

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 24, 2017

RECEIVED

JAN 31 2017

Mr. James Johnson
Living Rock Academy
2500 Bulverde Road
Bulverde, Texas 78163

COUNTY ENGINEER

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: **Living Rock Academy**; Located at 2500 Bulverde Road; Bulverde, Texas

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

Regulated Entity No. RN108932682; Additional ID No. 13000308

Dear Mr. Johnson:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP modification for the above-referenced project submitted to the San Antonio Regional Office by Pape-Dawson Engineers, Inc. on behalf of Living Rock Academy on December 13, 2016. 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

The original WPAP was approved by letter dated March 23, 2016 and had a site area of 24.92 acres for a phased commercial project. The first phase of regulated activity had already been completed, prior to receiving TCEQ approval, and it included an existing portable building with classrooms, a circular driveway, a parking area, clearing, grading, and drainage improvements. In addition to seeking approval of the already constructed improvements, a septic treatment system was proposed with the WPAP. The impervious cover on-site would be 1.35 acres (5.44 percent) as a result of the project. One 50 foot natural vegetative filter strip was approved to treat stormwater.

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 24.92 acres. It will include two additional buildings with associated sidewalks and parking areas. The new total impervious cover on-site will be 3.66-acres (14.69 percent) as a result of this project. According to a letter dated, February 17, 2016, signed by Mr. Robert Boyd, P.E., with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, three 50 foot natural vegetative filter strips, one existing and two proposed, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be utilized to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 3,285 pounds of TSS generated from the 3.66 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project. Table I below summarizes the individual treatment measures for the project.

The three natural vegetative filter strips are designed to treat the required 3,285 pounds of TSS generated by the project, will be at least 50 feet wide (in the direction of flow), will extend along the entire length of the contributing area, have a uniform slope of less than 10 percent, and will be located above the elevation of the 2 year, 3 hour storm of any adjacent drainage.

GEOLOGY

The northern portion of the site is located within the Edwards Aquifer Contributing Zone and drains into the southern portion which is located over the Edwards Aquifer Recharge Zone. According to the geologic assessment included with the application, the site is underlain by the upper member of the Glen Rose Limestone. Two, non-sensitive, non-karst closed depressions were identified in the report by the project geologist. The San Antonio Regional Office site assessment conducted on January 20, 2016 revealed the site was generally as described in the geologic assessment.

SPECIAL CONDITIONS

- I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated March 23, 2016.
- II. All permanent pollution abatement measures shall be operational prior to occupancy of the new facilities.

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

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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.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank, it must be approved by the TCEQ.

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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. No 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

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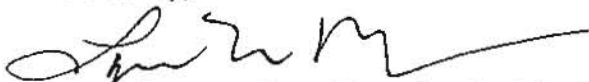
Mr. James Johnson
Page 5
January 24, 2017

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 Mr. Joshua Vacek of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4028.

Sincerely,



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

LB/JV/eg

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

cc: Mr. Dennis Rion, P.E., Pape-Dawson Engineers, Inc.
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. Thomas H. Hornseth, P.E., Comal County Engineer
Mr. H. L. Sauer, Comal Trinity Groundwater Conservation District
The Honorable Bill Krawietz, City of Bulverde
TCEQ Central Records, Building F, MC 212

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 13, 2016

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DEC 20 2016

Mr. Thomas H. Hornseth, P.E.
Comal County Engineer
195 David Jonas Drive
New Braunfels TX 78132-3710

COUNTY ENGINEER

Re: Edwards Aquifer, Comal County

PROJECT NAME: **Living Rock Academy**, located at 2500 Bulverde Rd, Bulverde, TX 78163, Texas

PLAN TYPE: Application for Approval of a **Water Pollution Abatement Plan (WPAP)** 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program

Dear Mr. Hornseth:

The referenced application is being forwarded to you pursuant to the Edwards Aquifer Rules. The Texas Commission on Environmental Quality (TCEQ) is required by 30 TAC Chapter 213 to provide copies of all applications to affected incorporated cities and underground water conservation districts for their comments prior to TCEQ approval. More information regarding this project may be obtained from the TCEQ Central Registry website at http://www.tceq.state.tx.us/permitting/central_registry/.

Please forward your comments to this office by January 13, 2017.

The Texas Commission on Environmental Quality appreciates your assistance in this matter and your compliance efforts to ensure protection of the State's environment. If you or members of your staff have any questions regarding these matters, please feel free to contact the San Antonio Region Office at (210) 490-3096.

Sincerely

A handwritten signature in blue ink, appearing to read "Todd Jones".

