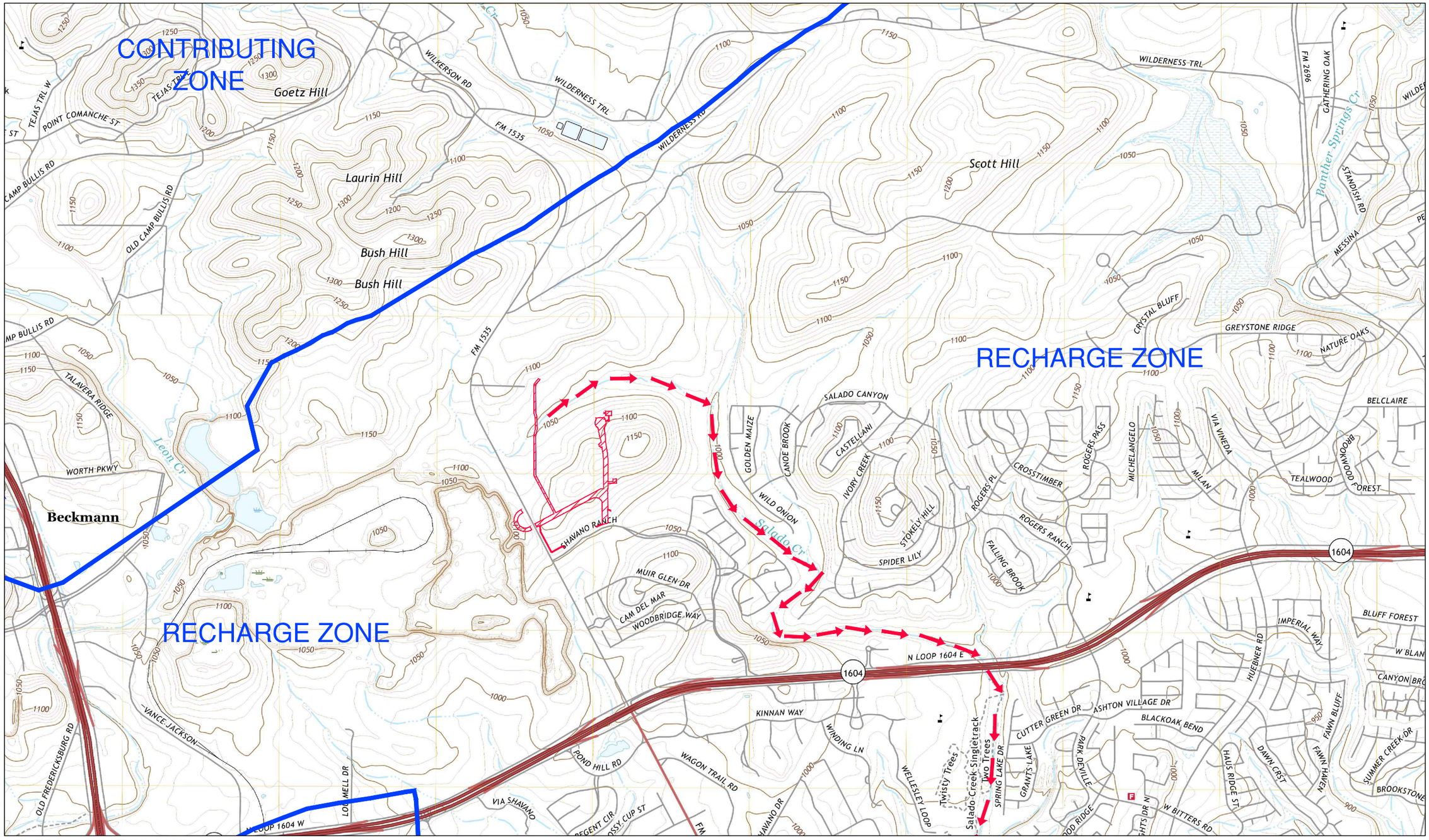
ATTACHMENT A
Road Map

ATTACHMENT B

440 QUARRY IMPROVEMENTS
Water Pollution Abatement Plan Modification

N

SCALE: 1" = 2000'



Date: Aug 07, 2025, 9:56am User ID: dlevine
File: P:\129\34\00\Design\Environmental\WPAP\00-1293400.dwg

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

MATCHLINE See Sheet 2 of 2

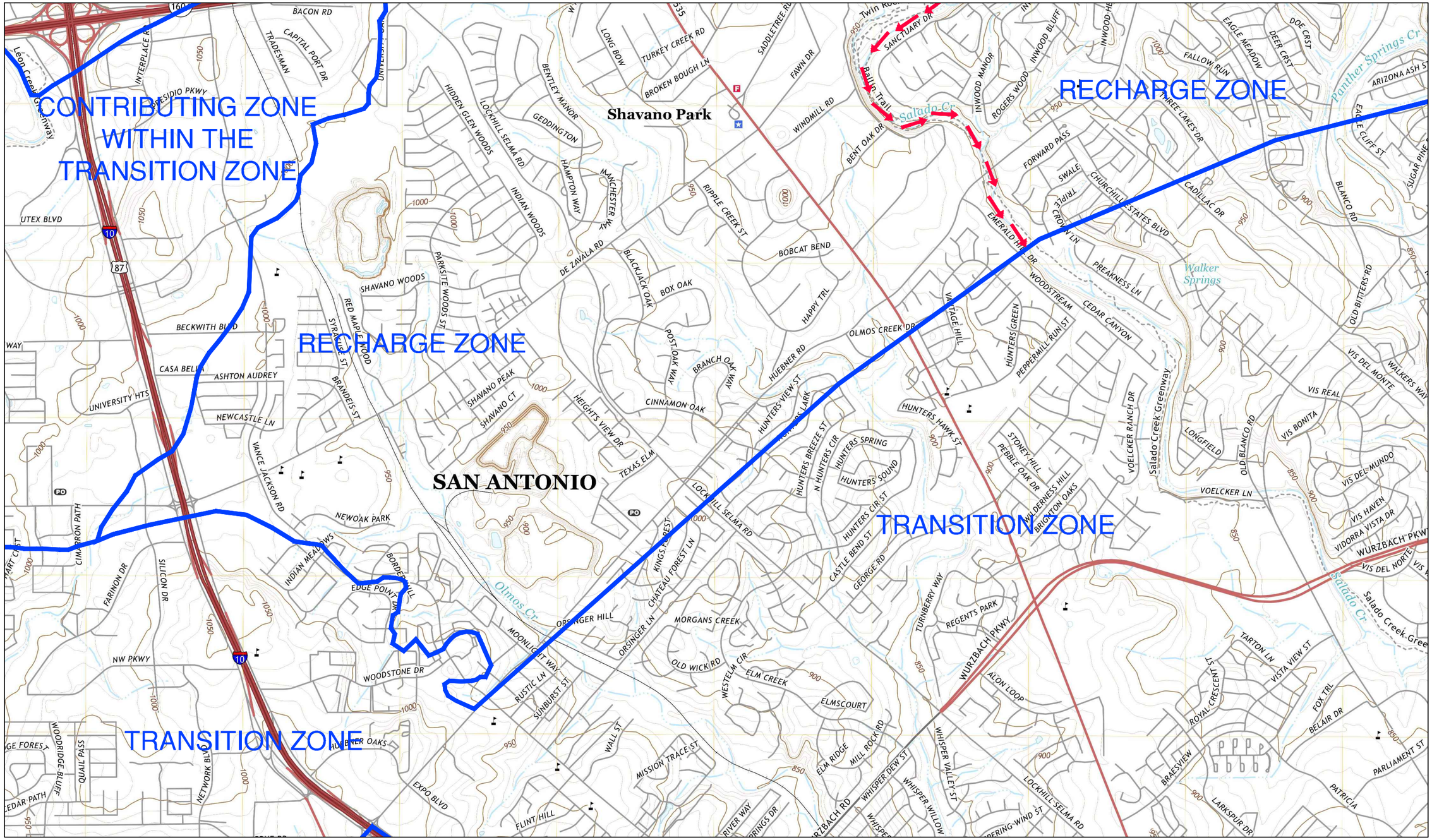
USGS/EDWARDS RECHARGE ZONE MAP
ATTACHMENT B

440 QUARRY IMPROVEMENTS
Water Pollution Abatement Plan Modification

N

SCALE: 1" = 2000'

MATCHLINE See Sheet 1 of 2



Date: Jan 03, 2024, 4:44pm User ID: dtevine
File: P:\129\34\00\Design\Environmental\WPAP\QD-1293400.dwg

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

USGS/EDWARDS RECHARGE ZONE MAP
ATTACHMENT B

ATTACHMENT C

Attachment C – Project Description

440 Quarry Improvements Water Pollution Abatement Plan Modification (WPAP MOD) is a modification of the original Redland Stone NW Military Hwy Quarry WPAP, approved by the Texas Natural Resources Conservation Commission on September 3, 1997, as a 440.20-acre quarry. Since the original approval, Texas Commission on Environmental Quality has approved four (4) modifications for the quarry site, including the most recent modification, the Beckam Quarry 440-Acres (EAPP ID No. 13000655), approved on September 17, 2018, which approved clearing and mass grading to prepare for future development. 440 Quarry Improvements Abatement Plan proposes the construction of both a public and private street, utilities, batch detention basin, retention basin, lift station site, pressure reducing valve site, and associated drainage structures on approximately 26.55 acres. The impervious cover will be 10.54 acres which will account for the paving that will occur on the site for street, sidewalk, drainage, and utility facilities.

440 Quarry Improvements will be platted across 21.55 acres of land and will be located within the city limits of San Antonio approximately 0.3 miles northeast of NW Military Hwy and Shavano Ranch Road. The site is located within the city limits of San Antonio in Bexar County, Texas and is entirely over the Edwards Aquifer Recharge Zone. No naturally occurring sensitive features were identified due to the site being a pre-existing rock quarry.

This WPAP proposes clearing, grading, excavation, and construction for a roadway and utility facility foundations. Approximately 10.54 acres of impervious cover is proposed for this project or 39.70% of the 28.16-acre site. Out of the total 10.54 acres of impervious cover, 6.47 acres of impervious cover will be directly treated by the proposed batch detention basin "A". Water Quality Basin "A" will be a Batch Detention Basin with the removal efficiency of 91% as assigned by TCEQ. Four (4) fifteen-foot (15') wide Engineered Vegetative Filter Strips (VFS) will provide treatment for 2.66 acres of impervious cover. Area "I" was previously untreated within the Cornerstone High School WPAP (RN102748860). The 1.24 acres of impervious cover is converted to direct treatment via Basin A and swapped with approximately 1.53 acres of untreated impervious cover from watersheds G and H.

The proposed PBMPs for this project consists of one (1) batch detention basin (Basin "A") and four (4) fifteen-foot (15') engineered vegetative filter strip (VFS) designed in accordance with the TCEQ Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the proposed improvements.

The SCS will be proposing a Lift Station and force main that is designed to accept and convey sanitary flow from a new Cornerstone development that will be located in the north quarry. The lift station will convey sanitary sewer flow to an existing downstream manhole and gravity main system using a dual 6-inch force main and an 8-inch gravity main system.

GEOLOGIC ASSESSMENT
(1 OF 2)

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: Roman C. Pineda, P.G.

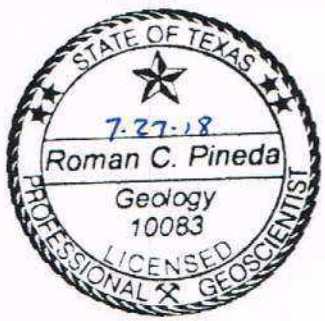
Telephone: (210) 698-5544

Fax: (210) 698-5544

Date: July 27, 2018

Representing: Forster Engineering, TBPE Firm #12385 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Beckmann Quarry 440 Acres Tract

Project Information

1. Date(s) Geologic Assessment was performed: March 21, 2013 and July 26, 2018
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Trinity and Frio soils, frequently flooded (Tf)	C	2-6
Tarrant association, gently undulating (TaB)	C	1-2
Tarrant association, rolling (TaC)	C	1-2
Crawford and Bexar stony soils (Cb)	D	2-3

** Soil Group Definitions (Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

   Applicant's Site Plan Scale: 1" = 200'
   Site Geologic Map Scale: 1" = 200'
   Site Soils Map Scale (if more than 1 soil type): 1" = 1000'

9. Method of collecting positional data:

☒ Global Positioning System (GPS) technology.
☐ Other method(s). Please describe method of data collection: _____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.
12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.
13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.
14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☒ There are 13 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    ☐ The wells are not in use and have been properly abandoned.
    ☒ The wells are not in use and will be properly abandoned.
    ☒ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

ATTACHMENT A
Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: *BECKMANN QUARRY 440 ACRES TRACT*																	
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	INCD	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-29	29°37'6.1"	98°34'3.6"	F	20	Kek	--	4255	--	N50°E	10	--	--	F	5	35	X			X	Hillside
S-35	29°37'10.5"	98°33'40.5"	SF	20	Kek	22	27	1	N50°E	10	0.3	0.5	C,O	35	65		X		X	Floodplain
S-49	29°36'57.3"	98°34'11.9"	SF	20	Kek	20	92	1	N60°E	10	0.6	0.5	C,O	35	65		X		X	Floodplain
S-64	29°36'45.4"	98°33'41.6"	MB	30	Kek	--	--	--	--	0	--	--	X	10	40		X	X		Hillside
S-76	29°37'22.8"	98°34'9.9"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside
S-77	29°37'26.7"	98°34'2.2"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside
S-78	29°37'8.5"	98°33'33.6"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside
S-79	29°37'33.8"	98°33'51.1"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside
S-80	29°36'53.3"	98°33'58.0"	MB	30	Kek	2920	6055	205	--	0	--	--	N	5	35	X			X	Hillside/Floodplain
S-81	29°36'33.6"	98°34'4.5"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside
S-82	29°36'39.5"	98°33'51.6"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside
S-83	29°36'47.5"	98°33'39.1"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside
S-84	29°37'2.6"	98°33'35.9"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside
S-85	29°37'19.9"	98°33'31.5"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside
S-86	29°37'32.6"	98°33'36.9"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside
S-87	29°37'5.3"	98°34'10.5"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside
S-88	29°36'44.7"	98°33'43.6"	MB	30	Kek	--	--	--	--	0	--	--	X	5	35	X		X		Hillside

* DATUM: NAD 83

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

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

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

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

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

Date 7-27-18

STATE OF TEXAS
Roman C. Pineda
Geology
10083
LICENSED
PROFESSIONAL GEOSCIENTIST

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

ATTACHMENT A
Sheet 1 of 2

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: *BECKMANN QUARRY 440 ACRES TRACT*																		
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING			
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12	
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	WOO	DENSITY (#/#FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY	
						X	Y	Z		10						<40	>40	<1.6	>1.6		
S-200	29°36'40.9"	98°34'07.1"	C	30	Kek	~4	~15	~8	--	0	--	--	N	5	35	X		X		Cliff	
S-201	29°36'44.6"	98°34'09.7"	C	30	Kek	~18	~20	~8	--	0	--	--	N	5	35	X		X		Cliff	
S-202	29°36'58.5"	98°34'06.9"	C	30	Kek	~4	~5	~12	--	0	--	--	N	5	35	X		X		Cliff	
S-203	29°37'07.6"	98°34'09.3"	C	30	Kek	~3	~6	~8	--	0	--	--	N	5	35	X		X		Cliff	
S-204	29°37'27.2"	98°34'04.0"	SC	20	Kek	~2	~3	~2	--	0	--	--	N	5	25	X		X		Cliff	
S-205	29°37'27.3"	98°34'04.0"	SC	20	Kek	~2	~4	~6	--	0	--	--	N	5	25	X		X		Cliff	
S-206	29°37'29.5"	98°33'58.8"	SC	20	Kek	~2	~3	~2	--	0	--	--	N	5	25	X		X		Cliff	
S-207	29°37'32.2"	98°33'54.4"	SC	20	Kek	~1	~3	~5	--	0	--	--	N	5	25	X		X		Cliff	
S-208	29°37'32.6"	98°33'52.6"	C	30	Kek	~15	~15	~8	--	0	--	--	N	5	35	X		X		Cliff	
S-209	29°37'36.9"	98°33'48.4"	C	30	Kek	~10	~15	~5	--	0	--	--	N	5	35	X		X		Cliff	
S-210	29°37'22.6"	98°33'34.7"	C	30	Kek	~10	~10	~15	--	0	--	--	N	5	35	X		X		Cliff	
S-211	29°37'08.4"	98°33'45.8"	C	30	Kek	~10	~15	~10	--	0	--	--	N	5	35	X		X		Cliff	
S-212	29°37'09.9"	98°33'51.8"	C	30	Kek	~10	~15	~2	--	0	--	--	N	5	35	X		X		Cliff	
S-213	29°36'49.3"	98°33'45.1"	C	30	Kek	~15	~15	~8	--	0	--	--	N	5	35	X		X		Cliff	

* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
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Date 7-27-18

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

ATTACHMENT A
Sheet 2 of 2

ATTACHMENT B
Stratigraphic Column

BECKMANN QUARRY, 440 ACRES TRACT

Stratigraphic Column

Hydrogeologic subdivision			Group, formation, or member			Hydrologic function	Thickness (feet)	Lithology	Field Identification	Cavern development	Porosity/ permeability type
	V	*Edwards Aquifer*	*Edwards Group*	*Kainer Formation (Kek)*	Grainstone member	AQ	50-60	*Miliolid* grainstone; mudstone to wackestone; chert	White crossbedded grainstone	Few	Not fabric/ recrystallization reduces permeability
	VI				Kirschberg evaporite member	AQ	50-60	Highly altered crystalline limestone; chalky mudstone; chert	Boxwork voids, with neospar and travertine frame	Probably extensive cave development	Majority fabric/one of the most permeable
	VII				Dolomitic member	AQ	110 -130	Mudstone to grainstone; crystalline limestone; chert	Massively bedded light gray, *Toucasia* abundant	Caves related to structure or bedding planes	Mostly not fabric; some bedding plane-fabric/water-yielding
	VIII				Basal nodular member	Karst AQ; not karst CU	50-60	Shaly, nodular limestone mudstone and *miliolid* grainstone	Massive, nodular and mottled, *Exogyra texana*	Large lateral caves at surface; a few caves near Cibolo Creek	Fabric; stratigraphically controlled/large conduit flow at surface; no permeability in subsurface
	Lower confining unit		Upper member of the Glen Rose Limestone (Kgru)			CU; evaporite beds AQ	350-500	Yellowish tan, thinly bedded limestone and marl	Stair-step topography; alternating limestone and marl	Some surface cave development	Some water production at evaporite beds / relatively impermeable

Reference: U.S.G.S. Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas; Water-Resources Investigations Report 95-4030

ATTACHMENT C
Site Geology

BECKMANN QUARRY, 440 ACRES TRACT

Narrative of Site Specific Geology

The project site consists of an active quarry. Raba-Kistner Consultant, Inc. (R-K) conducted previous mapping of the project site prior to development as a quarry. The Geologic Assessment report, prepared by R-K dated May, 21, 1997, was reviewed during preparation of this report. Previously identified featured were re-evaluated during the site visit. Numerous features identified in the R-K Geologic Assessment report were no longer present due to quarrying activities. This report presents only those features that are still present and meet the current TCEQ criteria for mapping as described in the TCEQ Guidance Document titled *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones*, (TCEQ-0585).

The overall potential of recharge to the Edward Aquifer at the site is low. Two sensitive geologic features were identified in the on-site floodplain. The dominant trend for the site is approximately N50°E, based on an average of the trends of faults identified on site and faults mapped by the BEG (Barnes, 1983) and USGS (1988) in the vicinity of the property. On-site non-quarried outcropping units include the kirschberg evaporite (Kekk) and dolomitic (Kekd) members of the Kainer Formation of the Edwards Group.