Todd Jones, Water Section Work Leader
San Antonio Regional Office

TJ/eg

LIVING ROCK ACADEMY

Water Pollution Abatement Plan Modification

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TCEQ-R13 (EAPP)

DEC 13 2016

SAN ANTONIO

December 2016

LIVING ROCK ACADEMY

Water Pollution Abatement Plan Modification

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DEC 20 2016

COUNTY ENGINEER

December 2016

TBPE, Firm Registration # 470 | TBPLS, Firm Registration # 10028800





December 13, 2015

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

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Re: Living Rock Academy
Water Pollution Abatement Plan Modification

COUNTY ENGINEER

Dear Mr. Anderson:

Please find attached one (1) original and five (5) copies of the Living Rock Academy Water Pollution Abatement Plan Modification (WPAP MOD). This WPAP MOD 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 applies to an approximate 24.92-acre site as identified by the project limits. Please review the plan information for the items it is intended to address. If acceptable, please provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees (\$6,500) and fee application are included. If you have questions or require additional information, please call our office.

Sincerely,
Pape-Dawson Engineers, Inc.

Dennis R. Rion, P.E.
Executive Vice President



Attachments

P:\89\23\01\WPAP MOD\WPAP Cover Letter.docx

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**EDWARDS AQUIFER
APPLICATION COVER
PAGE (TCEQ-20705)**

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Texas Commission on Environmental Quality

COUNTY ENGINEER

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 if not withdrawn the application will be denied and 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 to you:

- You can withdraw your application, and your fees will be refunded or credited for a resubmittal.
- 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 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 effected 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: Living Rock Academy					2. Regulated Entity No.: 108932682 RECEIVED				
3. Customer Name: Living Rock Academy					4. Customer No.: 605049683 DEC 20 2016				
5. Project Type: (Please circle/check one)	New	Modification			Extension	Exception	COUNTY ENGINEER		
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):		24.92	
9. Application Fee:	\$6,500		10. Permanent BMP(s):						
11. SCS (Linear Ft.):			12. AST/UST (No. Tanks):						
13. County:	Comal		14. Watershed:			Cibolo 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)	<input type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Barton Springs/ Edwards Aquifer <input type="checkbox"/> Hays Trinity <input type="checkbox"/> Plum Creek	<input type="checkbox"/> Barton Springs/ Edwards Aquifer	NA RECEIVED DEC 20 2016 COUNTY ENGINEER
City(ies) Jurisdiction	<input type="checkbox"/> Austin <input type="checkbox"/> Buda <input type="checkbox"/> Dripping Springs <input type="checkbox"/> Kyle <input type="checkbox"/> Mountain City <input type="checkbox"/> San Marcos <input type="checkbox"/> Wimberley <input type="checkbox"/> Woodcreek	<input type="checkbox"/> Austin <input type="checkbox"/> Bee Cave <input type="checkbox"/> Pflugerville <input type="checkbox"/> Rollingwood <input type="checkbox"/> Round Rock <input type="checkbox"/> Sunset Valley <input type="checkbox"/> West Lake Hills	<input type="checkbox"/> Austin <input type="checkbox"/> Cedar Park <input type="checkbox"/> Florence <input type="checkbox"/> Georgetown <input type="checkbox"/> Jerrell <input type="checkbox"/> Leander <input type="checkbox"/> Liberty Hill <input type="checkbox"/> Pflugerville <input type="checkbox"/> Round Rock

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

Dennis Rion, P.E.

Print Name of Customer/Authorized Agent

Signature of Customer/Authorized Agent

Date

12-12-16

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):

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COUNTY ENGINEER

**MODIFICATION OF A
PREVIOUSLY APPROVED
PLAN (TCEQ-0590)**

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Dennis Rion, P.E.

Date: 12/13/16

Signature of Customer/Agent:



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Project Information

COUNTY ENGINEER

1. Current Regulated Entity Name: Living Rock Academy
Original Regulated Entity Name: Living Rock Academy
Regulated Entity Number(s) (RN): 108932682
Edwards Aquifer Protection Program ID Number(s): 13000054
☒ The applicant has not changed and the Customer Number (CN) is: 605049683
☐ 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.

<i>WPAP Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Acres	<u>See Attached</u>	_____
Type of Development	_____	_____
Number of Residential	_____	_____
Lots		
Impervious Cover (acres)	_____	_____
Impervious Cover (%)	_____	_____
Permanent BMPs	_____	_____
Other	_____	_____

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<i>SCS Modification</i>	<i>Approved Project</i>	<i>Proposed Modification</i>
<i>Summary</i>		
Linear Feet	_____	_____
Pipe Diameter	_____	_____
Other	_____	_____

AST Modification**Approved Project****Proposed Modification****Summary**

Number of ASTs

Volume of ASTs

Other

UST Modification**Approved Project****Proposed Modification****Summary**

Number of USTs

Volume of USTs

Other

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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

LIVING ROCK ACADEMY
Modification of a Previously Approved Plan (TCEQ-0590)

Attachment A – WPAP Modification Summary

CZP Modification Summary	Approved Project <i>(March 2016)</i>	Proposed Modification <i>(November 2016)</i>
Acres	<i>24.92</i>	<i>24.92</i>
Type of Development	<i>Commercial - school</i>	<i>Commercial - School</i>
Number of Residential Lots	<i>0</i>	<i>0</i>
Impervious Cover (acres)	<i>1.35</i>	<i>3.66</i>
Impervious Cover (%)	<i>5.44%</i>	<i>14.7%</i>
Permanent BMPs	<i>One (1) natural vegetative filter strip</i>	<i>One (1) existing and one (1) proposed natural vegetative filter strip</i>
Other		

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Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 23, 2016

Mr. James Johnson
Living Rock Academy
2500 Bulverde Road
Bulverde, Texas 78163

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Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Living Rock Academy; Located at 2500 Bulverde Road; Bulverde, Texas

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

Regulated Entity No. RN108932682; Additional ID No. 13000054

Dear Mr. Johnson:

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 Engineers, Inc. on behalf of Living Rock Academy on January 4, 2016. Final review of the WPAP was completed after additional material was received on March 4, 2016. 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

This project is being submitted to bring the existing site into compliance with 30 TAC Chapter 213 regarding regulated activity over the Edwards Aquifer Recharge Zone. The site currently has one (1) commercial portable building with classrooms, a circular driveway, and associated parking. Wastewater is being disposed of through portable restroom facilities. These site improvements were constructed and installed prior to receiving TCEQ approval.

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PROJECT DESCRIPTION

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The proposed, phased, commercial project has an area of approximately 24.92 acres. The first phase of regulated activity has already been completed and includes an existing portable building with classrooms, a circular driveway, a parking area, clearing, grading, and drainage improvements. A septic treatment system is also being proposed with this project. The impervious cover is 1.35 acres (5.44 percent). According to a letter dated February 17, 2016, signed by Mr. Robert Boyd, P.E., with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one natural vegetative filter strip (VFS), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 1,212 pounds of TSS generated from the 1.35 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The natural VFS will be at least 50 feet wide (in the direction of flow) and will extend along the entire length of the contributing area. The entire VFS will have a uniform slope of less than 10 percent and will be located above the elevation of the 2 year, 3 hour storm of any adjacent drainage.

GEOLOGY

The northern portion of the site is located within the Edwards Aquifer Contributing Zone and drains into the southern portion which is located over the Edwards Aquifer Recharge Zone. According to the geologic assessment included with the application, the site is underlain by the upper member of the Glen Rose Limestone. Two, non-sensitive, non-karst closed depressions were identified in the report by the project geologist. The San Antonio Regional Office site assessment conducted on January 21, 2016 revealed the site was generally as described in the geologic assessment.

SPECIAL CONDITIONS

- I. The permanent pollution abatement measure shall be established and made operational immediately upon approval.
- II. During the site assessment of the project area, non-compliance was observed. The applicant is hereby advised that the after-the-fact approval of the feature protection plan as provided by this letter shall not absolve the application of any violations of Commission rules related to this project.

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, and 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.

During Construction:

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

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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. No 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.

Mr. James Johnson
Page 5
March 23, 2016

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 Mr. Alex Grant of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4035

Sincerely,



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

LB/AG/eg

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

cc: Mr. Dennis Rion, P.E., Pape-Dawson Engineers, Inc.
The Honorable Bill Krawietz, City of Bulverde
Mr. Tom Hornseth, P.E., Comal County
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

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ATTACHMENT B

LIVING ROCK ACADEMY
Modification of a Previously Approved Plan (TCEQ-0590)

Attachment B –Modification Summary

Living Rock Academy Water Pollution Abatement Plan (WPAP) is a primary and secondary school building with associated parking and circular drive on approximately 24.92 acres within the City of Bulverde, in Comal County, Texas. The site is located approximately 0.8 miles from the intersection of Bulverde Rd. and US-281, at 2500 Bulverde Road. The site is bound by the Bulverde Airpark to the west, undeveloped property to the east, and Bulverde Road to the north. The southern side of the site is partially cleared /undeveloped and lies within the Cibola Creek watershed. The site does contain the 100-year floodplain to the south of the school building. There were no sensitive geological features identified in the Geologic Assessment. On March 23, 2016, TCEQ approved 1.35 acres of impervious cover, or 5.44% of the 24.92-acre project limits.

The northern edge of the site lies in the Contributing Zone and the remainder of the site is in the Edwards Aquifer Recharge Zone. Development of the site will be phased and subsequent MODS for additional facilities will be submitted in the future to allow for growth for increased student attendance. These future MODS will include proposed permanent BMPs as needed to provide treatment of impervious cover proposed with each subsequent phase. The first phase of regulated activity has already been completed and includes a circular drive with associated parking and a portable building with classrooms. It is anticipated that the daily population of the school will be 100 students and 75 faculty. The first approved phase of construction has been completed which includes the county approval from the OSSF.