The Kekk is characterized by highly altered, crystalline limestone with chert. Cave development can be extensive in the Kekk. The Kekd member is characterized as massively bedded, mudstone to grainstone, crystalline limestone. Karst development in the Kekd is characterized be few small sinkholes, and caves developed as vertical shafts. No caves or sinkholes were identified on site.

Feature S-29
Feature S-29 is an intraformational fault identified by R-K based on their identification of lineations on aerial photographs and field observation. No karst features or other evidence of enhanced permeability were visible along observed areas of the reported fault. Therefore, the probability of rapid infiltration is low. This feature is ranked as non-sensitive.

Feature S-35
Feature S-35 is an outcrop of solution enlarged fractures located in a floodplain. The dominate trend of the fractures is N50°E. Hand excavation revealed loose, dark, organic soil and coarse infilling. Due to the interpreted karst origin, indirect evidence of rapid infiltration, and the location of the feature within a large natural catchment area, the probability of rapid infiltration is high. This feature is ranked as sensitive.

Feature S-49
Feature S-49 is an outcrop of solution enlarged fractures located in a streambed. The dominate trend of the fractures is N60°E. Hand excavation revealed loose, dark, organic soil and coarse infilling. Due to the interpreted karst origin, indirect evidence of rapid infiltration, and the location of the feature within a large natural catchment area, the probability of rapid infiltration is high. This feature is ranked as sensitive.

Feature S-64
Feature S-64 is an old farm water well. The well has 11-inch diameter steel casing that extends approximately nine inches above the ground surface. The well is located beneath a windmill and is not in operation. The well has a small, broken concrete slab surrounding the casing. The well has a cap, but it is not water tight. Because the well has casing that extends above the ground surface, the probability of rapid infiltration is low. However, due to the improperly capped status, this feature is ranked as sensitive.

Feature S-76
Feature S-76 is a new water well. The well has 11-inch diameter steel casing that extends approximately four feet above the ground surface. The well is surrounded by an 8' x 8' concrete pad. The well is not currently in use, and it has a welded cap in place. Because the well has casing that extends above the ground surface and has a cap, the probability of rapid infiltration is low. This feature is ranked as non-sensitive.

Feature S-77
Feature S-77 is a new water well. The well has 14-inch diameter steel casing that extends approximately three feet above the ground surface. The well is not surrounded by a concrete pad. The well is not currently in use,

and it has a welded cap in place. Because the well has casing that extends above the ground surface and has a cap, the probability of rapid infiltration is low. This feature is ranked as non-sensitive.

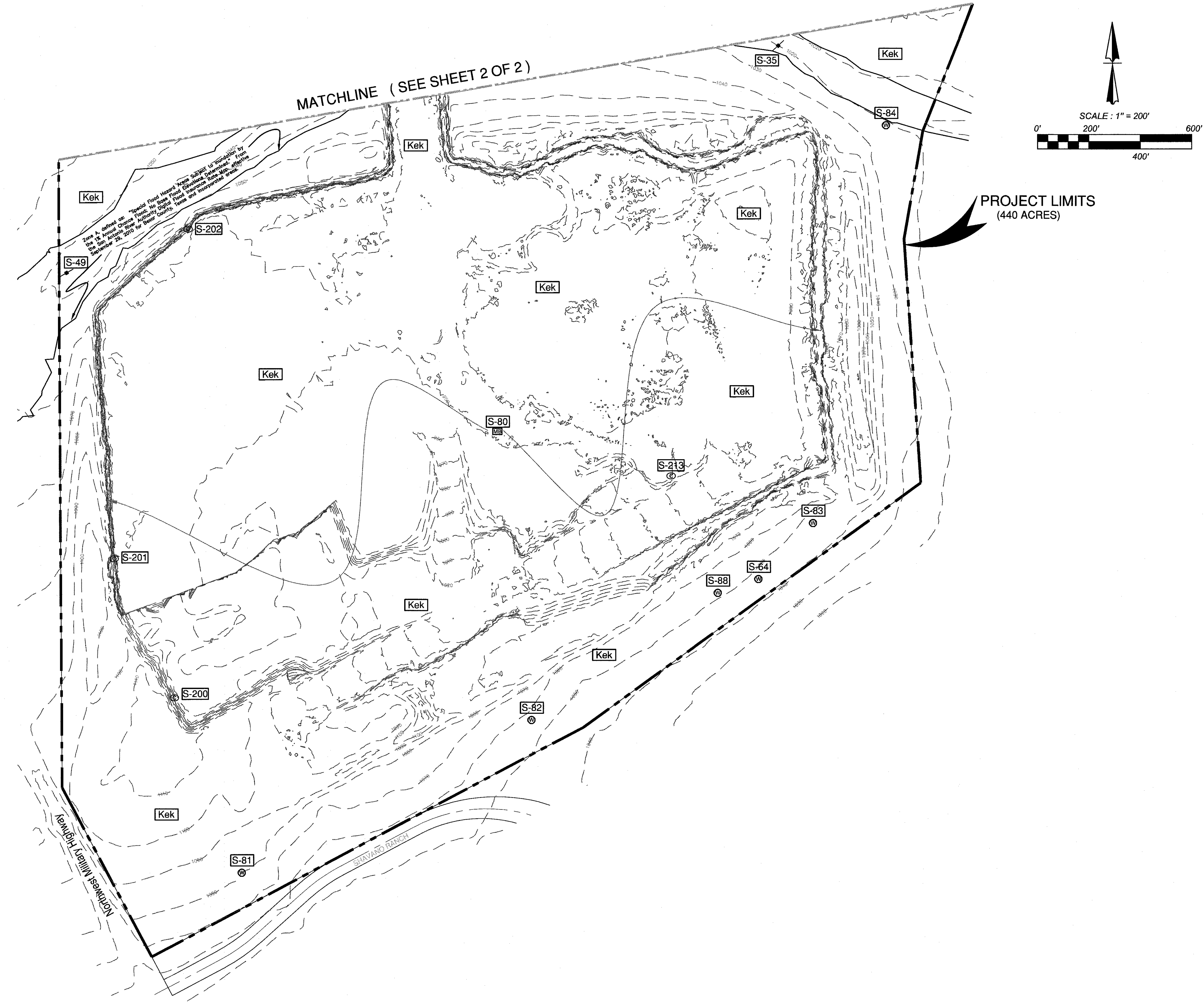
Feature S-78
Feature S-78 is a new water well. The well has 11-inch diameter steel casing that extends approximately two feet above the ground surface. The well is surrounded by an 8' x 8' concrete pad. The well is not currently in use, and it has a welded cap in place. Because the well has casing that extends above the ground surface and has a cap, the probability of rapid infiltration is low. This feature is ranked as non-sensitive.

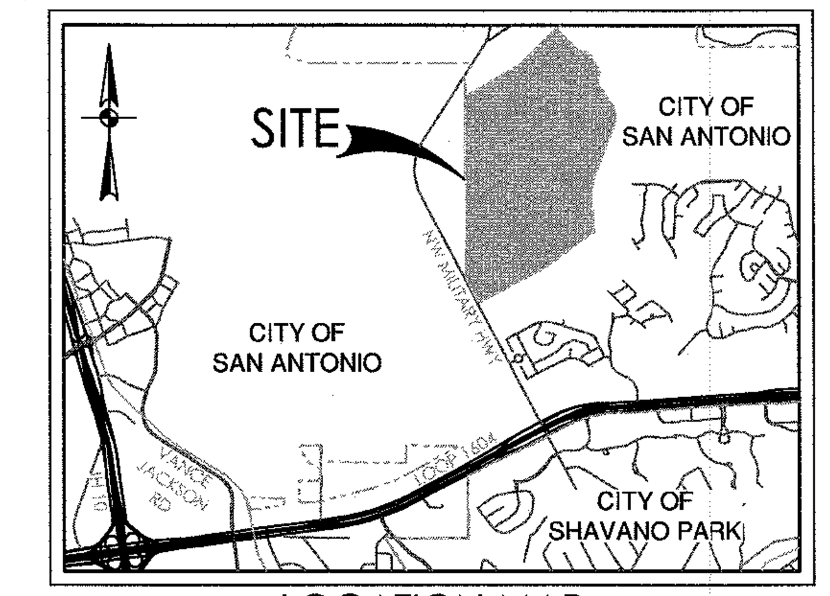
Features S-79 and S-81 through S-88
These features are new water wells. Because the entire site was not remapped, these wells were not directly observed. Based on observed conditions of features S-76 through S-78, these wells are new, properly constructed, and ranked as non-sensitive.

Feature S-80
Feature S-80 is a man-made feature in bedrock, the quarry. Observations of the quarry floors and walls were not required for this geologic assessment.

Features S-200 through S-213
Features S-200 through S-213 include solution cavities and caves within excavated quarry cliff walls. These features were revealed during excavation and mining activities within the quarry. All features identified lie within exposed bedrock in the cliff walls. No infilling was observed at the time of the site visit. The features exist above the final grade of the quarry floor from 5-feet up to approximately 80-feet. Due to safety concerns, all features identified within the quarry walls were evaluated from a safe distance in accordance with Martin Marietta safety protocols and MSHA standards. All measurements were approximated due to the inaccessibility of the features. Because features lie within a vertical cliff wall above the final grade of the quarry floor, the probability for rapid infiltration is low.

ATTACHMENT D
Site Geologic Map(s)





LOCATION MAP
NOT-TO-SCALE

LEGEND

Qal	ALLUVIUM
Kbu	BUDA LIMESTONE
Kdr	DEL RIO CLAY
Kgt	GEORGETOWN FORMATION
Kep	PERSON FORMATION
Kek	KAINER FORMATION
Kgru	GLEN ROSE FORMATION (UPPER)
Kgrl	GLEN ROSE FORMATION (LOWER)
S-1	POTENTIAL RECHARGEFEATURE
	DRAINAGE PATHWAY
	CONTACT, LOCATED APPROXIMATELY
U / D	FAULT, LOCATED APPROXIMATELY (D,DOWNTHROWN SIDE;U,UPTHROWN SIDE)
? ? ?	FAULT EXISTANCEUNCERTAIN
	POSSIBLE FAULT (AS LOCATED BY AERIAL PHOTOGRAPHS)
10	STRIKE AND DIP OF BEDDING
	STRIKE AND DIP OF JOINTS
	STRIKE OF VERTICAL JOINTS
C	CAVE
	NON-KARST CLOSED DEPRESSION
	SINKHOLE
	SOLUTION CAVITY
	OTHER NATURAL BEDROCK FEATURES: VUGGY ROCK, REEF DEPOSITS
	ZONE
MB	MAN-MADE FEATURE IN BEDROCK
W	WATER WELL
	PROPOSED SANITARY SEWER LINE
SS	EXISTING SANITARY SEWER LINE
	50' SEWER ENVELOPE
	PROPOSED MANHOLE
SS	EXISTING MANHOLE

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

NO.	REVISION	DATE

STATE OF TEXAS
ROMAN C. PINEDA
GEOLOGY
10083
LICENSED
PROFESSIONAL GEOSCIENTIST

FORSTER ENGINEERING
TBPE firm # 12385
19915 WITTENBURG, SAN ANTONIO, TEXAS 78256
PHONE: (210) 698-5544, Fax (210) 698-5544
WWW.FORSTERENGINEERING.COM

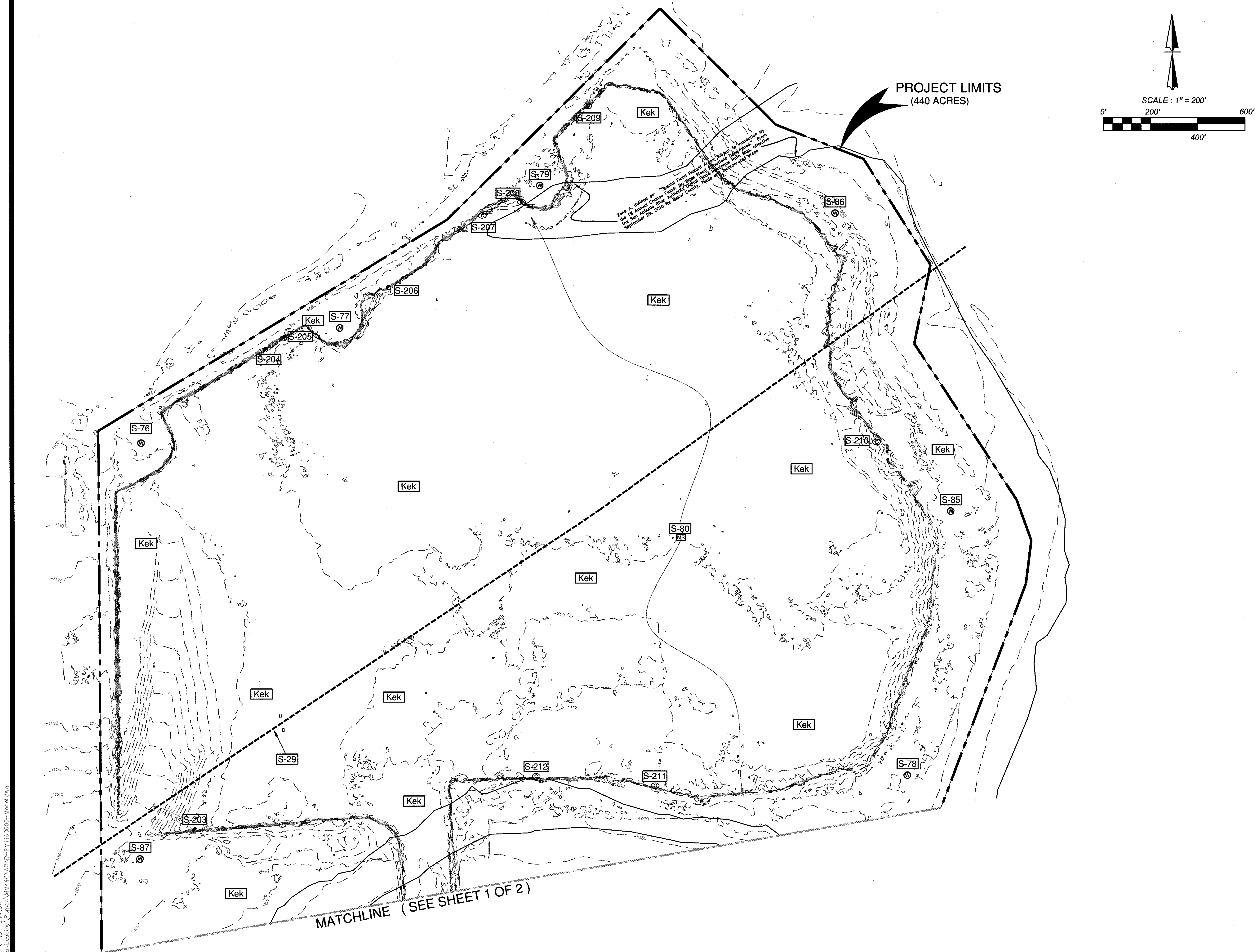
BECKMAN QUARRY 440 ACRE TRACT

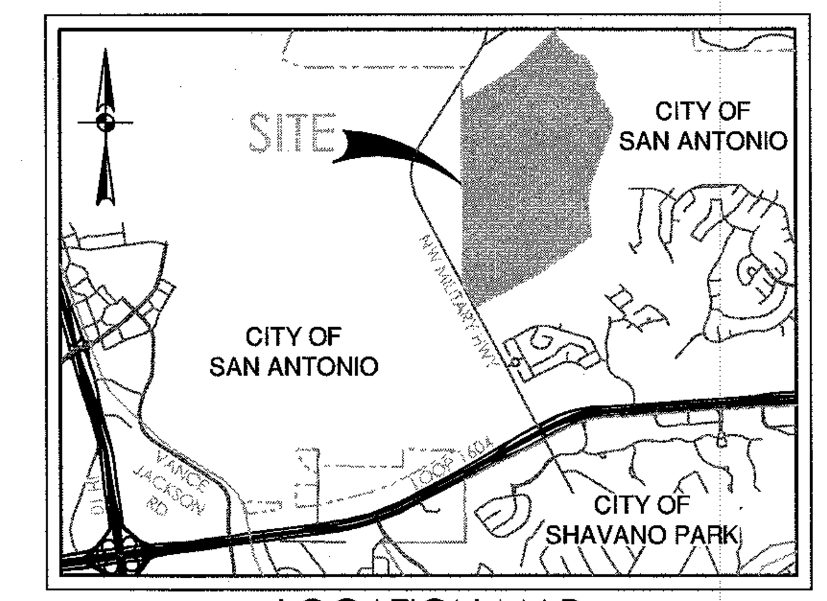
SAN ANTONIO, TEXAS

WATER POLLUTION ABATEMENT PLAN
SITE GEOLOGIC MAP

JOB NO. 1149-18
DATE JULY 2018
GEOLOGIST RCP
CHECKED CFP DRAWN RCP
SHEET 1 OF 2

ATTACHMENT D





LOCATION MAP

NOT-TO-SCALE

LEGEND

Qal	ALLUVIUM
Kbu	BUDA LIMESTONE
Kdr	DEL RIO CLAY
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S-1	POTENTIAL RECHARGEFEATURE
	DRAINAGE PATHWAY
	CONTACT, LOCATED APPROXIMATELY
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	STRIKE AND DIP OF JOINTS
	STRIKE OF VERTICAL JOINTS
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	NON-KARST CLOSED DEPRESSION
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	ZONE
MB	MAN-MADE FEATURE IN BEDROCK
W	WATER WELL
	PROPOSED SANITARY SEWER LINE
SS	EXISTING SANITARY SEWER LINE
	50' SEWER ENVELOPE
	PROPOSED MANHOLE
	EXISTING MANHOLE

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7-30-18

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BECKMAN QUARRY 440 ACRE TRACT

SAN ANTONIO, TEXAS

WATER POLLUTION ABATEMENT PLAN
SITE GEOLOGIC MAP

JOB NO. 1149-18
DATE JULY 2018
GEOLOGIST RCP
CHECKED CFP DRAWN RCP
SHEET 2 OF 2

ATTACHMENT D

BECKMANN QUARRY
440 ACRES TRACT
SITE SOILS MAP

FORSTER ENGINEERING

SOURCE: UNITED SATES DEPARTMENT OF AGRICULTURE, 1966, SOIL SURVEY-BEXAR COUNTY, TEXAS, USDA, SHEET NUMBERS 15 & 21

0' 500' 1000' 2000'

SCALE: 1" = 1000'

GEOLOGIC ASSESSMENT
(2 OF 2)

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

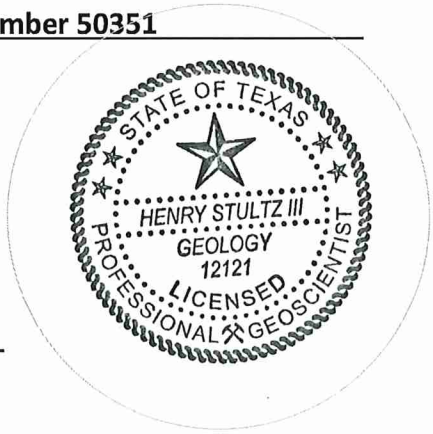
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: **Henry E. Stultz III, P.G.** Telephone: **210-375-9000**

Date: July 10, 2023 Fax: **210-375-9090**

Representing: **Pape-Dawson Engineers, Inc., TBPG registration number 50351**

Signature of Geologist:



Regulated Entity Name: BECKMANN QUARRY 440 ACRE TRACT

Project Information

1. Date(s) Geologic Assessment was performed: **June 30, 2023**
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Eckrant very cobbly clay, 5-15% slopes (TaC)	D	1-2

** Soil Group Definitions (Abbreviated)*

A. *Soils having a high infiltration rate when thoroughly wetted.*
B. *Soils having a moderate infiltration rate when thoroughly wetted.*
C. *Soils having a slow infiltration rate when thoroughly wetted.*
D. *Soils having a very slow infiltration rate when thoroughly wetted.*

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

   Applicant's Site Plan Scale: 1" = **200'**
   Site Geologic Map Scale: 1" = **200'**
   Site Soils Map Scale (if more than 1 soil type): 1" = **1000'**

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection:_____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☐ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☒ Geologic or manmade features were not discovered on the project site during the field investigation.

13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☐ There are ____(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

ATTACHMENT A
Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: BECKMANN QUARRY 440 ACRE TRACT																	
LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING			
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	≥40	<1.6	≥1.6	
Additional geologic or manmade features were not discovered on the project site during the field investigation.																				

** DATUM: NAD 83

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

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

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

STATE OF TEXAS
HENRY STULTZ III
GEOLOGY
12121
LICENSED
PROFESSIONAL GEOSCIENTIST

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

Date July 10, 2023

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

ATTACHMENT A

ATTACHMENT B
Stratigraphic Column

Attachment B – Stratigraphic Column

Period	Epoch	Group	Formation	Member	Thickness	Lithology	Hydro-logic Unit	Hydro-stratigraphic Unit	Hydrologic Function	Porosity	Cavern Development
Cretaceous	Early Cretaceous	Edwards	Kainer	Grainstone	40–50	Hard, dense limestone that consists mostly of a tightly cemented miliolid skeletal fragment grainstone; contains interspersed chalky mudstone and wackestone; chert as beds and nodules; crossbedding and ripple marks are common primarily at the contact with the overlying regional dense bed	Edwards Aquifer	V	Aquifer	IP, IG, BU, FR, BP, CV	Few
				Kirsch-berg Evaporite	40–50	Highly altered crystalline limestone and chalky mudstone with occasional grainstone associated with tidal channels; chert as beds and nodules, boxwork molds are common, matrix recrystallized to a coarse grain spar; intervals of collapse breccia and travertine deposits		VI	Aquifer	IG, MO, VUG, FR, BR, CV	Probably extensive cave development
				Dolomitic	90–120	Hard, dense to granular, dolomitic limestone; chert as beds and nodules (absent in lower 20 ft); *Toucasia* sp. abundant; lower three-fourths composed of sucrosic dolomites and grainstones with hard, dense limestones interspersed; upper one-fourth composed mostly of hard, dense mudstone, wackestone, packstone, grainstone, and recrystallized dolomites with bioturbated beds		VII	Aquifer	IP, IC, IG, MO, BU, VUG, FR, BP, CV	Cave development as shafts with minor horizontal extent
				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
		Trinity	Glen Rose Limestone	Upper Glen Rose	0–120 (absent in northern Comal Co.)	Alternating resistant and nonresistant beds of blue shale, nodular marl, and impure, fossiliferous limestone; gray to yellowish gray; stair-step topography; contains two distinct evaporite zones; distinct *Corbula* sp. bed marks the contact with the underlying lower member of the Glen Rose Limestone; *Orbitulina texana*	Upper Trinity Lower confining unit to the Edwards aquifer	Cavernous	Aquifer	MO, BR, BP, FR, CV	Some surface cave development
					120–230 (thicker in northern Comal Co.)			Camp Bullis	Confining	BU, BP, FR, occasional CV	
					0–10			Upper evaporite	Aquifer	IP, MO, BU, BR	
					0–40			Fossil-iferous – Upper	Aquifer	MO, BU, FR, CV	
					80–150			Fossil-iferous – Lower	Confining	MO, BU, FR	
					8–10			Lower evaporite	Aquifer	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; FE, 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

BECKMANN QUARRY 440 ACRE TRACT
Geologic Assessment

Attachment C – Site Geology

SUMMARY

The Beckmann Quarry 440-acre tract is located along NW Military Hwy, approximately 0.8 miles north of Loop 1604 in Bexar County, Texas.

This assessment is a supplement to the Geologic Assessment, dated July 27, 2018, completed by Roman C. Pineda of Forster Engineering. The additional area is 2.3 acres of land outside of the previously assessed tract.

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 additional naturally occurring sensitive features were identified on site. Subsequently, no overall potential for fluid migration to the Edwards Aquifer for the site was added.

SITE GEOLOGY

As observed through field evidence, the geologic formation which outcrops at the surface within the subject site is the Kirschberg (Kekk) member of the Kainer formation. The Kekk is a highly altered, crystalline limestone with chert. Karst development within the Kekk is characterized by extensive cave formation.

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

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, July 3, 2023.

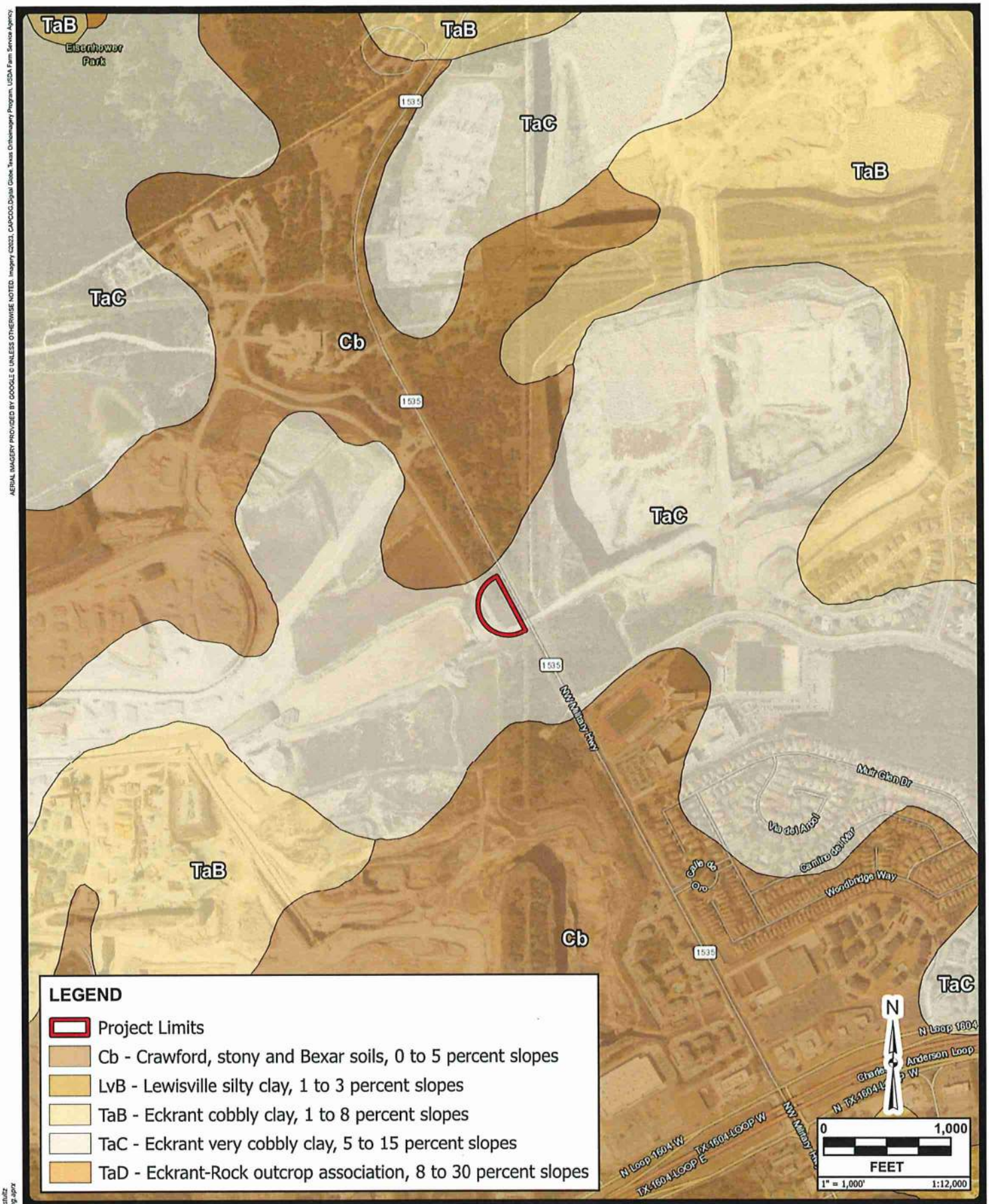
Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. http://websoilsurvey.sc.egov.usda.gov/, July 3, 2023.

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, July 3, 2023.

U.S. Geological Survey, National Water Information System: Mapper, https://maps.waterdata.usgs.gov/mapper/index.html, July 3, 2023.

ATTACHMENT D
Site Geologic Map(s)



LEGEND

- Project Limits
- Cb - Crawford, stony and Bexar soils, 0 to 5 percent slopes
- LvB - Lewisville silty clay, 1 to 3 percent slopes
- TaB - Eckrant cobbly clay, 1 to 8 percent slopes
- TaC - Eckrant very cobbly clay, 5 to 15 percent slopes
- TaD - Eckrant-Rock outcrop association, 8 to 30 percent slopes

JOB NO.	12934-00
DATE	Jul 2023
DESIGNER	HS
CHECKED	HDJ
SHEET	ATTACHMENT D

BECKMAN QUARRY 440 ACRE TRACT

BEXAR COUNTY, TEXAS
SITE SOILS MAP

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

Date: Jul 03, 2023 11:49 AM User: hstultz
File: P:\12934\00\ENV\GA10\S\Working.aprx

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.

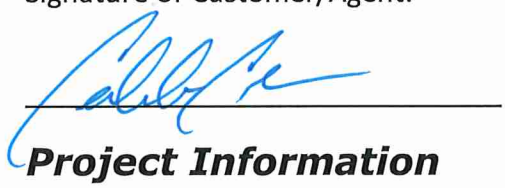
Signature

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: Caleb Chance, P.E.

Date: 8/6/25

Signature of Customer/Agent:



Project Information

1. Current Regulated Entity Name: 440 Quarry Improvements
   Original Regulated Entity Name: Beckman Quarry 440-Acre Tract
   Regulated Entity Number(s) (RN): 102748860
   Edwards Aquifer Protection Program ID Number(s): 13-130611.01
   ☐ The applicant has not changed and the Customer Number (CN) is: _____
   ☒ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

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

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

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

WPAP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	440.2	26.55
Type of Development	Commercial	Transportation
Number of Residential Lots	N/A	N/A
Impervious Cover (acres)	0.334	10.54
Impervious Cover (%	0.5	39.70
Permanent BMPs	Earthen berm, prelim	15' VFS, WQ Basin
Other	Sed/filtration basin	_____

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

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

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

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

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

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

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

ATTACHMENT A

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

September 3, 1997

Mr. Kevin Moore
Redland Stone Products Co.
17910 IH 10 West
San Antonio, TX 78257

Re: EDWARDS AQUIFER, Bexar County
PROJECT: Redland Stone N.W. Military Hwy Quarry, Project number 591, Located on the east side of NW Military Hwy, approximately 2,400' north of Loop 1604, San Antonio, Texas
TYPE: Request for Approval of Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) §213.5(b); Edwards Aquifer Protection Program

Dear Mr. Moore:

The Texas Natural Resource Conservation Commission (TNRCC) has completed its review of the WPAP application for the referenced project that was submitted by MBC Engineers on behalf of Redland Stone Products Co. to the San Antonio Regional Office on June 5, 1997. Final review of the WPAP submittal was completed after additional material was received on September 2, 1997. The WPAP proposed in the application is in general compliance with 30 TAC § 213.5(b); therefore, approval of the plan is hereby granted subject to applicable state rules and the conditions in this approval letter. *This approval expires two (2) years from the date of this approval unless, prior to the expiration date, construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed industrial project will have an area of 440.2 acres and consist of a rock quarry and crusher. To minimize on-site traffic, crushed rock will be transported by conveyer through a tunnel under N.W. Military Road to the existing Redland Stone Products quarry on the west side of N.W. Military Road. No cement production, concrete production, or fine crushing is proposed. There will be no wastewater produced by this project. The proposed impervious cover for the development is approximately 0.334 acres (0.5%) for a paved entrance drive. The site is located within the City of San Antonio, and must conform with applicable codes and requirements of the City of San Antonio.

GEOLOGY ON SITE

According to the geologic assessment included with the submittal, 75 potentially sensitive features were found on the project site. Twenty-eight (28) features were assessed as not sensitive, and forty-six (46) features were assessed as being possibly sensitive. One (1) feature, a cave zone, was assessed as being a sensitive feature. The San Antonio Regional Office site inspection of August 28, 1997, revealed no additional features.

GEOLOGY DOWNGRADIENT OF SITE

According to the geologic assessment included with the submittal, there were sixty-six (66) potential sensitive features found within one-half mile downgradient of the project site. Eleven (11) features were assessed as not sensitive, forty-three (43) features were assessed as being possibly sensitive. Two (2) features were assessed as being sensitive features.

PERMANENT POLLUTION ABATEMENT MEASURES

The following measures will be taken to prevent pollution of stormwater originating on-site or up-gradient from the project site and potentially flowing across and off the site after construction:

1. A grass stabilized earthen berm will surround the quarry to prevent stormwater runoff from leaving the site before hilltops are excavated below the berm elevation.

2. The preliminary partial sedimentation/filtration basin is designed in accordance with the City of Austin Environmental Design Criteria Manual and should be sized to capture the first one-half inch (½") of stormwater run-off from 231 acres, providing a total capture volume of 422,619 cubic feet. The filtration system will consist of:

    1. an appropriately sized sand filter bed, which is at least 18 inches thick,
    2. an underdrain piping wrapped with geotextile membrane, and
    3. an impervious liner.

3. Prior to the construction of the partial sedimentation/filtration basin, final design plans shall be submitted to the TNRCC for review and approval. The basin will be constructed prior to the actual interception of flow in the tributary to Salado Creek.

4. On-site stormwater runoff and upgradient stormwater runoff, not captured in the sedimentation/filtration basin, will be directed to the open mine area.

5. The majority of the assessed features, fifty-seven (57), will be mined out, seven (7) features will be behind or under the earth berm, ten (10) will be in areas that will not be disturbed and one (1) will be protected with a gabion with a silt fence.

SPECIAL CONDITIONS

1. If any potentially sensitive features are encountered during construction, a geologist shall evaluate the significance of the features. The evaluation shall include representative photographs and a description of the feature forwarded to the San Antonio office. Construction in the vicinity of the features may only continue with written approval from the TNRCC.

2. Placement of hydrocarbon or hazardous substance storage facilities regulated pursuant to 30 TAC 213.5(d) and 30 TAC 213.5(e), requires submittal of all appropriate applications with appropriate fees and must receive prior approval from the TNRCC.

3. The sedimentation/filtration basins are designed in accordance with the City of Austin Environmental Design Criteria Manual. The basins will incorporate sedimentation and filtration as described above.

4. A formal maintenance plan and schedule for all permanent pollution abatement measures shall be submitted to the San Antonio office for review and possible modification prior to completion of construction. The plan shall include a responsible party and the anticipated cleaning schedule. Upon approval, the plan shall be implemented in accordance with the approved schedule.

5. All permanent pollution abatement measures shall be operational prior to completion of construction.

6. The TNRCC may monitor stormwater discharges from the site to evaluate the adequacy of permanent erosion and sedimentation (E&S) control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

7. By the TNRCC letter dated March 18, 1997, a water pollution abatement plan was approved for this 440.2 acre tract. This approval letter supersedes the March 18, 1997 approval and all conditions and requirements of the March 18, 1997 letter are null and void.

STANDARD CONDITIONS

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

2. Any modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a WPAP to amend this approval, including the payment of appropriate fees and all information necessary for its review and approval.

3. Prior to commencing any regulated activity, the applicant or his agent must notify the San Antonio Regional Office in writing of the date on which the regulated activity will begin.

4. The applicant or his agent shall record this WPAP approval in the county deed records within 30 days of receiving this notice of approval and prior to commencing any regulated activity at the project location. Proof of deed recordation shall be submitted to the San Antonio Regional Office. A suggested format that you may use to deed record the approved WPAP is enclosed.

5. All contractors conducting regulated activities at the project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.

6. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TNRCC 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. If any significant recharge feature [sensitive feature] is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potential adverse impacts to water quality.

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

9. Approval of the design of the sewage collection system for this proposed project shall be obtained from the TNRCC prior to commencement of construction of any sewage collection system.

10. One (1) well exists on the site. Any abandoned wells shall be plugged in accordance with 30 TAC § 338 or an equivalent method, as approved by the Executive Director.

Any drill holes resulting from core sampling on-site or down-gradient of the site shall be plugged with native soil, from the bottom of the hole to the top of the hole, so as to not allow water or contaminants to enter the subsurface environment.

11. Pursuant to §26.136 of the Texas Water Code, any violations of the requirements in 30 TAC §213 may result in administrative penalties.

12. A formal maintenance plan and schedule for all permanent abatement measures shall be signed by the responsible party and submitted to the San Antonio Regional Office for review and possible modification prior to completion of construction.

If you have any questions or require additional information, please contact John Mauser of the Edwards Aquifer Protection Program at 210/490-3096. Please reference project number 591.

Sincerely,

Richard Garcia

Dan Pearson
Executive Director

DP/JKM/eg

Enclosure: Deed Recordation Affidavit

cc: Bob Liesman, MBC Engineers
Rebecca Cedillo, San Antonio Water System
Renee Green, Bexar County Public Works
Greg Ellis, Edwards Aquifer Authority
Steve Musick, TNRCC Groundwater Section
TNRCC Field Operations, Austin

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 17, 2018

Mr. Lloyd A. Denton, Jr.
Bitterblue Rogers Water Interest, Ltd
11 Lynn Batts Lane, Suite 100
San Antonio, Texas 78218

Re: Edwards Aquifer, Bexar County

NAME OF PROJECT: Beckmann Quarry 440-Acres; Located at 18495 NW Military HWY; San Antonio, Texas

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

Regulated Entity No. RN102748860; Additional ID No. 13000655

Dear Mr. Denton:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the above-referenced project submitted to the San Antonio Regional Office by Pape Dawson Engineering on behalf of Bitterblue Rogers Water Interest, Ltd on April 9, 2018. Final review of the WPAP was completed after additional material was received on August 20, 2018 and September 7, 2018. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

Beckman Quarry (formerly known as Redland Stone Quarry) was originally approved by the Texas Natural Resource Conservation Commission by letter dated September 3, 1997. The project area was 440.2 acres and consisted of quarry activity with a rock crusher. Impervious cover was approximately 0.334 acres. Stabilized earthen berms were the approved permanent BMP(s), a sedimentation filtration basin would be submitted in the future. Martin Marietta

Bridge WPAP was approved on January 28, 2000 (13-99120901) for a one-acre site within the 440-overall site.

A modification was approved on February 9, 2000, for clearing two perimeter areas to provide access to a portable rock crusher and truck traffic. Stormwater was directed from the modified site into the existing quarry on the west side. Earthen berms and stabilization were approved permanent BMP(s).

A second modification was approved on May 17, 2001, for changing the limits of excavation within the 440-acre property; increasing the height of the earthen berm on the east portion of the site; modifying the permanent best management practices to eliminate the use of sedimentation filtration basin; and a request to seal two features. No changes to impervious cover.

Beckmann Quarry 440 Acres WPAP Modification (13-13061101) was approved on August 20, 2013. The proposed commercial project had an area of 440 acres. The modification changed the setback distance from 200 feet to 60 feet along the northern property line except for setback distances from three existing wells. Impervious cover was not changed and remained at 0.334 acres. Natural vegetated buffers were the approved permanent BMP(s).

PROJECT DESCRIPTION

The proposed project includes the redevelopment of the 440-acre site following the full quarry operation completion. The major activity includes mass grading, clearing and grubbing of vegetation and brush berms where applicable to prepare for future development. Construction includes grading of the quarry pit floor for temporary sedimentation ponds and cutting in the access road to Shavano Ranch Rd. The two sedimentation ponds will collect stormwater within their respective watershed. The ponds are designed to retain two consecutive 100-year storm events, silt will be removed from the ponds when design capacity is reduced by 50%, and the pond area will be compacted to a 95% standard proctor density to not allow seepage. Stormwater will evaporate naturally. No additional impervious cover is proposed on the site and will remain as 0.334 acres. No wastewater will be generated. Future development will be submitted under a subsequent WPAP.