This WPAP proposes approval of clearing, grading, drainage improvements, and installation of two (2) additional natural fifty-foot (50') Vegetative Filter Strips. The proposed disturbed area for this phase is approximately 7 acres of the 24.92 acres. Approximately 2.31 acres of additional impervious cover for additional buildings, sidewalk, and parking are proposed. After completion of the construction there will be 3.66 acres of impervious cover, or 14.7% of the 24.92-acre project limits. We are proposing the stormwater runoff from the 3.66 acres of impervious cover from the building, parking, and driveways to be treated by one (1) existing and two (2) proposed natural fifty-foot (50') Vegetative Filter Strips. All PBMPs have been designed in accordance with the Texas Commission on Environmental Quality's (TCEQ) Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.

*Potable water service is provided by Canyon Lake Water Service Company (CLWSC). The proposed development will generate approximately 2,100 gallons per day (average flow) of domestic wastewater based on the assumption of 12 gpd per student/staff (12gpd/person * 175 persons = 2,100 gpd). Wastewater will be disposed of by conveyance to a proposed aerobic septic treatment system. Please see attached septic proposal for additional reference.*

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ATTACHMENT C

Date: Nov 21, 2016, 11:50am User ID: ROLIVAREZ
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**PAPE-DAWSON
ENGINEERS**

2000 NW LOOP 410 | SAN ANTONIO, TEXAS 78213 | PHONE: 210.373.0000
FAX: 210.373.0010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

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TY ENGINEER

LIVING ROCK ACADEMY
SAN ANTONIO, TEXAS
EXISTING CONDITIONS EXHIBIT

JOB NO. 8293-00
DATE NOV 2016
DESIGNER JP
CHECKED JD
DRAWN RO

SHEET 1 of 1

ATTACHMENT C

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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.

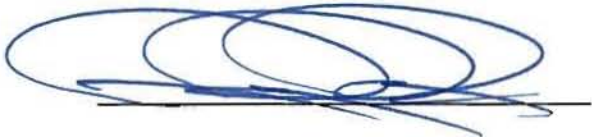
Signature

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: Dennis Rion, P.E.

Date: 12/13/16

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Living Rock Academy
2. County: Comal
3. Stream Basin: Cibolo Creek
4. Groundwater Conservation District (If applicable): Comal Trinity
5. Edwards Aquifer Zone:

- ☒ Recharge Zone
☐ Transition Zone

6. Plan Type:

- ☒ WPAP
☐ SCS
☒ Modification

- ☐ AST
☐ UST
☐ Exception Request

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7. Customer (Applicant):

Contact Person: James Johnson

Entity: Living Rock Academy

Mailing Address: 2500 Bulverde Road

City, State: Bulverde, Texas

Zip: 78163

Telephone: (830) 387-2929

FAX: (210) 787-4091

Email Address: jjohnson@livingrockacademy.com

8. Agent/Representative (If any):

Contact Person: Dennis Rion, P.E.

Entity: Pape-Dawson Engineers, Inc.

Mailing Address: 2000 NW Loop 410

City, State: San Antonio, Texas

Zip: 78213

Telephone: (210) 375-9000

FAX: (210) 375-9010

Email Address: drion@pape-dawson.com

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9. Project Location:

- ☒ The project site is located inside the city limits of Bulverde.
- ☐ 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 travel north on Judson Rd., approximately 2.5 miles to Loop 1604. Turn left on Loop 1604 and proceed west approximately 5 miles to exit onto US 281 North. Stay on US 281 North for 9.3 miles to exit toward FM 1863/Bulverde. Turn left onto FM 1863 W/Bulverde Rd. and the site is 0.8 miles on the left.

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: November 2016

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: _____

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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.

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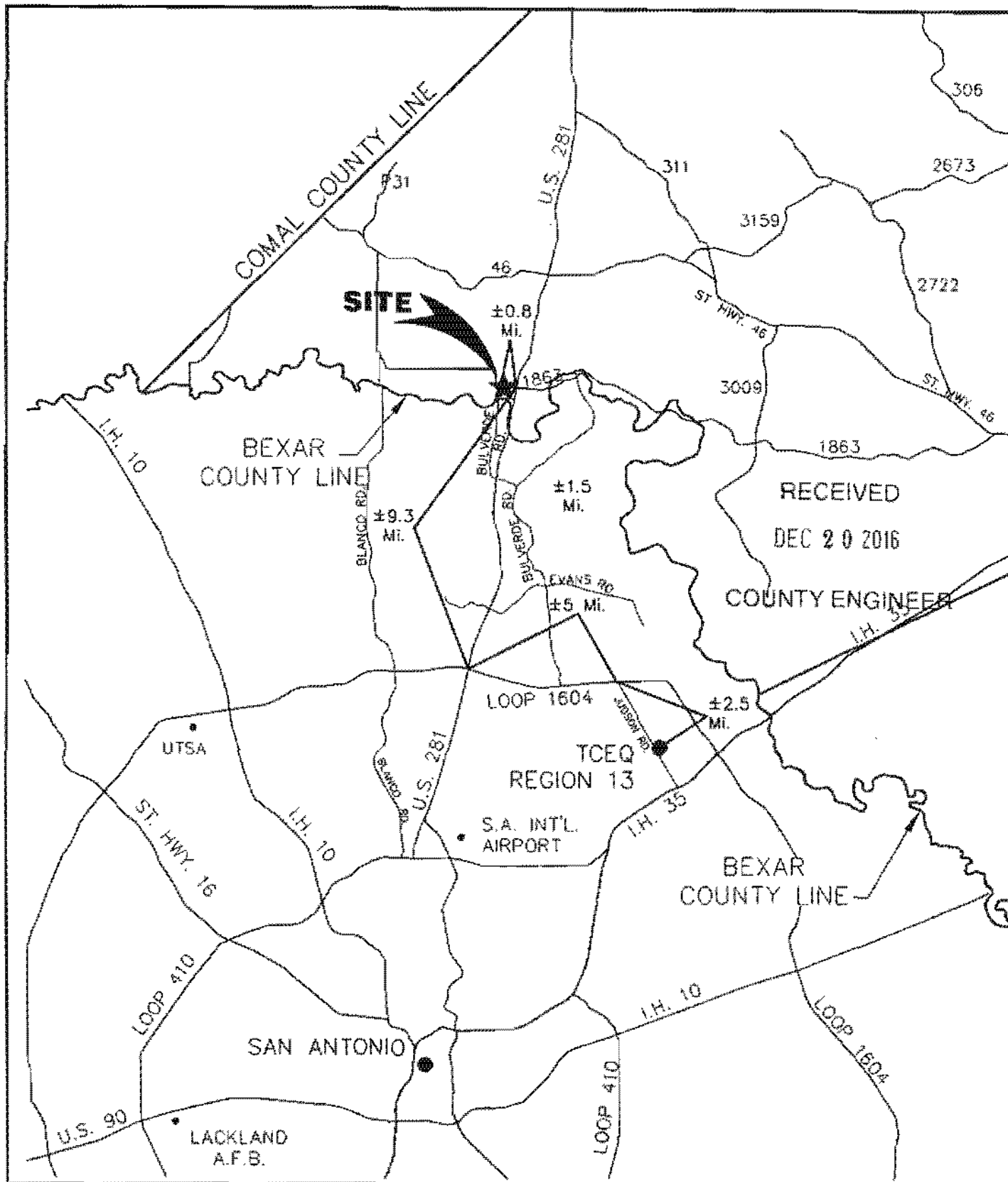
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ATTACHMENT A

LIVING ROCK ACADEMY Water Pollution Abatement Plan



Pape-Dawson Engineers, Inc.

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**ATTACHMENT A
Road Map**

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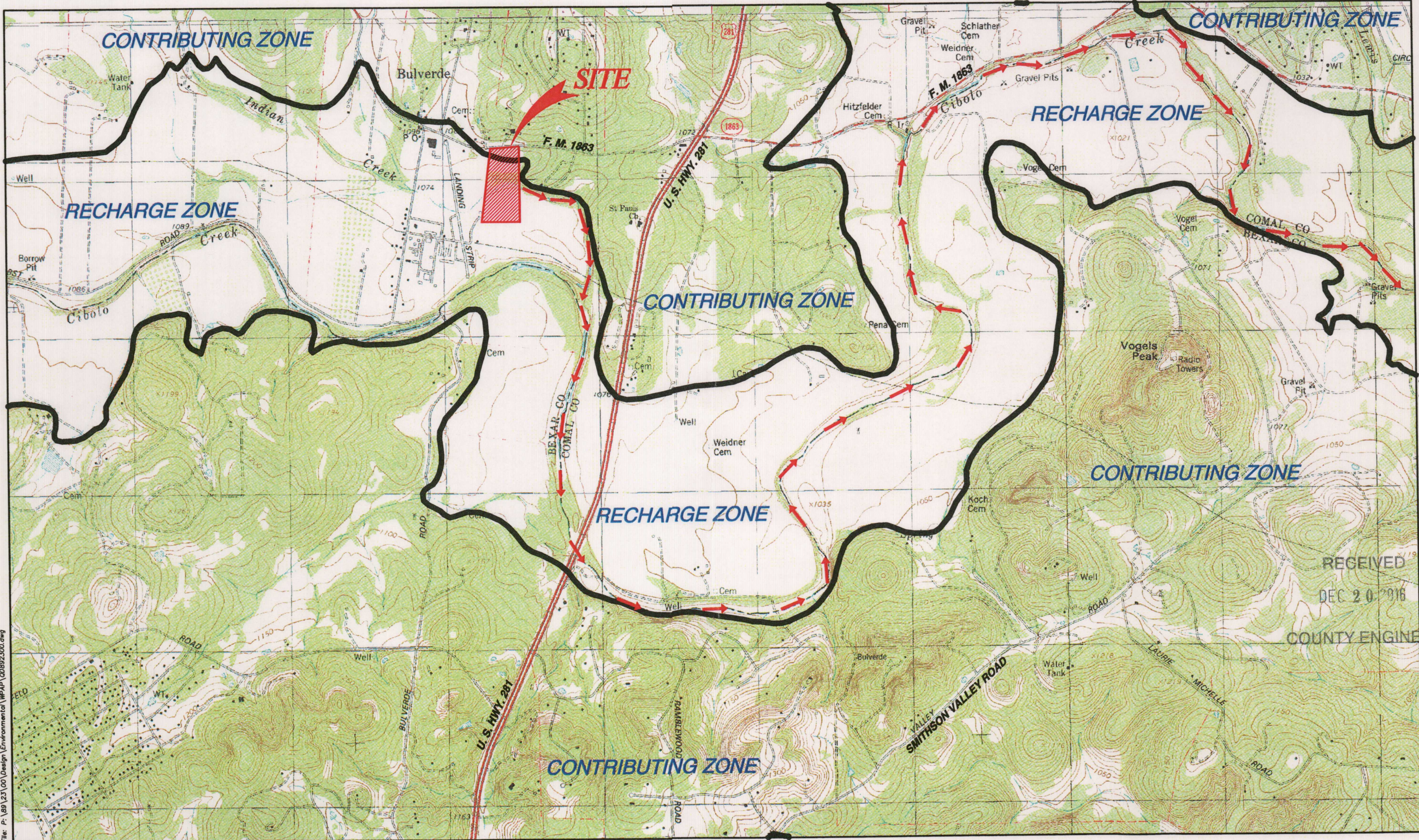
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ATTACHMENT B