PERMANENT POLLUTION ABATEMENT MEASURES

No additional impervious cover is proposed within this application. The existing impervious cover, paved road from NW Military Hwy Bridge, will continue to be treated by the approved 50-ft vegetated buffer. The natural vegetated buffer around the perimeter of the site will be maintained, with the exception of the road cut, and disturbance will only occur within approximately 225 acres of the 440 acres site.

The original approval established the minimum separation distance of 25 feet between the quarry-pit floor and groundwater level as 940 mean sea level (msl); however, this elevation point was not defined through onsite exploration. A letter with supportive documentation dated September 5, 2018, signed by Mr. Richard Klar, P.G., justifies a level of 915-msl to allow the grading for the two temporary sedimentation ponds.

GEOLOGY

According to the geologic assessment included with the application, the site is located on the Kainer Formation. A total of thirty-one (31) features were evaluated by the project geologist, with seventeen (17) geologic features and fourteen (14) manmade features. Two (2) geologic features were rated sensitive (S-35 and S-49) which are located within the established buffer surrounding the quarry pit and outside the 225-acre proposed disturbance area. No regulated activities such as construction or soil disturbing activities will take place within the established the natural buffers. The San Antonio Regional Office site assessment conducted on July 12, 2018 revealed that the site was generally as described in the application.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated September 3, 1997 and subsequent modifications dated January 28, 2000, February 9, 2000, May 17, 2001, and August 20, 2013.

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

III. Intentional discharges of sediment laden water from regulated activities are not allowed. If dewatering becomes necessary, appropriate measures must be taken.

IV. This approval does not authorize the construction or installation of aboveground storage tanks at the site on the Edwards Aquifer recharge zone.

V. The application did not propose the use of fill material to establish final grade. Any material used for the primary purpose of filling an excavation must consist of inert materials as defined by 30 TAC 330.3.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

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

<u>During Construction:</u>

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. Thirteen wells exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing

and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

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

After Completion of Construction:

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

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Ms. Lillian Butler of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4026.

Sincerely,

Lynn Bumguardner, Water Section Manager
San Antonio Region
Texas Commission on Environmental Quality

LB/LB/eg

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625

cc: Mr. Rick Wood, P.E., Pape Dawson Engineers
Ms. Renee Green, P.E., Bexar County Public Works
Mr. Scott Halty, San Antonio Water System
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. George Wissmann, Trinity Glen Rose Groundwater Conservation District

ATTACHMENT B

Attachment B – Project Description

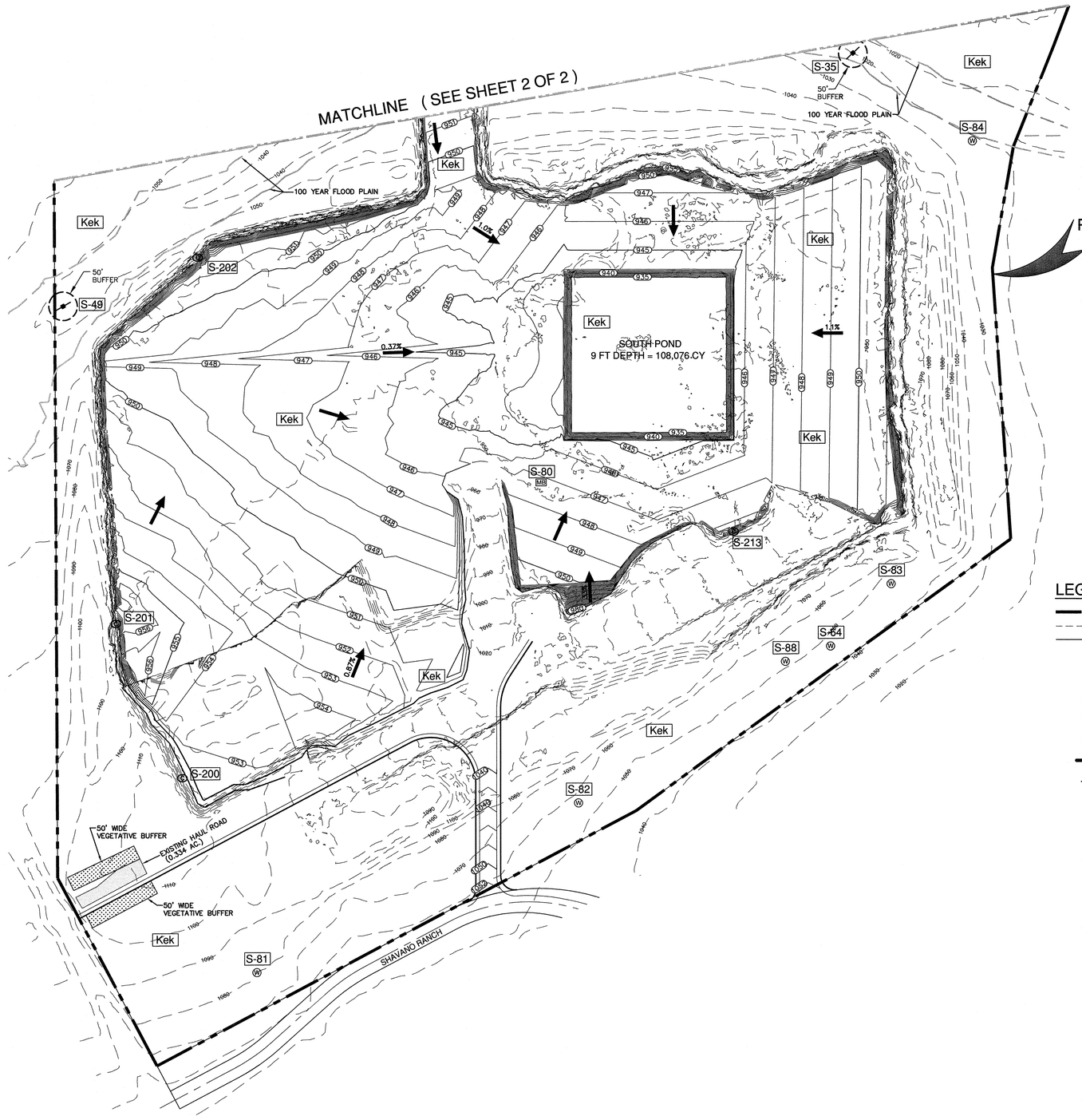
440 Quarry Improvements Water Pollution Abatement Plan Modification (WPAP MOD) is a modification of the original Redland Stone NW Military Hwy Quarry WPAP, approved by the Texas Natural Resources Conservation Commission on September 3, 1997, as a 440.20-acre quarry. Since the original approval, Texas Commission on Environmental Quality has approved four (4) modifications for the quarry site, including the most recent modification, the Beckam Quarry 440-Acres (EAPP ID No. 13000655), approved on September 17, 2018, which approved clearing and mass grading to prepare for future development. 440 Quarry Improvements Abatement Plan proposes the construction of both a public and private street, utilities, batch detention basin, retention basin, lift station site, pressure reducing valve site, and associated drainage structures on approximately 26.55 acres. The impervious cover will be 10.54 acres which will account for the paving that will occur on the site for street, sidewalk, drainage, and utility facilities.

The project site is located within the city limits of San Antonio approximately 0.3 miles northeast of NW Military Hwy and Shavano Ranch Road. The site is located within the city limits of San Antonio in Bexar County, Texas and is entirely over the Edwards Aquifer Recharge Zone. No naturally occurring sensitive features were identified due to the site being a pre-existing rock quarry.

This WPAP proposes clearing, grading, excavation, and construction for a roadway and utility facility foundations. Approximately 10.54 acres of impervious cover is proposed for this project or 39.70% of the 26.55-acre site. Out of the total 10.54 acres of impervious cover, 6.47 acres of impervious cover will be directly treated by the proposed batch detention basin “A”. Water Quality Basin “A” will be a Batch Detention Basin with the removal efficiency of 91% as assigned by TCEQ. Four (4) fifteen-foot (15’) wide Engineered Vegetative Filter Strips (VFS) will provide treatment for 2.66 acres of impervious cover. Area “I” was previously untreated within the Cornerstone High School WPAP (RN102748860). The 1.24 acres of impervious cover is converted to direct treatment via Basin A and swapped with approximately 1.53 acres of untreated impervious cover from watersheds G and H.

The proposed PBMPs for this project consists of one (1) batch detention basin (Basin “A”) and four (4) fifteen-foot (15’) engineered vegetative filter strip (VFS) designed in accordance with the TCEQ Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the proposed improvements.

ATTACHMENT C



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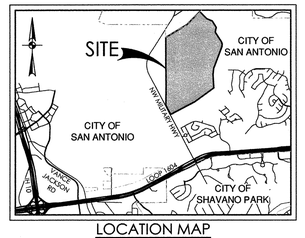
0' 200' 400' 600'



LOCATION MAP
NOT-TO-SCALE

LEGEND

- PROJECT LIMITS
- 950 EXISTING GRADE
- 950 PROPOSED GRADE
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- 50' WIDE VEGETATIVE FILTER STRIP
- Kek KAINER FORMATION
- S-1 POTENTIAL RECHARGE FEATURE
- FAULT, LOCATED APPROXIMATELY (D, downthrown side; U, upthrown side)
- STRIKE OF VERTICAL JOINTS
- C CAVE
- MB MANMADE FEATURE IN BEDROCK
- W WATER WELL

SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

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

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

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

4.) TYPICAL SLOPES ON THIS PROJECT RANGE FROM APPROXIMATELY 0.3% TO 68%

NOTES:

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

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

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

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

EXHIBIT 3

NO.	REVISION	DATE

STATE OF TEXAS
W.R. WOOD
65364
LICENSED PROFESSIONAL ENGINEER
8-20-18

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

BECKMAN QUARRY 440 ACRE TRACT
SAN ANTONIO, TEXAS

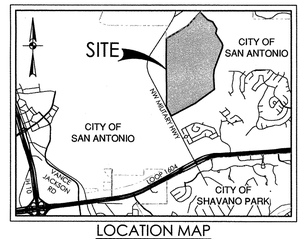
WATER POLLUTION ABATEMENT PLAN
PERMANENT WATER POLLUTION ABATEMENT PLAN

PLAT NO.
JOB NO. 11606-00
DATE MARCH 2018
DESIGNER JP
CHECKED TB DRAWN RO
SHEET 1 OF 2

Date: Aug 20, 2018, 1:41pm User ID: ROlivarez
File: P:\116\06\00\Design\Environmental\WPAP\PM116060O.dwg

SCALE: 1"= 200'

0' 200' 400' 600'



LOCATION MAP
NOT-TO-SCALE

LEGEND

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BECKMAN QUARRY 440 ACRE TRACT
SAN ANTONIO, TEXAS

WATER POLLUTION ABATEMENT PLAN
PERMANENT WATER POLLUTION ABATEMENT PLAN

PLAT NO.
JOB NO. 11606-00
DATE MARCH 2018
DESIGNER JP
CHECKED TB DRAWN RO
SHEET 2 OF 2

Date: Aug 20, 2018, 1:41pm User ID: ROlivarez
File: P:\116\06\07\Design\Environmental\WPAP\Pal116060D.dwg

WATER POLLUTION ABATEMENT PLAN APPLICATION FORM (TCEQ-0584)

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

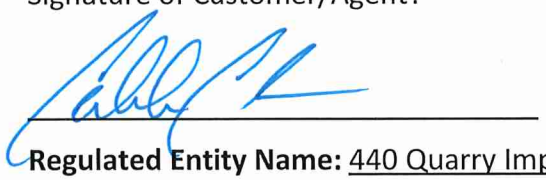
Signature

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

Print Name of Customer/Agent: Caleb Chance, P.E.

Date: 8/4/2025

Signature of Customer/Agent:



Regulated Entity Name: 440 Quarry Improvements

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property):26.55

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		÷ 43,560 =	
Parking		÷ 43,560 =	
Other paved surfaces	459,122	÷ 43,560 =	10.54
Total Impervious Cover	459,122	÷ 43,560 =	10.54

Total Impervious Cover 10.54 **÷ Total Acreage** 26.55 **X 100 =** 39.7**% Impervious Cover**

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

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

For Road Projects Only

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

7. Type of project:

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

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

☐ Concrete
☒ Asphaltic concrete pavement
☐ Other: _____

9. Length of Right of Way (R.O.W.): 4649 feet.

Width of R.O.W.: Variable feet.
L x W = Variable Ft^2 ÷ 43,560 Ft^2/Acre = 5.40 acres.

10. Length of pavement area: 4949 feet.

Width of pavement area: Variable feet.
L x W = Variable Ft^2 ÷ 43,560 Ft^2/Acre = 4.30 acres.
Pavement area Variable acres ÷ R.O.W. area Variable acres x 100 = 79.6% impervious cover.

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

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

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

_____% Domestic	_Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day
TOTAL gallons/day _____	

15. Wastewater will be disposed of by:

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

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

☐ Sewage Collection System (Sewer Lines):

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

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

☒ The sewage collection system will convey the wastewater to the Steven M. Clouse Water Recycling Center (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 300'.

18. 100-year floodplain boundaries:

☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☐ No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA DFIRM (Digital Flood Insurance Rate Map for Bexar County, Texas and Incorporated areas) Map Number 48029C0235G, dated September 29, 2010.

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

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

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

☐ There are 0 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

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

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

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

☐ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
☒ No sensitive geologic or manmade features were identified in the Geologic Assessment.

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

22. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.
23. ☒ Areas of soil disturbance and areas which will not be disturbed.
24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
25. ☒ Locations where soil stabilization practices are expected to occur.
26. ☐ Surface waters (including wetlands).

    ☒ N/A
27. ☐ Locations where stormwater discharges to surface water or sensitive features are to occur.

    ☒ There will be no discharges to surface water or sensitive features.
28. ☒ Legal boundaries of the site are shown.

Administrative Information

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

ATTACHMENT A

Attachment A – Factors Affecting Surface 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 79.3 cfs. The runoff coefficient (C) for the site changes from approximately 0.72 before development to 0.96 after development. C-Values are based on the Rational Method using runoff coefficients per the City of San Antonio Storm Water Design Criteria Manual, Table 5.5.3A.

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.

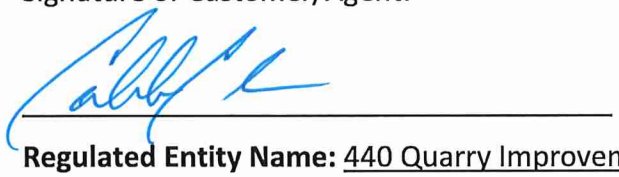
Signature

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: Caleb Chance, P.E.

Date: 8/5/25

Signature of Customer/Agent:



Regulated Entity Name: 440 Quarry Improvements

Project Information

Potential Sources of Contamination

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

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

   ☒ The following fuels and/or hazardous substances will be stored on the site: Construction staging area

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

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

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

ATTACHMENT A

Attachment A – Spill Response Actions

In the event of an accidental leak or spill:

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

In the event of an accidental significant or hazardous spill:

- The contractor will be required to report significant or hazardous spills in reportable quantities to:
  - Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
  - For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
  - Notification should first be made by telephone and followed up with a written report.

- The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
- Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

- Contaminated soils will be sampled for waste characterization. When the analysis results are known the contaminated soils will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.

Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 1.4.16. Contractor shall review this section.

ATTACHMENT B

Attachment B – Potential Sources of Contamination

Other potential sources of contamination during construction include:

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

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

ATTACHMENT C

Attachment C – Sequence of Major Activities

The sequence of major activities which disturb soil during construction on this site will be divided into two stages. The first is site preparation that will include installation of temporary best management practices (TBMPs) as illustrated on Exhibit 1, clearing, and grubbing of vegetation where applicable. This will disturb approximately 26.55 acres. The second is construction that will include construction of a street, sewer line, residential development and one (1) batch detention basin, utility installation, and site cleanup. This will disturb approximately 26.55 acres.

ATTACHMENT D

Attachment D – Temporary Best Management Practices and Measures

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 stormwater will cross the project limits. 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 downgradient from areas of concentrated stormwater flow for temporary erosion control, (3) installation of stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, (4) installation of construction staging area(s), (5) placement of gravel filter bags, and (6) installation of grate inlet protection.

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.

No naturally occurring sensitive geological features were identified on the site. 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. All TBMPs are adequate for the drainage areas served.

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.

No naturally occurring sensitive geological features were identified on the site. Temporary 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. All TBMPs are adequate for the drainage areas they serve.

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/gravel filter bags for secondary protection, as located on Exhibit 1 and detailed on Exhibit 2.*
- *Installation of stabilized construction entrance/exit(s) and construction staging area(s), as located on Exhibit 1 and detailed on Exhibit 2.*
- *Installation of inlet protection, as located on Exhibit 1 and detailed 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) and construction staging area, as required and located on Exhibit 1 and detailed on Exhibit 2.*

ATTACHMENT G

Attachment G – Drainage Area Map

Please refer to Exhibit 3 – Permanent Pollution Abatement Plan for Drainage Area Map. Although drainage areas of more than ten (10) acres of a drainage area will be disturbed, drainage areas are formed of sub-basins that are made up of less than ten acres each. All TBMPs utilized are adequate for the drainage areas served.

ATTACHMENT I

INSPECTIONS

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

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

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

440 QUARRY IMPROVEMENTS
Water Pollution Abatement Plan

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

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

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

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

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

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date
Installation of BMPs	

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

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date
Removal of BMPs	

ATTACHMENT J

Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

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

Stabilization measures will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, will be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14^{th} 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 Aquifer. This **Permanent Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Caleb Chance, P.E.

Date: 8/5/25

Signature of Customer/Agent

Regulated Entity Name: 440 Quarry Improvements

Permanent Best Management Practices (BMPs)

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

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

   ☐ N/A

2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

   ☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

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

☐ N/A

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

   ☐ N/A

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

   ☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
   ☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.
   ☒ The site will not be used for low density single-family residential development.

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

   ☐ **Attachment A - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
   ☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
   ☒ The site will not be used for multi-family residential developments, schools, or small business sites.

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

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

☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

7. ☒ **Attachment C - BMPs for On-site Stormwater**.

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

☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

8. ☒ **Attachment D - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

☐ N/A

9. ☒ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.

☐ **Attachment E - Request to Seal Features**. A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. ☒ **Attachment F - Construction Plans**. All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

☒ Design calculations (TSS removal calculations)

☒ TCEQ construction notes

☒ All geologic features

☒ All proposed structural BMP(s) plans and specifications

☐ N/A

11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan**. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

    ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☒ Signed by the owner or responsible party
    ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    ☒ A discussion of record keeping procedures

    ☐ N/A

12. ☐ **Attachment H - Pilot-Scale Field Testing Plan**. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

    ☒ N/A

13. ☒ **Attachment I -Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

14. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

    ☐ N/A

15. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

    ☐ N/A

ATTACHMENT B

Attachment B – BMPs for Upgradient Stormwater

No upgradient stormwater will cross the project limits.

One (1) proposed batch detention basin (Basin "A"), and four (4) proposed fifteen-foot (15') engineered vegetative filter strips (VFS) are the Permanent Best Management Practices (PBMPs) for this site. The PBMPs were designed in accordance with the TCEQ Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the proposed improvements. All PBMPs provided are adequate for the drainage area served.

ATTACHMENT C

Attachment C – BMPs for Onsite Stormwater

One (1) proposed batch detention basin (Basin "A"), and four (4) proposed fifteen-foot (15') engineered vegetative filter strips (VFS) are the Permanent Best Management Practices (PBMPs) for this site. The PBMPs were designed in accordance with the TCEQ Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the proposed improvements. All PBMPs provided are adequate for the drainage area served.