LIVING ROCK ACADEMY
Water Pollution Abatement Plan



SCALE: 1" = 2000'



MATCHLINE See Sheet 2 of 4


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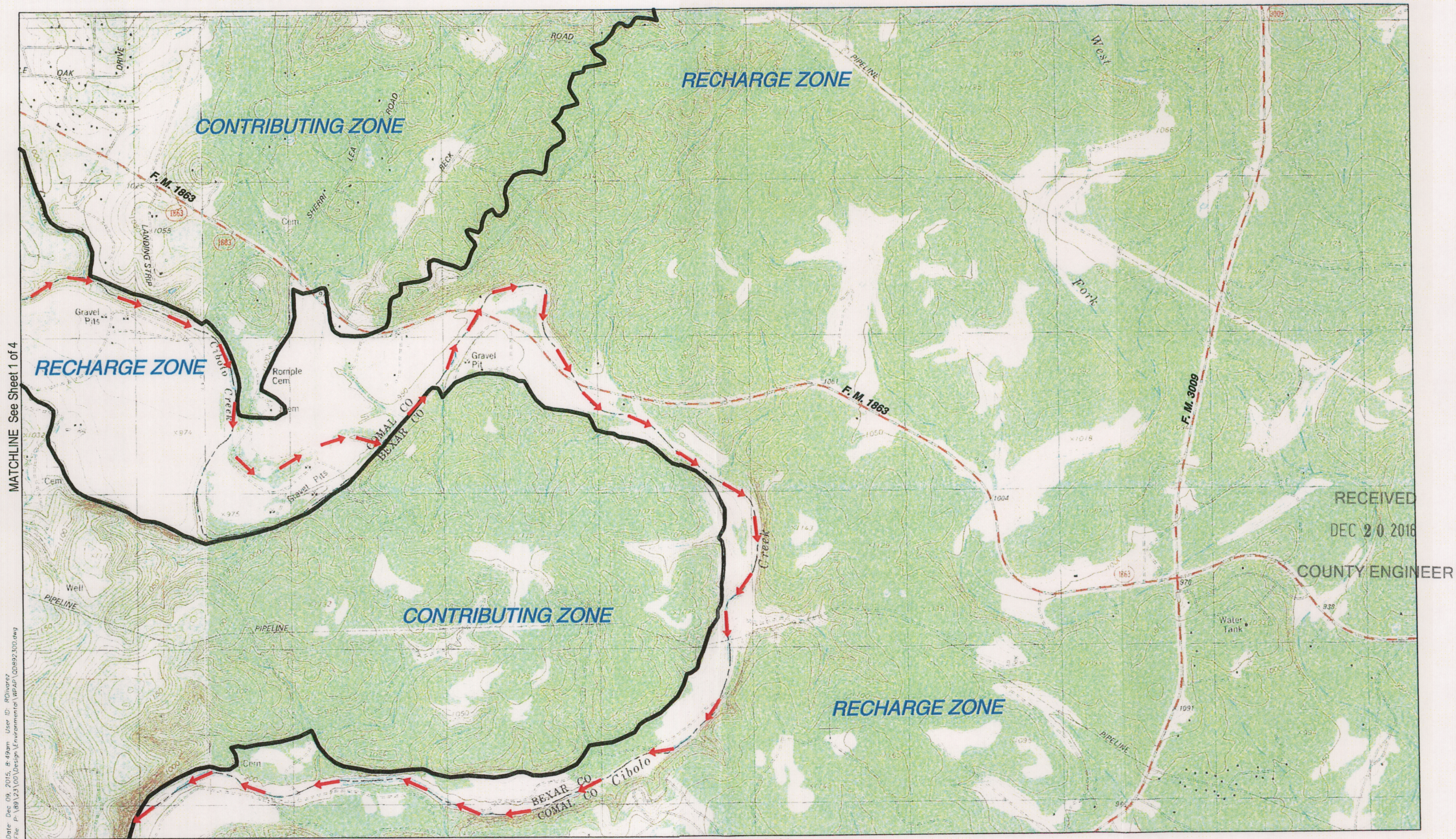
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BATCAVE, TX QUAD; BULVERDE TX QUAD;
 LONGHORN, TX QUAD; SCHERTZ, TX QUAD;
 DRAINAGE FLOW → → →
Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP
 Sheet 1 Of 4
 ATTACHMENT B