ATTACHMENT D

Attachment D – BMPs for Surface Streams

Upper Salado Creek is located immediately adjacent to the site.

One (1) proposed batch detention basin (Basin "A") and four (4) proposed fifteen-foot (15') engineered vegetative filter strips (VFS) are the Permanent Best Management Practices (PBMPs) for this site. The PBMPs were designed in accordance with the TCEQ Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the proposed improvements. All PBMPs provided are adequate for the drainage area served.

ATTACHMENT F

Attachment F – Construction Plans

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

ATTACHMENT G

440 QUARRY IMPROVEMENTS
Water Pollution Abatement Plan

PERMANENT POLLUTION ABATEMENT MEASURES
MAINTENANCE SCHEDULE AND MAINTENANCE PROCEDURES

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

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

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

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

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

Lloyd A. Denton, Jr.
Shavano Quarry Development Ltd.

8/6/25
Date

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	√							√			√		√
Biannually*	√	√	√	√	√	√	√	√	√	√	√	√	√

At least one biannual inspection must occur during or immediately after a rainfall event.
√Indicates maintenance procedure that applies to this specific site.

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

A w*ritten 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**	~~No~~
4. Level Sensor	**Yes**	~~No~~
5. Nuisance Control	**Yes**	~~No~~
6. Structural Repairs and Replacement	**Yes**	~~No~~
7. Discharge Pipe	**Yes**	~~No~~
8. Detention and Drawdown Time	**Yes**	~~No~~
9. Sediment Removal	**Yes**	~~No~~
10. Logic Controller	**Yes**	~~No~~
11. Vegetated Filter Strips	**Yes**	~~No~~
12. Visually Inspect Security Fencing for Damage or Breach	**Yes**	~~No~~
13. Recordkeeping for Inspections, Maintenance, and Repairs	**Yes**	~~No~~

MAINTENANCE PROCEDURES FOR PERMANENT POLLUTION ABATEMENT MEASURES

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

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.

2. Litter and Debris Removal. Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.

3. Erosion control. The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.

4. Level Sensor. 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. Nuisance Control. Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

6. Structural Repairs and Replacement. With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and

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

7. Discharge Pipe. The basin discharge pipe shall be checked for accumulation of silt, debris or other obstructions which could block flow. Soil accumulations, vegetative overgrowth and other blockages should be cleared from the pipe discharge point. Erosion at the point of discharge shall be monitored. If erosion occurs, the addition of rock rubble to disperse the flow should be accomplished. *A written record should be kept of inspection results and corrective measures taken.*

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. Visually Inspect Security Fencing for Damage or Breach. Check maintenance access gates for proper operation. Damage to fencing or gates shall be repaired within 5 working days. *A written record should be kept of inspection results and maintenance performed.*

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.

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	√							√			√		√
Biannually*	√	√	√	√	√	√	√	√	√	√	√	√	√

At least one biannual inspection must occur during or immediately after a rainfall event.
√Indicates maintenance procedure that applies to this specific site.

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

MAINTENANCE PROCEDURES FOR PERMANENT POLLUTION ABATEMENT MEASURES

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

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

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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

Attachment I – Measures Minimizing Surface Stream Contamination

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

I ***Lloyd A. Denton, Jr.***,
Print Name

President,
Title - Owner/President/Other

of ***Shavano Quarry Developments, LTD***,
Corporation/Partnership/Entity Name

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

of ***Pape-Dawson Engineers***
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

8/6/25
Date

THE STATE OF Texas §

County of Bexar §

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

GIVEN under my hand and seal of office on this 6 day of August.

NOTARY PUBLIC

DAVID A WRIGHT
ID #5780773
My Commission Expires
March 27, 2029

DAVID WRIGHT
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 3/27/29

FEE FORM

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: 440 Quarry Improvements

Regulated Entity Location: 0.25 miles north of Shavano Ranch and NW Military Hwy intersection

Name of Customer: Shavano Quarry Developments, LTD

Contact Person: Lloyd A. Denton, Jr. Phone: (210) 828-6131

Customer Reference Number (if issued):CN _____

Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☒ Bexar ☐ Medina ☐ Uvalde

☐ Comal ☐ Kinney

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

☐ Austin Regional Office

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

☒ San Antonio Regional Office

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

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	26.55 Acres	$ 6,500.00
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: 8/5/25

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

EXHIBITS

CORE DATA FORM (TCEQ-04000)

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.*)

- [x] New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)
- [ ] Renewal (*Core Data Form should be submitted with the renewal form*)
- [ ] Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 606106151		RN 102748860

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

- [ ] New Customer
- [ ] Update to Customer Information
- [ ] Change in Regulated Entity Ownership
- [ ] Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name (*If an individual, print last name first: eg: Doe, John*) — *If new Customer, enter previous Customer below:*

Shavano Quarry Developments, LTD

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

11. Type of Customer:

- [ ] Corporation
- [ ] Individual
- Partnership: [ ] General [x] Limited
- Government: [ ] City [ ] County [ ] Federal [ ] State [ ] Other
- [ ] Sole Proprietorship
- [ ] Other:

12. Number of Employees

- [x] 0-20
- [ ] 21-100
- [ ] 101-250
- [ ] 251-500
- [ ] 501 and higher

13. Independently Owned and Operated?

- [x] Yes
- [ ] No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following:*

- [x] Owner
- [ ] Operator
- [ ] Owner & Operator
- [ ] Occupational Licensee
- [ ] Responsible Party
- [ ] Voluntary Cleanup Applicant
- [ ] Other:

15. Mailing Address:

11 Lynn Batts Lane, Suite 100

City	State	ZIP	ZIP + 4
San Antonio	TX	78218	3077

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

18. Telephone Number	19. Extension or Code	20. Fax Number (*if applicable*)
(210) 828-6131		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (*If 'New Regulated Entity" is selected below this form should be accompanied by a permit application*)

- [x] New Regulated Entity
- [ ] Update to Regulated Entity Name
- [ ] Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC.)

22. Regulated Entity Name (*Enter name of the site where the regulated action is taking place.*)

440 Quarry Improvements

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

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	Approximately 0.25 miles north of Shavano Ranch and NW Military Hwy intersection

26. Nearest City	**State**	**Nearest ZIP Code**
San Antonio	TX	78257

27. Latitude (N) In Decimal:	29.610089		**28. Longitude (W) In Decimal:**	-98.565252	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	36	36	98	33	54

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

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

Construction of commerical development

34. Mailing Address:	11 Lynn Batts Lane, Suite 100							
	City	San Antonio	**State**	TX	**ZIP**	78218	**ZIP + 4**	3077
35. E-Mail Address:	laddiedenton@bitterblue.com							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(210)828-6131		( ) -

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

☐ Dam Safety	☐ Districts	■ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Deunte Levine	**41. Title:**	Project Engineer, P.E.

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

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Pape-Dawson Engineers	**Job Title:**	Sr. Vice President
Name*(In Print)* **:**	Caleb Chance, P.E.	**Phone:**	(210) 375 9000
Signature:		**Date:**	8/4/2025

POLLUTANT LOAD AND REMOVAL CALCULATIONS

440 QUARRY IMPROVEMENTS

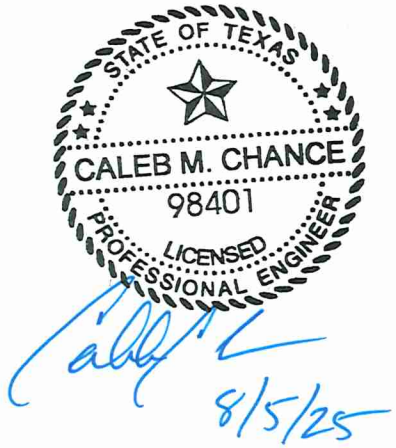
Treatment Summary by Watershed

Watershed	Total Watershed Area (AC)	Proposed Impervious Cover (AC)	PBMP	Required TSS Removal Annually (lbs)	TSS Removed Annually (lbs)
A	1.53	0.87	15' Engineered VFS (A)	710	707
B	3.25	1.20	15' Engineered VFS (B)	979	1,087
C	10.94	4.90	Water Quality Basin "A"	4472*	4717*
D	0.36	0.26	15' Engineered VFS (C)	212	222
E	1.17	0.33	15' Engineered VFS (D)	269	328
G	2.37	1.32	Overtreatment	1,077	0
H	0.35	0.21	Overtreatment	171	0
I	1.24	1.45	Water Quality Basin A - Previously Treated With Cornerstone High School WPAP (RN102748860)	0	1,281
F	7.05	0.00	-	0	0
TOTAL AMOUNT TO BE TREATED ONSITE	**28.26**	**10.54**	---	**3,419**	**3,625**

NOTE: (*): TSS is based on the total amount of acreage being treated by the Water Quality Basin (Area C+ Area I)

Water Quality Basin Summary

Basin	Designed Capture Volume (cf)	Required Volume (cf)	Excess Volume Capacity (cf)
Batch Detention "A"	54,553	40,919	13,634



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: 440 Quarry
Date Prepared: 6/13/2025

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 spreads

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 increa
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Bexar	
Total project area included in plan * =	26.55	acres
Predevelopment impervious area within the limits of the plan * =	0.26	acres
Total post-development impervious area within the limits of the plan * =	10.54	acres
Total post-development impervious cover fraction * =	0.40	
P =	30	inches

$L_{M\ TOTAL\ PROJECT}$ = **8388** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **5**

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

Drainage Basin/Outfall Area No. =		**Basin A**	
Total drainage basin/outfall area	=	**10.94**	acres
Predevelopment impervious area within drainage basin/outfall area	=	**0.00**	acres
Post-development impervious area within drainage basin/outfall area	=	**4.90**	acres
Post-development impervious fraction within drainage basin/outfall area	=	**0.45**	
$L_{M\ THIS\ BASIN}$	=	**3998**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP	=	**Extended Detention**	
Removal efficiency	=	**91**	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_R) for this Drainage Basin by the selected BMP Type.

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

where:

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

A_C	=	**10.94**	acres
A_I	=	**4.90**	acres
A_P	=	**6.04**	acres
L_R	=	**4717**	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	**4472**	lbs.
F =	**0.95**	

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

Rainfall Depth =	**2.60**	inches
Post Development Runoff Coefficient =	**0.33**	
On-site Water Quality Volume =	**34100**	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 =	**6820**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**40919**	cubic feet

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

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

Required Water Quality Volume for retention basin =	**NA**	cubic feet

Irrigation Area Calculations:

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

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

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: 440 Public Improver
Date Prepared: 6/13/2025

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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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 inc
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Bexar	
Total project area included in plan * =	26.55	acres
Predevelopment impervious area within the limits of the plan * =	0.26	acres
Total post-development impervious area within the limits of the plan * =	10.54	acres
Total post-development impervious cover fraction * =	0.40	
P =	30	inches

$L_{M\ TOTAL\ PROJECT}$ = **8388** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **5**

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

Drainage Basin/Outfall Area No. =	**VFS A**	
Total drainage basin/outfall area =	**1.53**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**0.87**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.57**	
$L_{M\ THIS\ BASIN}$ =	**710**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Vegetated Filter Strips**
Removal efficiency = **85** 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_R) for this Drainage Basin by the selected BMP Type.

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

where:

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

A_C =	**1.53**	acres
A_I =	**0.87**	acres

A_P =	**0.66**	acres
L_R =	**777**	lbs

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

			additional for OT
Desired $L_{M\ THIS\ BASIN}$ =	**707**	lbs.	-3
F =	**0.91**		

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

Rainfall Depth =	**1.80**	inches
Post Development Runoff Coefficient =	**0.40**	
On-site Water Quality Volume =	**3986**	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 =	**797**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**4783**	cubic feet

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

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

Required Water Quality Volume for retention basin =	**NA**	cubic feet	
Irrigation Area Calculations:			
Soil infiltration/permeability rate =	**0.1**	in/hr	**Enter determined permeability rate or assum**

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name:
Date Prepared:

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1. The Required Load Reduction for the total project: Calculations from RG-348

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
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

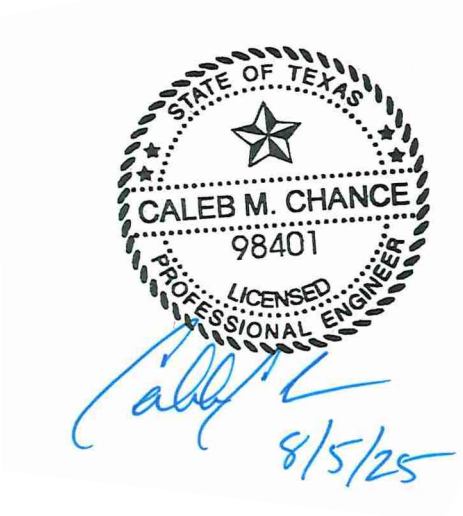
Site Data: Determine Required Load Removal Based on the Entire Project

County =	Bexar	
Total project area included in plan * =	26.55	acres
Predevelopment impervious area within the limits of the plan * =	0.26	acres
Total post-development impervious area within the limits of the plan* =	10.54	acres
Total post-development impervious cover fraction * =	0.40	
P =	30	inches

$L_{M\ TOTAL\ PROJECT}$ = **8388** lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = **5**



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

Drainage Basin/Outfall Area No. =	**VFS B**	
Total drainage basin/outfall area =	**3.25**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**1.20**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.37**	
$L_{M\ THIS\ BASIN}$ =	**979**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	**Vegetated Filter Strips**	
Removal efficiency =	**85**	percent

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

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

where:

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

A_C =	**3.25**	acres
A_I =	**1.20**	acres

A_P =	**2.05**	acres
L_R =	**1087**	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	**1087**	lbs.
F =	**1.00**	

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

Rainfall Depth =	**4.00**	inches
Post Development Runoff Coefficient =	**0.29**	
On-site Water Quality Volume =	**13787**	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 =	**2757**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**16545**	cubic feet

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

7. Retention/Irrigation System Designed as Required in RG-348

Required Water Quality Volume for retention basin =	**NA**	cubic feet	
Irrigation Area Calculations:			
Soil infiltration/permeability rate =	**0.1**	in/hr	**Enter determined pe**
Irrigation area =	**NA**	square feet	

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: 440 Quarry
Date Prepared: 6/13/2025

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the ce
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Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in th

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

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 = 8(
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Bexar	
Total project area included in plan * =	26.55	acres
Predevelopment impervious area within the limits of the plan * =	0.26	acres
Total post-development impervious area within the limits of the plan* =	10.54	acres
Total post-development impervious cover fraction * =	0.40	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	8388	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 5

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

Drainage Basin/Outfall Area No. =	**VFS C**	
Total drainage basin/outfall area =	**0.36**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**0.26**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.72**	
$L_{M\ THIS\ BASIN}$ =	**212**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Vegetated Filter Strips**

Removal efficiency = **85** percent

Aqualogic Cartrid
Bioretention
Contech StormFil
Constructed Wetl
Extended Detenti
Grassy Swale
Retention / Irrigati
Sand Filter
Stormceptor
Vegetated Filter S
Vortechs
Wet Basin
Wet Vault

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

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

where:

A_C = Total On-Site drainage area in the BMP catchment area

A_I = Impervious area proposed in the BMP catchment area

A_P = Pervious area remaining in the BMP catchment area

L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	**0.36**	acres
A_I =	**0.26**	acres
A_P =	**0.10**	acres
L_R =	**231**	lbs

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

			additional for OT
Desired $L_{M\ THIS\ BASIN}$ =	**222**	lbs.	10
F =	**0.96**		

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

Rainfall Depth =	**2.80**	inches
Post Development Runoff Coefficient =	**0.53**	
On-site Water Quality Volume =	**1935**	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 =	**387**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**2322**	cubic feet

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

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-4

Required Water Quality Volume for retention basin =	**NA**	cubic feet

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: 440 Quarry
Date Prepared: 6/13/2025

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the c
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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3

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 = 8
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Bexar	
Total project area included in plan * =	26.55	acres
Predevelopment impervious area within the limits of the plan * =	0.26	acres
Total post-development impervious area within the limits of the plan* =	10.54	acres
Total post-development impervious cover fraction * =	0.40	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	8388	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 5

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

Drainage Basin/Outfall Area No. =	**VFS D**	
Total drainage basin/outfall area =	**1.17**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**0.33**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.28**	
$L_{M\ THIS\ BASIN}$ =	**269**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Vegetated Filter Strips**
Removal efficiency = **85** percent

Aqualogic Cartri
Bioretention
Contech StormF
Constructed We
Extended Deten
Grassy Swale
Retention / Irriga
Sand Filter
Stormceptor
Vegetated Filter
Vortechs
Wet Basin
Wet Vault

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

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

where:

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

A_C =	**1.17**	acres
A_I =	**0.33**	acres
A_P =	**0.84**	acres
L_R =	**303**	lbs

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

additional for OT

Desired $L_{M\ THIS\ BASIN}$ =	**328**	lbs.	59
F =	**1.08**		

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

Rainfall Depth =	**4.00**	inches
Post Development Runoff Coefficient =	**0.25**	
On-site Water Quality Volume =	**4227**	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 =	**845**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**5072**	cubic feet

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

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

Required Water Quality Volume for retention basin =	**NA**	cubic feet

FINAL PLAN AND PROFILE SHEETS

TEMPORARY BMP MODIFICATIONS		
DATE	SIGNATURE	DESCRIPTION

TEMPORARY POLLUTION ABATEMENT NOTES

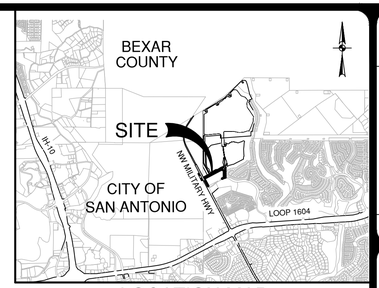
1. CONSTRUCTION OF LOTS, DRIVEWAYS, AND DRAINAGE STRUCTURES MAY BEGIN UPON APPROVAL. THE CONTRACTOR IS RESPONSIBLE FOR PLACING SILT FENCE ALONG THE DOWN GRADIENT SIDE OF THE DISTURBED AREA PERPENDICULAR TO THE DRAINAGE FLOW.

2. GRAVEL FILTER BAGS SHALL BE PLACED IN AREAS WHERE DRAINAGE FLOW IS CONCENTRATED DUE TO NATURAL CONDITIONS OR CONSTRUCTION ACTIVITIES SUCH AS AT DRAINAGE STRUCTURES. THESE BAGS WILL BE MAINTAINED UNTIL THEY ARE NO LONGER NEEDED OR UNTIL THEY ARE REPLACED WITH PERMANENT POLLUTION ABATEMENT MEASURES.

3. CONSTRUCTION WITHIN THE DEVELOPMENT MAY NOT BE CONTINUOUS. THE CONTRACTOR IS RESPONSIBLE FOR PLACING SILT FENCE ALONG THE DOWN GRADIENT SIDE OF EACH PAD DURING BUILDING CONSTRUCTION. ALL SILT FENCE SHALL BE PLACED PERPENDICULAR TO DRAINAGE FLOW.