LIVING ROCK ACADEMY
Water Pollution Abatement Plan


SCALE: 1" = 2000'



MATCHLINE See Sheet 1 of 4

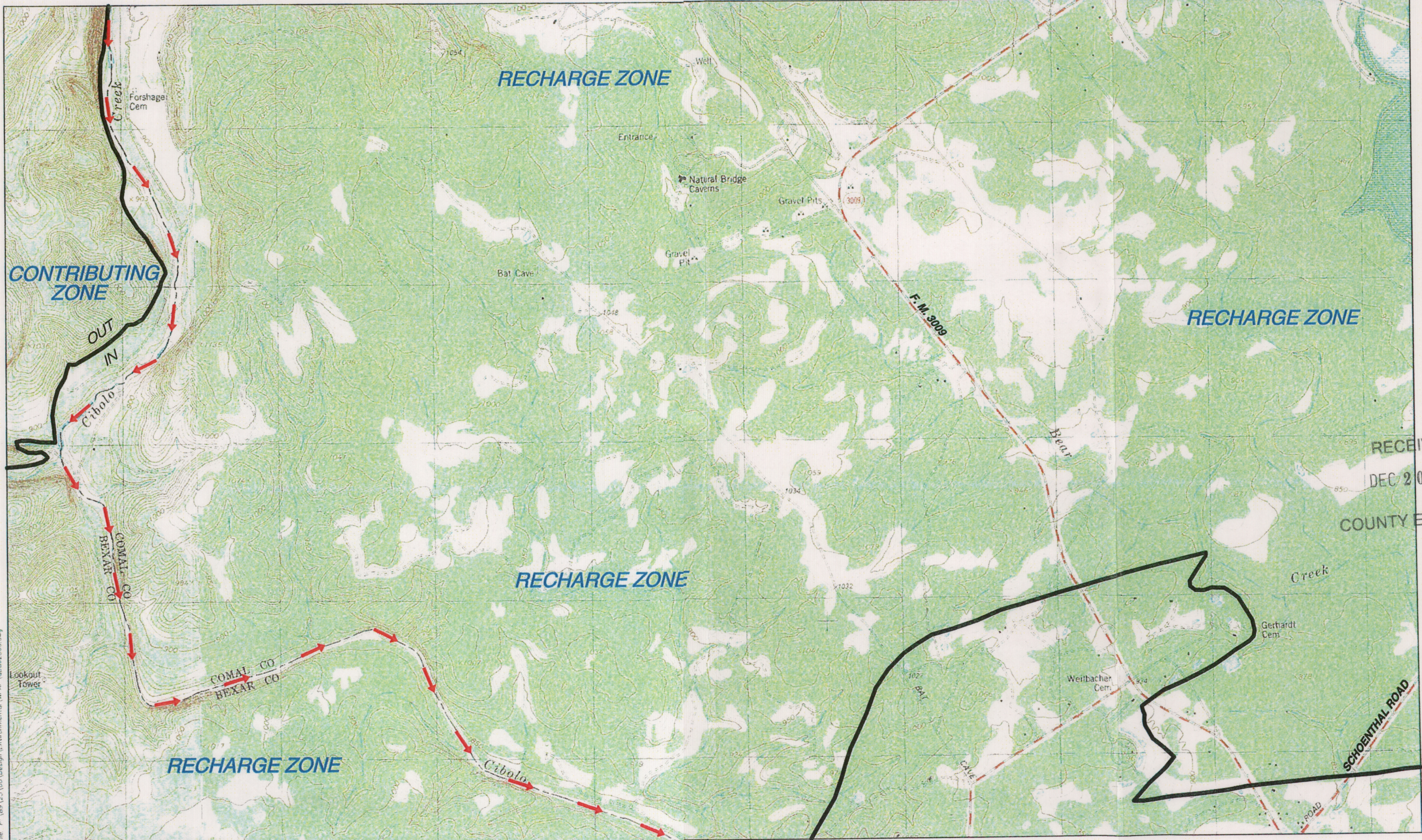
MATCHLINE See Sheet 3 of 4

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LIVING ROCK ACADEMY
Water Pollution Abatement Plan