0' 60' 120' 180'

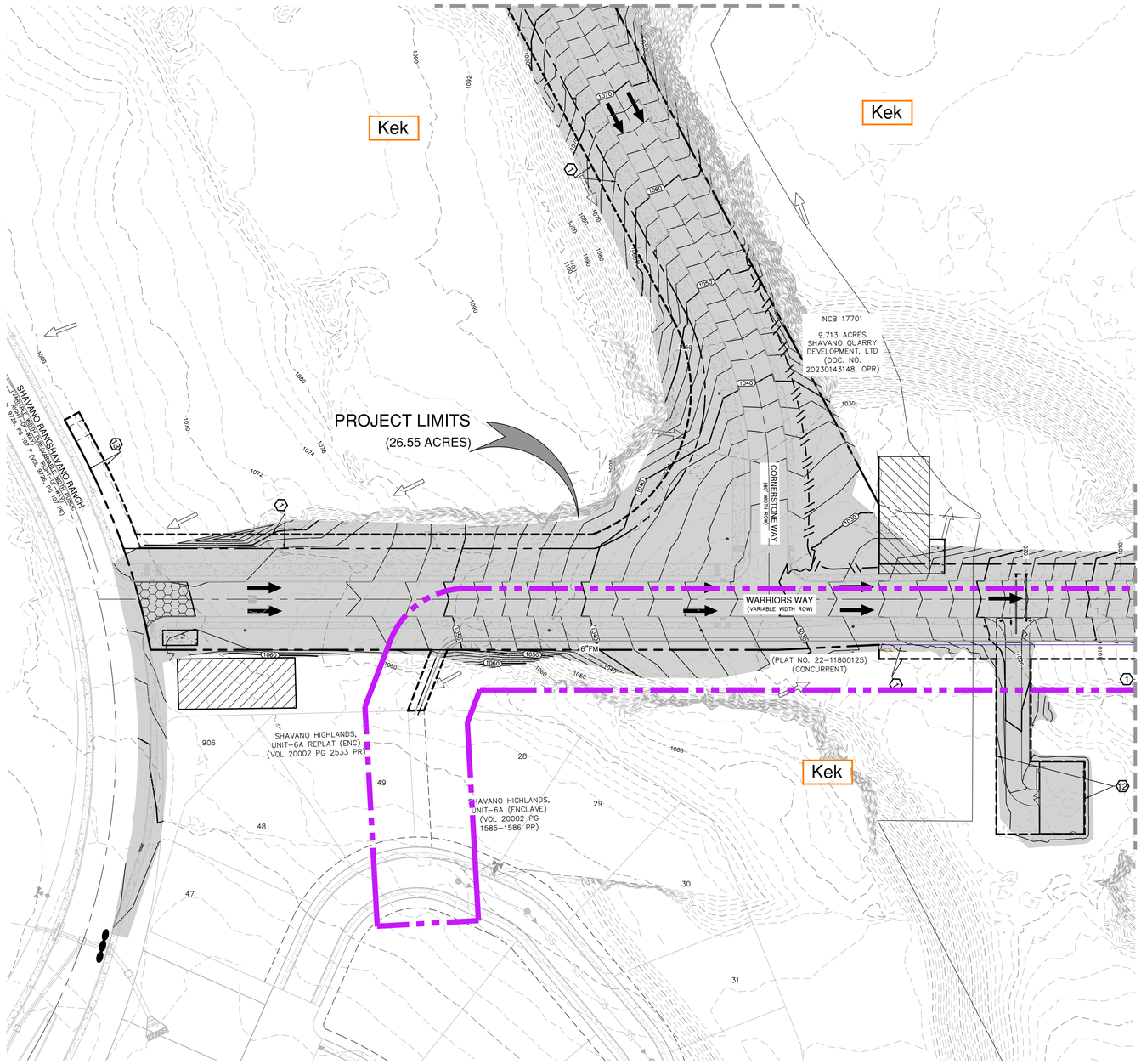
SCALE: 1"= 60'



LOCATION MAP

NOT-TO-SCALE

MATCHLINE "A" (SEE SHEET 3)



LEGEND

- PLATTED BOUNDARY
- PROJECT AREA
- 980 EXISTING GRADE
- 980 PROPOSED GRADE
- FLOW ARROW (EXISTING)
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- SILT FENCE
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- INLET PROTECTION
- GRAVEL FILTER BAGS
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- CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)
- SANITARY SEWER ENVELOPE
- 6" FM 6" FORCE MAIN
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STATE OF TEXAS
CALEB M. CHANCE
98401
LICENSED PROFESSIONAL ENGINEER
8/6/25

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

440 QUARRY IMPROVEMENTS

SAN ANTONIO, TEXAS

WATER POLLUTION ABATEMENT PLAN APPLICATION
TEMPORARY POLLUTION ABATEMENT PLAN

PLAT NO. 25-11800155
JOB NO. 12934-00
DATE MAY 2025
DESIGNER DL
CHECKED AS DRAWN DD
SHEET 1 OF 5

Date: Jun 13, 2025, 12:54pm User ID: dlevine
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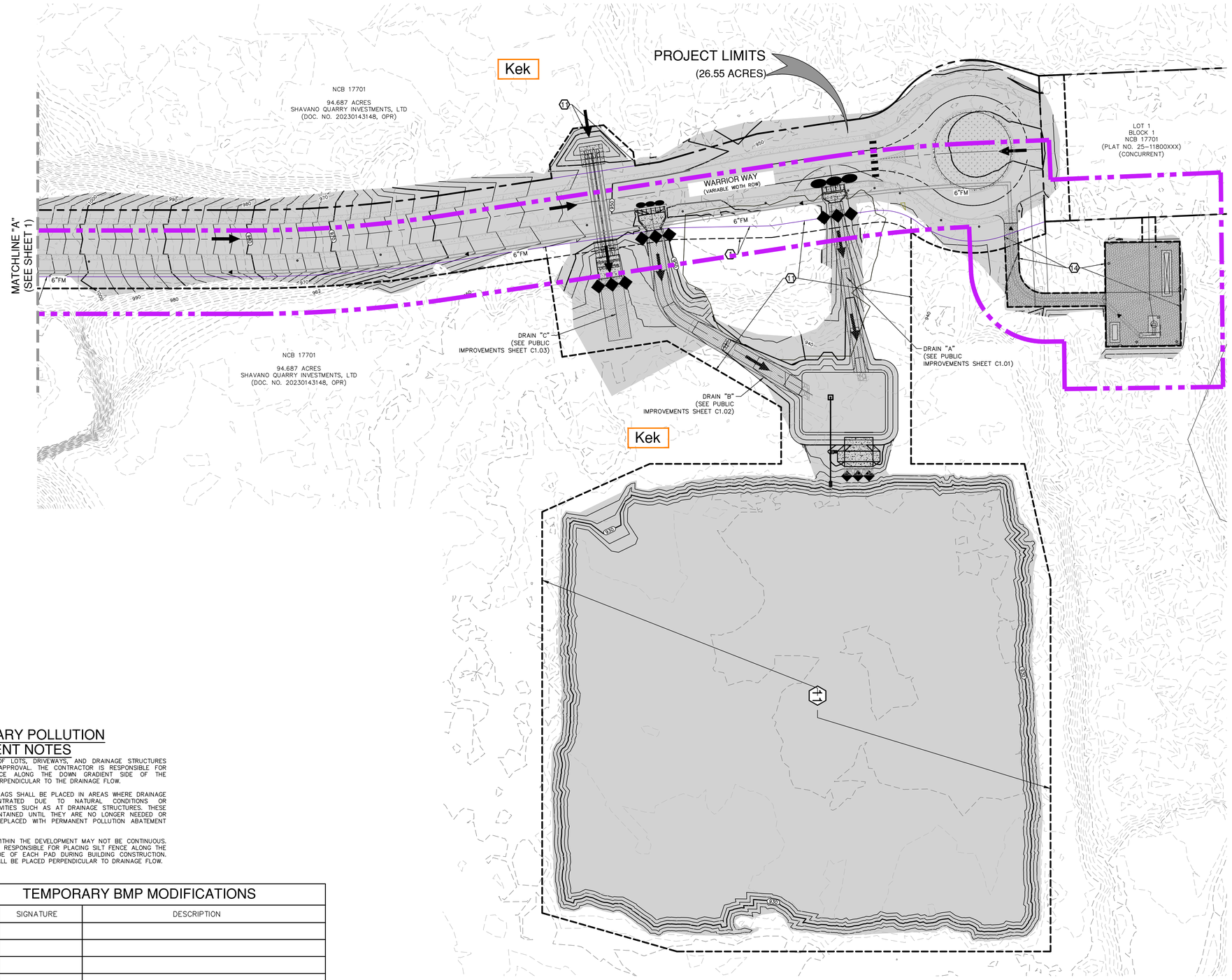

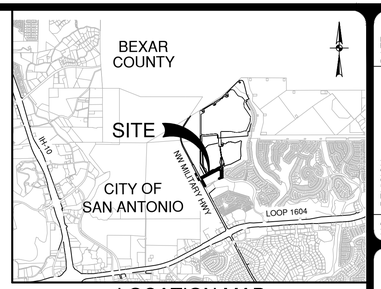

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TEMPORARY BMP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

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8/6/25

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440 QUARRY IMPROVEMENTS
SAN ANTONIO, TEXAS

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TEMPORARY POLLUTION ABATEMENT PLAN

PLAT NO. 25-11800155
JOB NO. 12934-00
DATE MAY 2025
DESIGNER DL
CHECKED AS DRAWN DD
SHEET 2 OF 5

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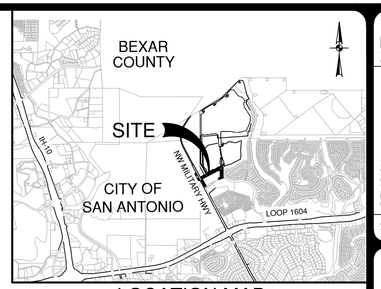

LOCATION MAP
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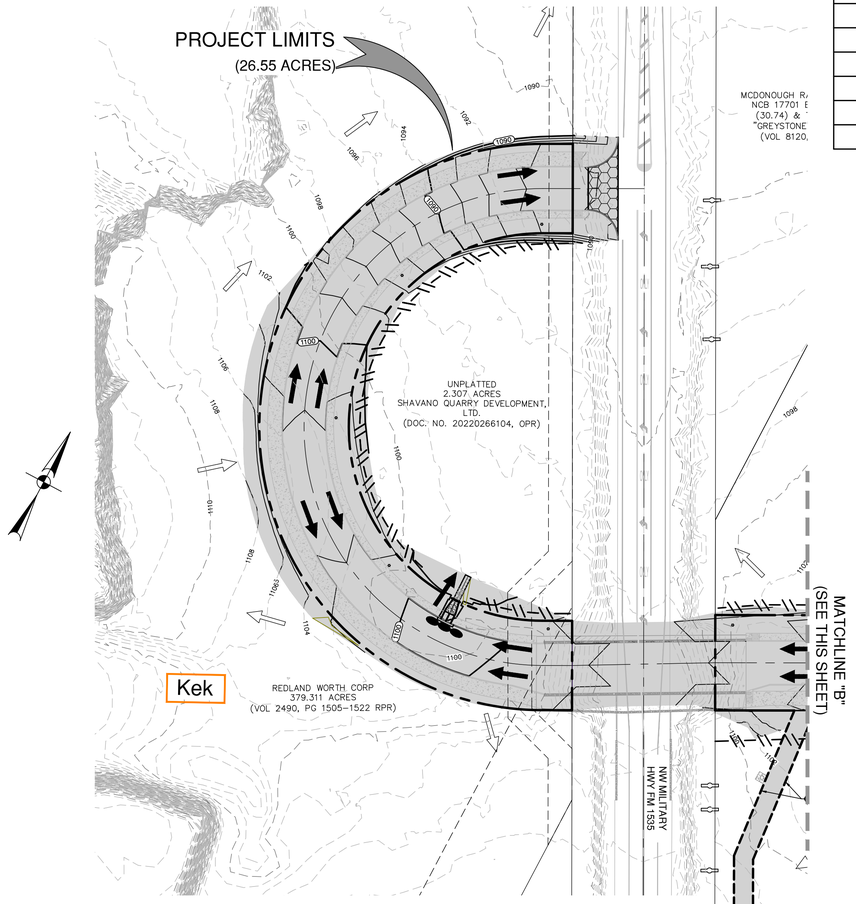

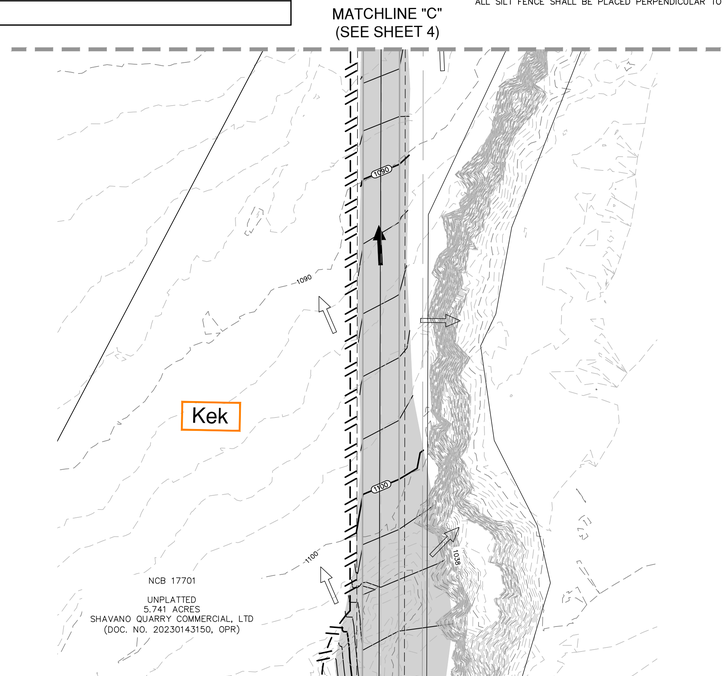

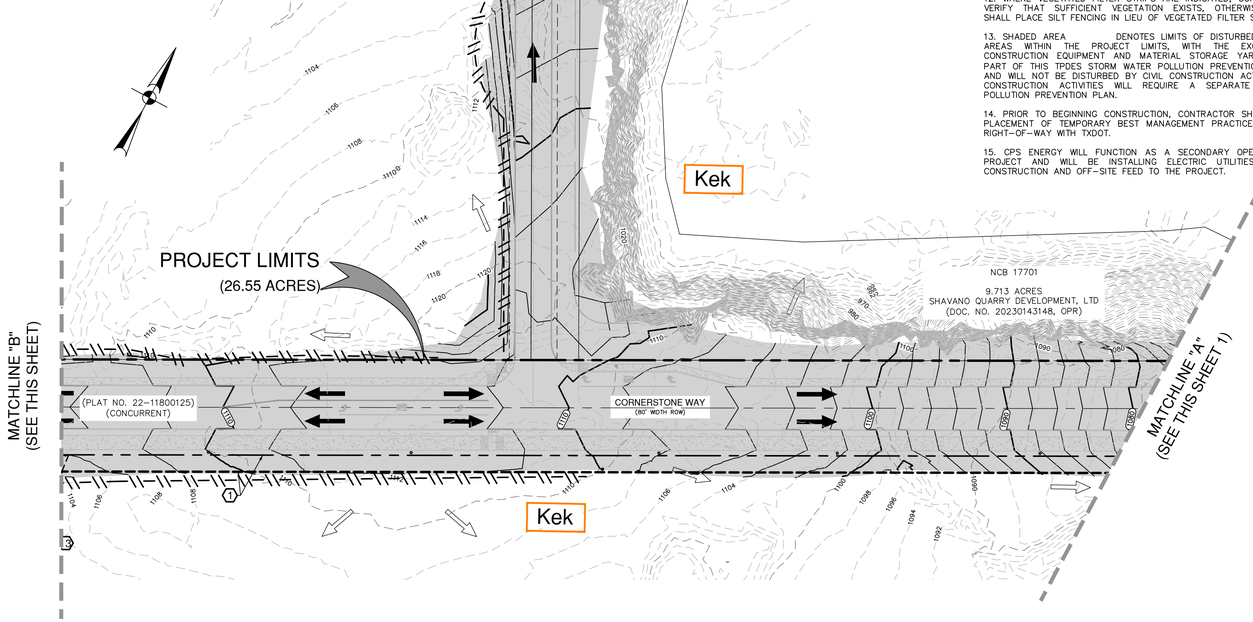

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440 QUARRY IMPROVEMENTS

SAN ANTONIO, TEXAS

WATER POLLUTION ABATEMENT PLAN APPLICATION
TEMPORARY POLLUTION ABATEMENT PLAN

PLAT NO. 25-11800155
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SHEET 3 OF 5

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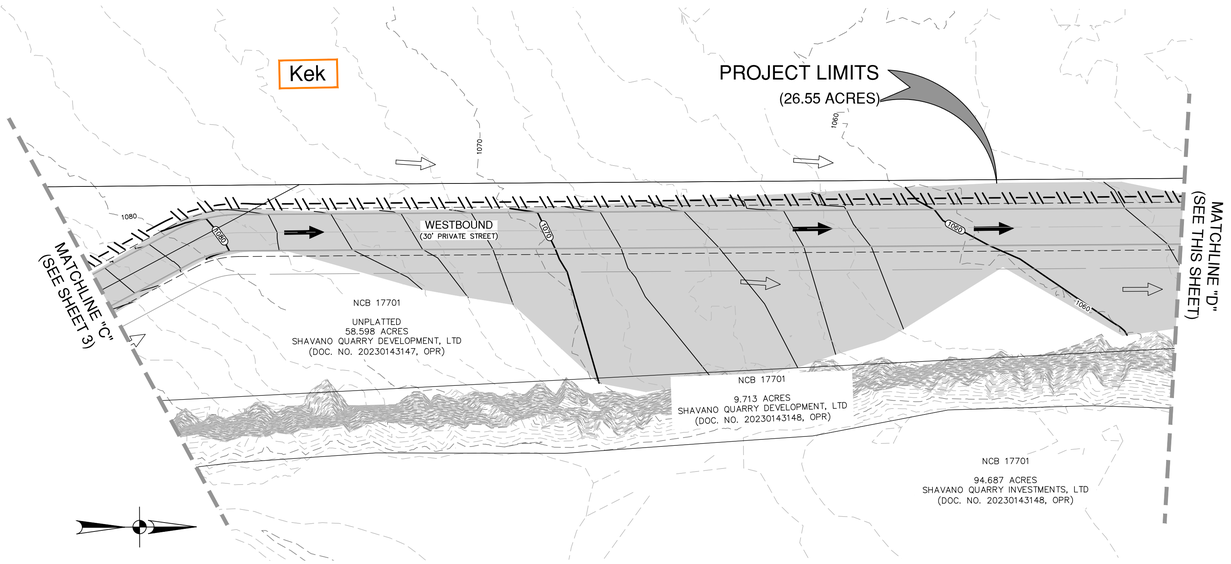

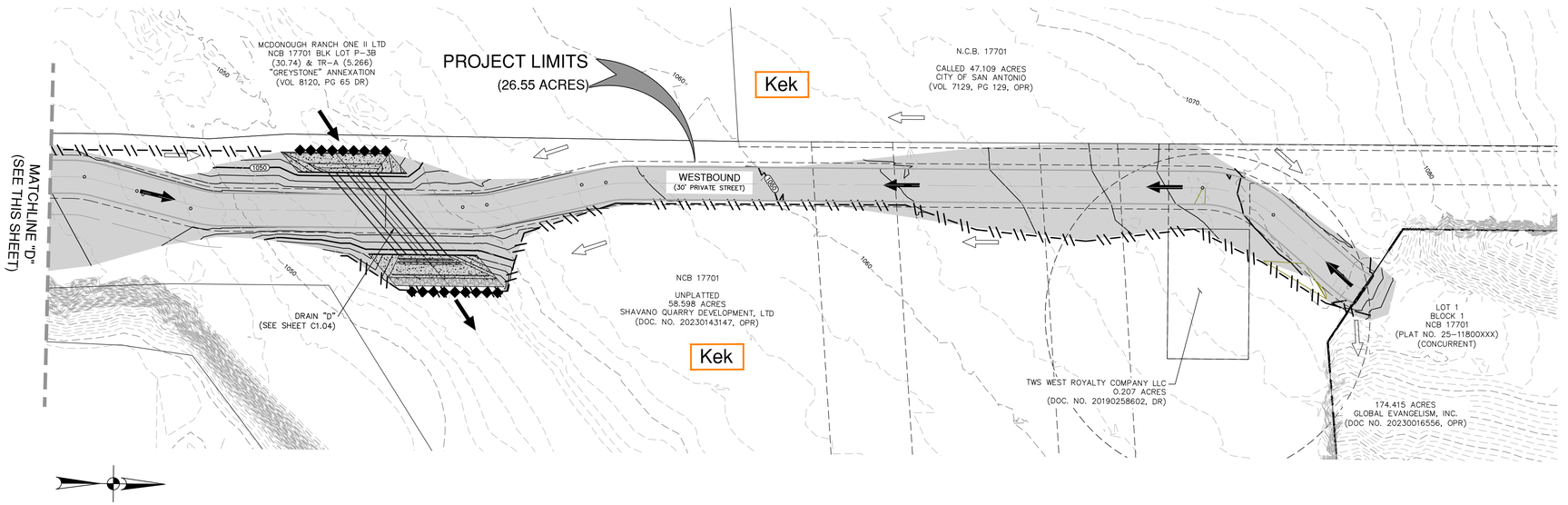

TEMPORARY BMP MODIFICATIONS

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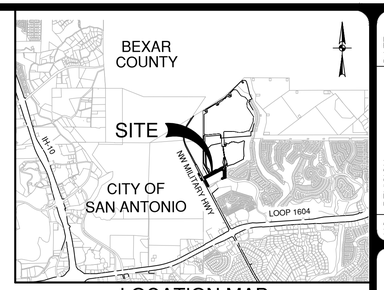

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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

440 QUARRY IMPROVEMENTS
SAN ANTONIO, TEXAS

WATER POLLUTION ABATEMENT PLAN APPLICATION
TEMPORARY POLLUTION ABATEMENT PLAN

PLAT NO. 25-11800155
JOB NO. 12934-00
DATE MAY 2025
DESIGNER DL
CHECKED AS DRAWN DD
SHEET 4 OF 5

Date: Jun 13, 2025, 12:55pm User ID: dlevine
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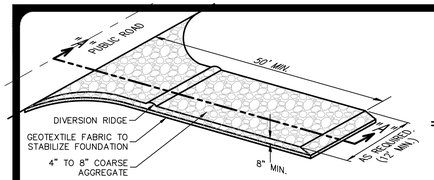
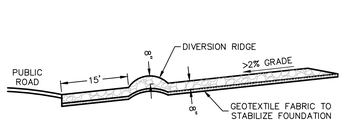
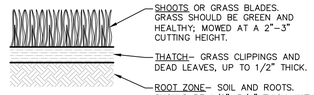
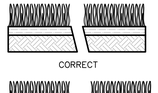
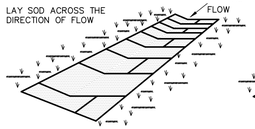
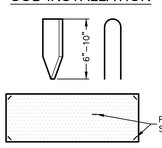


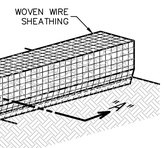


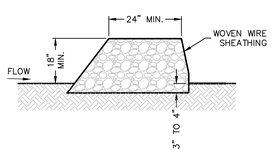


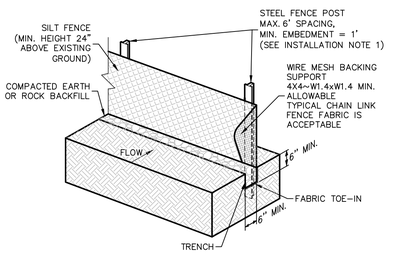


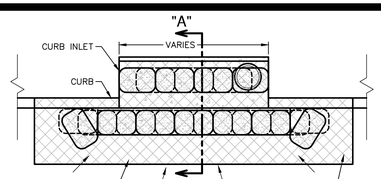


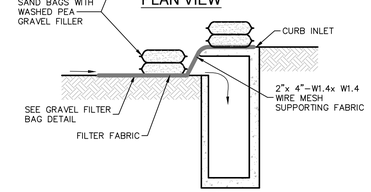


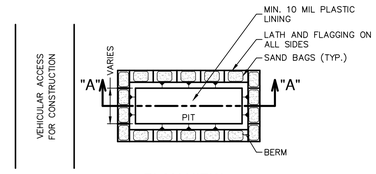


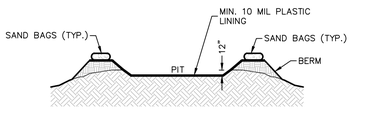












SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT

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

MATERIALS

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

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

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

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

INSTALLATION

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

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

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

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

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

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

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

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

COMMON TROUBLE POINTS

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

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

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

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

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

INSPECTION AND MAINTENANCE GUIDELINES

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

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

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

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

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

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT-TO-SCALE

ISOMETRIC PLAN VIEW

SECTION "A-A"

ROCK BERMS

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

INSPECTION AND MAINTENANCE GUIDELINES

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

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

3. REPAIR ANY LOOSE WIRE SHEATHING.

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

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

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

MATERIALS

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

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

INSTALLATION

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

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

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

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

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

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

COMMON TROUBLE POINTS

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

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

ROCK BERM DETAIL

NOT-TO-SCALE

PLAN VIEW

SECTION "A-A"

GENERAL NOTES

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

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

INSPECTION AND MAINTENANCE GUIDELINES

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

2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

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

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

5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT-TO-SCALE

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

APPEARANCE OF GOOD SOD

NOTES:

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

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

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

SOD INSTALLATION

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

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

MATERIALS

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

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

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

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

SITE PREPARATION

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

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

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

INSTALLATION IN CHANNELS

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

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

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

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

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

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

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

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

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

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

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

INSPECTION AND MAINTENANCE GUIDELINES

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

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

SOD INSTALLATION DETAIL

NOT-TO-SCALE

ISOMETRIC PLAN VIEW

SILT FENCE

A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE. WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

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

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

MATERIALS

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

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

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

INSTALLATION

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

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

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

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

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

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

COMMON TROUBLE POINTS

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

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

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

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

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

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

4. REPLACE OR REPAIR SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

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

SILT FENCE DETAIL

NOT-TO-SCALE

PLAN VIEW

SECTION "A-A"

GENERAL NOTES

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

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

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

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

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

MATERIALS

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

MAINTENANCE

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

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

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

CONCRETE TRUCK WASHOUT PIT DETAIL

NOT-TO-SCALE

LEGEND
—\\—\\—\\— SILT FENCE
← FLOW ARROWS

CONSTRUCTION STAGING AREA

NOT-TO-SCALE

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 2

NO.	REVISION	DATE

CALEB M. CHANCE
98401
Caleb
8/6/25

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

440 QUARRY IMPROVEMENTS
SAN ANTONIO, TEXAS
WATER POLLUTION ABATEMENT PLAN APPLICATION
TEMPORARY POLLUTION ABATEMENT PLAN

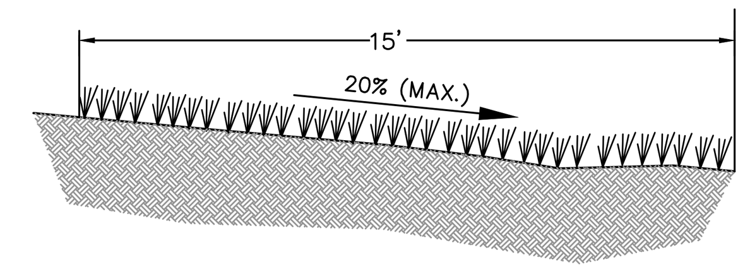
PLAT NO. 25-11800155
JOB NO. 12934-00
DATE MAY 2025
DESIGNER DL
CHECKED AS DRAWN DD
SHEET 5 OF 5

Date: Jun 13, 2025, 12:55pm User ID: dlevine
File: C:\Users\LOCAL_~1\Temp\AcPublish_443936\TM-1293400.dwg

Treatment Summary by Watershed

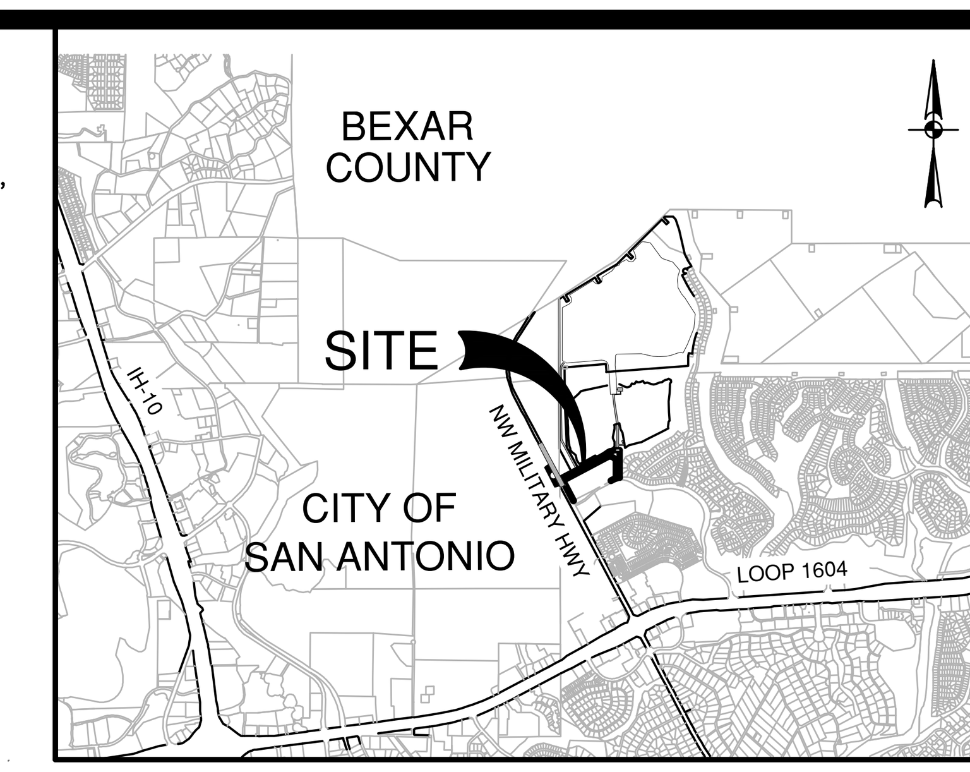
Watershed	Total Watershed Area (AC)	Proposed Impervious Cover (AC)	PBMP	Required TSS Removal Annually (lbs)	TSS Removed Annually (lbs)
A	1.53	0.87	15' Engineered VFS (A)	710	707
B	3.25	1.20	15' Engineered VFS (B)	979	1,087
C	10.94	4.90	Water Quality Basin "A"	4472*	4717*
D	0.36	0.26	15' Engineered VFS (C)	212	222
E	1.17	0.33	15' Engineered VFS (D)	269	328
G	2.37	1.32	Overtreatment	1,077	0
H	0.35	0.21	Overtreatment	171	0
I	1.24	1.45	Water Quality Basin A - Previously Treated With Cornerstone High School WPAP (RN102748860)	0	1,281
F	7.05	0.00	-	0	0
TOTAL AMOUNT TO BE TREATED ONSITE	**28.26**	**10.54**	---	**3,419**	**3,625**

NOTE: (*): TSS is based on the total amount of acreage being treated by the Water Quality Basin (Area C+ Area I)



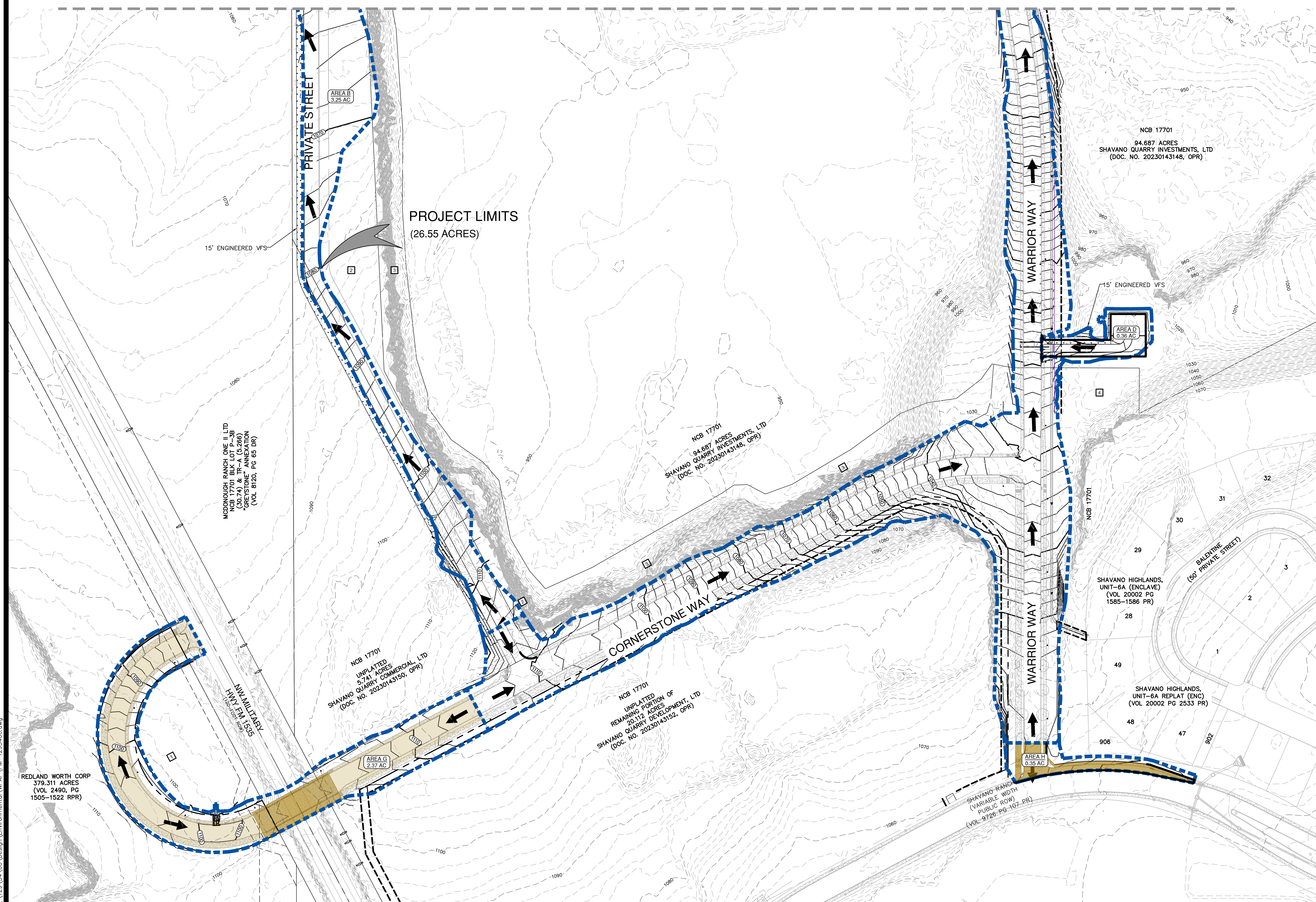
SECTION A–A
15' ENGINEERED VFS DETAIL

SCALE: 1"= 100'



LOCATION MAP
NOT–TO–SCALE

MATCHLINE "A" -SEE THIS SHEET



LEGEND

- PROJECT LIMITS (38.67 AC)
- DRAINAGE AREA
- 1190 — EXISTING CONTOURS
- PROPOSED CONTOURS
- FLOW ARROW
- VEGETATIVE FILTER STRIP
- AREA X / X.XX AC — WATERSHED AREA
- OVERTREATED/UNCAPTURED AREA

1. UNPLATTED 2.307 ACRES SHAVANO QUARRY DEVELOPMENT, LTD. (DOC.NO. 20220266104, OPR)
2. UNPLATTED 58.598 ACRES SHAVANO QUARRY DEVELOPMENT, LTD. (DOC.NO. 20230143147, OPR)
3. UNPLATTED 9.713 ACRES SHAVANO QUARRY DEVELOPMENT, LTD. (DOC.NO. 20230143148, OPR)
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SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

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

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

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

4.) PERMANENT BMP'S FOR THIS SITE INCLUDE A SEDIMENTATION/FILTRATION BASIN AND AN ENGINEERED VEGETATIVE FILTER STRIP. THESE PERMANENT BMP'S HAVE BEEN DESIGNED TO REMOVE AT LEAST 80% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) FOR THE 38.67 ACRES IN ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL (TGM) RG–348 (2005).

5.) TYPICAL SLOPES ON THIS PROJECT RANGE FROM APPROXIMATELY 0.50% TO 50.00%.

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NOTES:

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EXHIBIT

NO.	REVISION	DATE

STATE OF TEXAS
CALEB M. CHANCE
98401
LICENSED PROFESSIONAL ENGINEER
8/6/25

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

440 QUARRY IMPROVEMENTS

SAN ANTONIO, TEXAS

WATER POLLUTION ABATEMENT PLAN APPLICATION
PERMANENT POLLUTION ABATEMENT PLAN

PLAT NO. 25-11800155
JOB NO. 12934–00
DATE MAY 2025
DESIGNER DL
CHECKED AS DRAWN DD
SHEET 1 OF 2

Date: Jun 13, 2025, 10:43pm User ID: dlevine
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Treatment Summary by Watershed

Watershed	Total Watershed Area (AC)	Proposed Impervious Cover (AC)	PBMP	Required TSS Removal Annually (lbs)	TSS Removed Annually (lbs)
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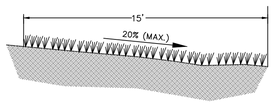
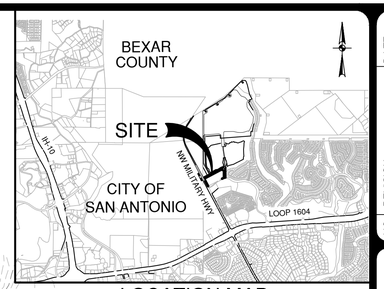
NOTE: (*): TSS is based on the total amount of acreage being treated by the Water Quality Basin (Area C+ Area I)



SECTION A–A
15' ENGINEERED VFS DETAIL

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



LOCATION MAP
NOT-TO-SCALE

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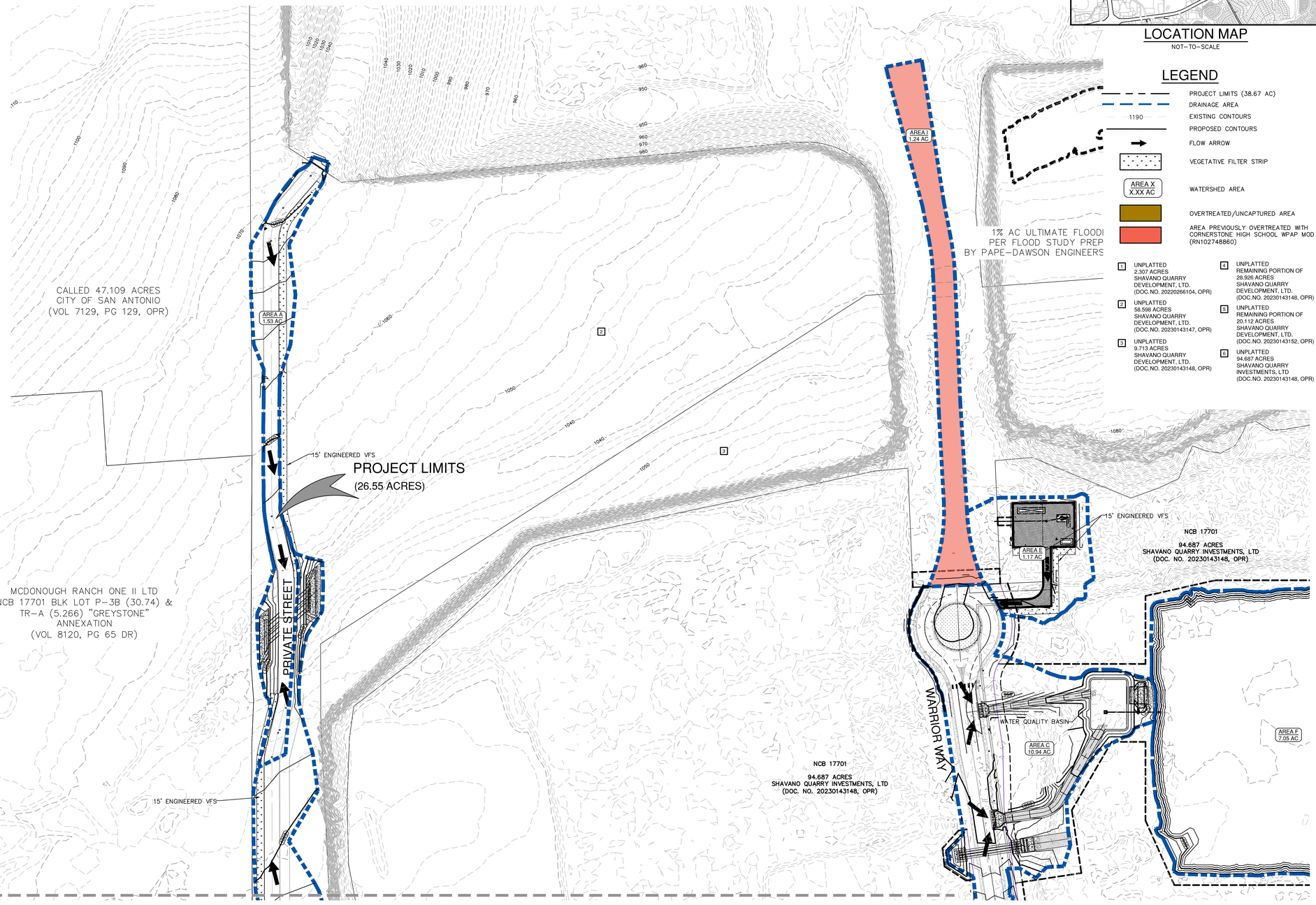

LEGEND

- PROJECT LIMITS (38.67 AC)
- DRAINAGE AREA
- 1190 EXISTING CONTOURS
- PROPOSED CONTOURS
- FLOW ARROW
- VEGETATIVE FILTER STRIP
- AREA X X.XX AC — WATERSHED AREA
- OVERTREATED/UNCAPTURED AREA
- AREA PREVIOUSLY OVERTREATED WITH CORNERSTONE HIGH SCHOOL WPAP MOD (RN102748860)

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MATCHLINE "A" -SEE THIS SHEET

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EXHIBIT

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STATE OF TEXAS
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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

440 QUARRY IMPROVEMENTS

SAN ANTONIO, TEXAS

CONTRIBUTING ZONE PLAN APPLICATION
PERMANENT POLLUTION ABATEMENT PLAN

PLAT NO. 25-11800155
JOB NO. 12934-00
DATE MAY 2025
DESIGNER DL
CHECKED AS DRAWN DD
SHEET 2 OF 2

Date: Jun 13, 2025, 10:34am User ID: dlevine
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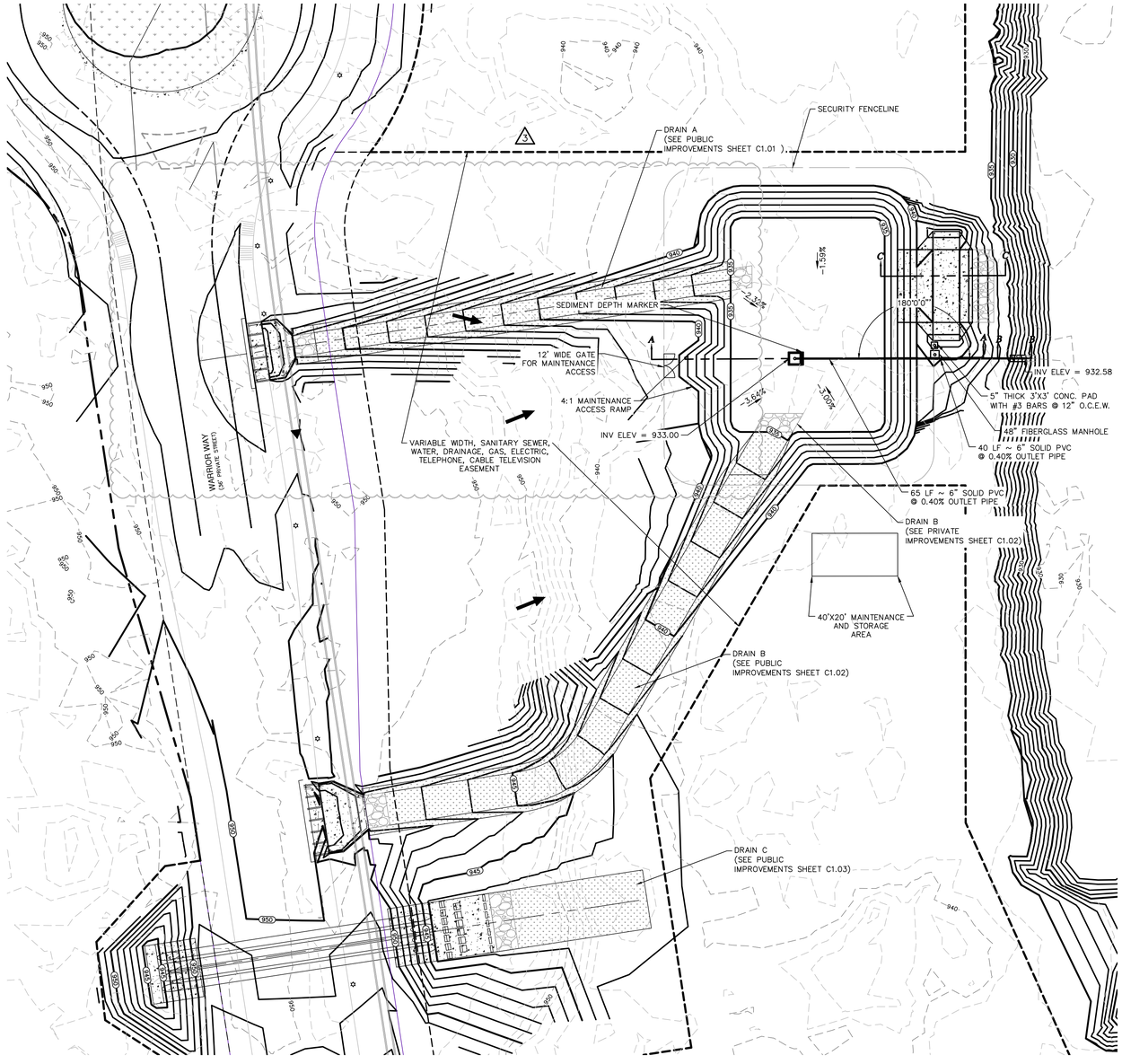


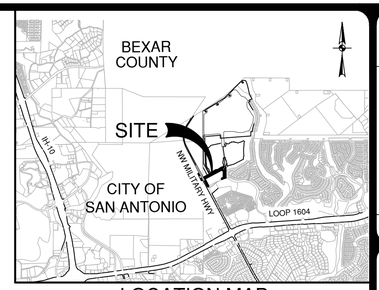
BASIN DESIGN DATA

BASIN WATERSHED AREA	=	10.94 AC
RUN OFF DEPTH	=	4.00 INCH
REQUIRED CAPTURE VOLUME	=	48,212 CF
REQUIRED SAND AREA	=	N/A
BASIN STORM WATER DEPTH	=	5.0 FT
BASIN CAPTURE VOLUME	=	59,052 CF
BASIN SAND AREA	=	N/A

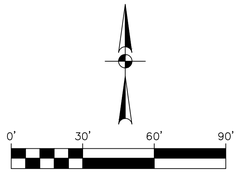
BASIN DRAWDOWN IS CONTROLLED BY THE 6" DISCHARGE PIPE SLOPED AT 0.4%
BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 31 HOURS.

OVERFLOW WEIR CALCULATIONS

Q_{25}	=	$(Cw)(L)(h)^{3/2}$
Q_{25}	=	96.4 cfs
C	=	3.087
L	=	34 ft
79.3	=	$(3.087)(34)(h)^{3/2}$
h	=	0.83 ft

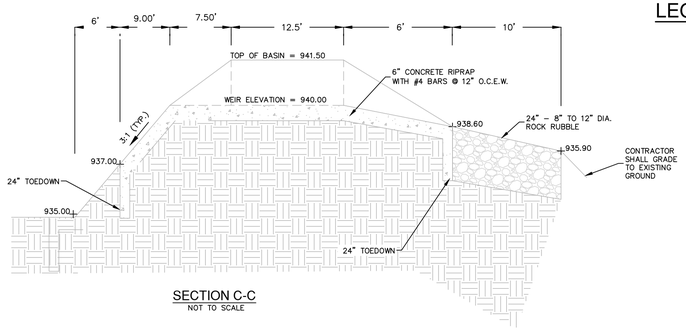


LOCATION MAP
NOT-TO-SCALE

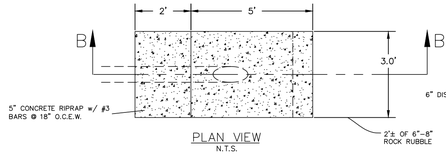


LEGEND

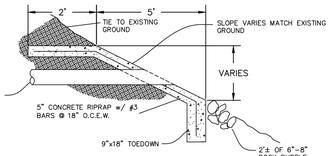
- 60.00 — PROPOSED SPOT ELEVATION
- 60.00TW — PROPOSED "TOP OF WALL" SPOT ELEVATION
- 1050 — EXISTING CONTOUR
- (1050) — PROPOSED CONTOUR
- FLOW ARROW (PROPOSED)



SECTION C-C
NOT TO SCALE

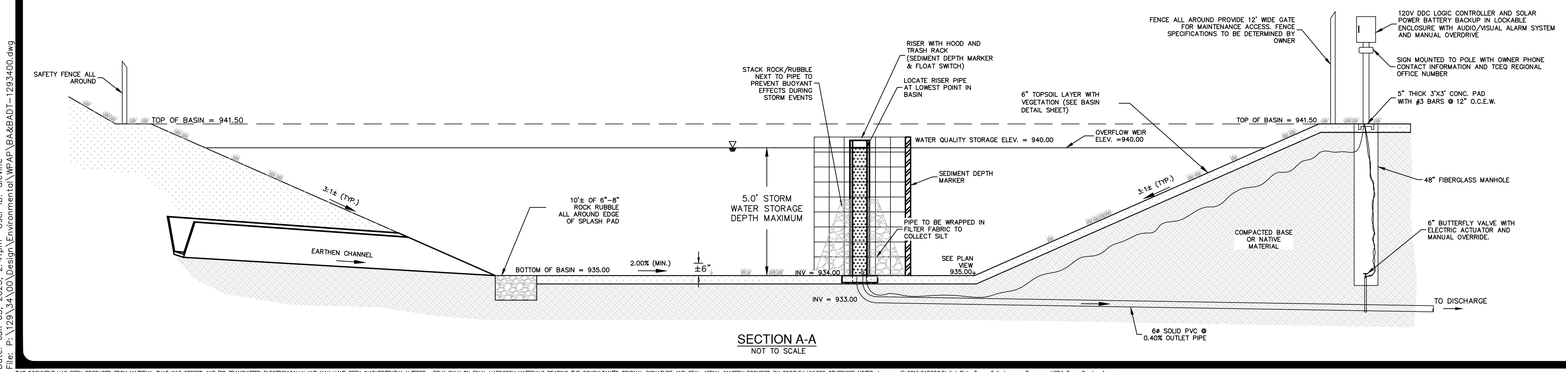


PLAN VIEW
N.T.S.



SECTION "B-B"
N.T.S.

SECTION B-B
NOT TO SCALE



SECTION A-A
NOT TO SCALE

SEQUENCE OF OPERATION

1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #1.
2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 6" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER BASIN.
4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #2.
5. DETENTION TIMER #2 TO BE MANUALLY SET TO 31 HOURS AND TO BE USER ADJUSTABLE.
6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 6" BUTTERFLY VALVE IS TO CLOSE.
7. VALVE TO BE ACTUATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.

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

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

EXHIBIT 4

NO.	REVISION	DATE
1	REVISED LABELS	6/4/2024
2	REVISED SPILLWAY STRUCTURE	2/10/2025
3	REVISED BASIN GRADING	5/22/2025

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

STATE OF TEXAS
CALEB M. CHANCE
98401
LICENSED
PROFESSIONAL ENGINEER
5/20/25

440 QUARRY IMPROVEMENTS

SAN ANTONIO, TEXAS

WATER POLLUTION ABATEMENT PLAN APPLICATION
WATER QUALITY BASIN

PLAT NO. 25-11800155
JOB NO. 12934-00
DATE MAY 2025
DESIGNER DL
CHECKED AS DRAWN DD
SHEET 1 OF 2

Date: Jun 05, 2025, 2:41pm User ID: dlevine
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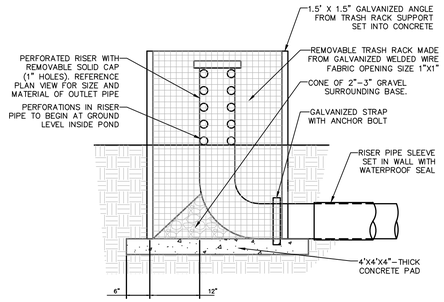


TRASH RACK/RISER PIPE DETAIL

N.T.S.

NOTES

1. CONTRACTOR SHALL ENGAGE A TEXAS LICENSED STRUCTURAL ENGINEER TO PROVIDE A SIGNED AND SEALED SET OF STRUCTURAL PLANS, DETAILS AND SPECIFICATION FOR THE STRUCTURAL COMPONENTS OF THE POLLUTION ABATEMENT BASIN INCLUDING INLET DISCHARGE AND BYPASS COMPONENTS. CONTRACTOR SHALL ALSO PROVIDE FOR STRUCTURAL ENGINEER'S INSPECTION DURING BASIN CONSTRUCTION AND STRUCTURAL ENGINEER'S CONSTRUCTION CERTIFICATION UPON COMPLETION OF 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 CONSTRUCTION TO BE DESIGNED BY STRUCTURAL ENGINEER AT A LATER DATE.

6. BASIN DRAWDOWN IS CONTROLLED BY THE 4" PVC PIPE. BASIN DRAWDOWN WILL OCCUR IN APPROXIMATELY 31 HOURS.

7. CONTRACTOR TO SET THE VALVE POSITION TO FULLY OPEN.

NOTES TO CONTRACTOR

FOR EACH PHASE OF BATCH DETENTION BASIN CONSTRUCTION

1. CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR PRIOR APPROVAL.

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

a.) REINFORCING STEEL FOR BASIN OVERFLOW WALL OR RIP–RAP LINER HAS BEEN SET, CONCRETE HAS NOT BEEN PLACED AND DRAIN AND RISER PIPE IS IN PLACE. CONTRACTOR SHALL PROVIDE ENGINEER WITH SURVEY DATA WHICH DEMONSTRATES THE RISER PIPE HAS BEEN SET AT PROPER ELEVATION AND GRADE.

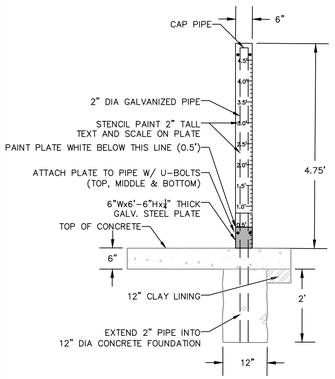
b.) BASIN HAS BEEN COMPLETELY FINISHED INCLUDING SOD OR SEED PLACEMENT ON SIDE SLOPES (WHERE APPLICABLE).

3. WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION AT EACH STAGE. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE.

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

– TOP OF BANK/WALL AT EACH CORNER OF BASIN
– TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE)
– SPLASH PAD/INLET PIPES
– OVERFLOW WEIR

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.



SEDIMENT DEPTH MARKER

NOT TO SCALE

NOTE: ONCE SEDIMENT IS ABOVE THE 6" DESIGNATION, THE BASIN MUST BE CLEANED OUT TO DESIGN ELEVATIONS AND VOLUMES PER PLAN.

FILTER FABRIC SPECIFICATIONS

THE SEPARATION LAYER BETWEEN THE SAND FILTER AND GRAVEL LAYERS SHALL BE A DRAINAGE MATTING CONSISTING OF NON–WOVEN FILTER FABRIC MEETING THE FOLLOWING SPECIFICATIONS:

PROPERTY	TEST METHOD	SPECIFICATION
WEIGHT (OZ/SY)	ASTM D 5261	≥ 4.0
GRAB STRENGTH (LBS.)	ASTM D 4632	≥ 90
ELONGATIONS (%)	ASTM D 4632	≤ 55
TRAPEZOID TEAR (LBS)	ASTM D 4533	≥ 50
CBR PUNCTURE STRENGTH (LBS)	ASTM D 6241	≥ 300
UV RESISTANCE AFTER 500 HRS. (%)	ASTM D 4355	≥ 70
AOS (SIEVE #)	ASTM D 4751	70–80
FLOW RATE (GPM/SF)	ASTM D 4491	≥ 125

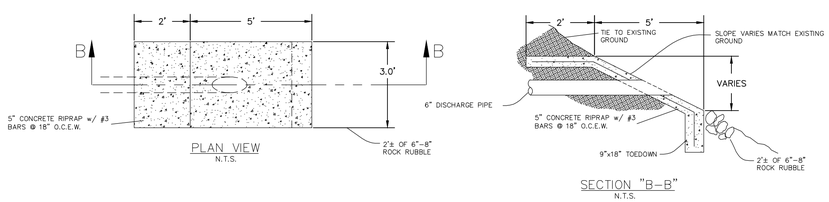
FABRIC OVERLAP SHALL BE A MINIMUM OF 24".
ALL OVERLAPS SHALL BE WIRE TIED AT A MAXIMUM OF 36" INTERVALS

NOTES:

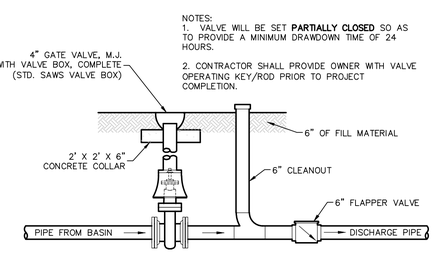
1. CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION IN BASINS PER BASIN DETAIL SHEET PRIOR TO SITE CLOSEOUT.

2. UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S (FILTERSTRIPS AND BASINS) MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.

3. ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASINS SHALL BE REVEGATATED PRIOR TO COMPLETION.

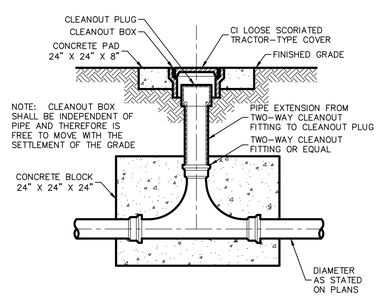


DISCHARGE HEADWALL DETAIL



6" GATE & FLAPPER VALVE DETAIL

NOT–TO–SCALE



CLEANOUT DETAIL

NOT–TO–SCALE

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

NO. | REVISION | DATE

STATE OF TEXAS
CALEB M. CHANCE
98401
LICENSED PROFESSIONAL ENGINEER
5/20/25

440 QUARRY IMPROVEMENTS

SAN ANTONIO, TEXAS

WATER POLLUTION ABATEMENT PLAN APPLICATION
WATER QUALITY DETAILS AND NOTES

PLAT NO. 25-11800155
JOB NO. 12934–00
DATE MARCH 2024
DESIGNER DL
CHECKED AS DRAWN DD
SHEET 2 OF 2

Date: Mar 19, 2024, 2:24pm User ID: dlevine
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