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SCALE: 1" = 2000'

MATCHLINE See Sheet 2 of 4



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ANHALT, TX QUAD; BATCAVE, TX QUAD; BULVERDE TX QUAD;
LONGHORN, TX QUAD; SCHERTZ, TX QUAD; SMITHSON VALLEY, TX QUAD

DRAINAGE FLOW → →
Pape-Dawson Engineers, Inc.

MATCHLINE See Sheet 4 of 4

USGS/EDWARDS RECHARGE ZONE MAP
Sheet 3 Of 4
ATTACHMENT B

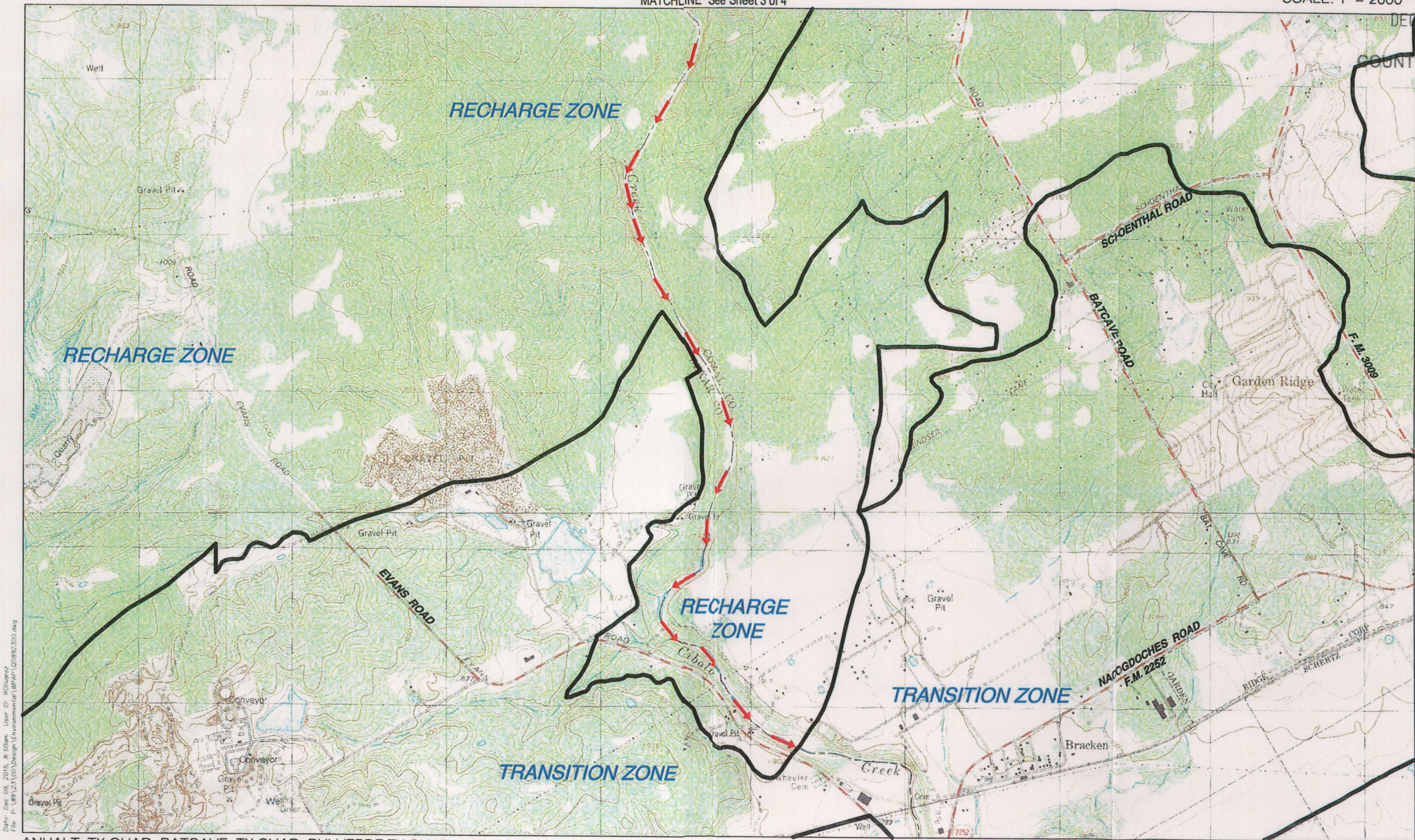
LIVING ROCK ACADEMY
Water Pollution Abatement Plan

MATCHLINE See Sheet 3 of 4

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ANHALT, TX QUAD; BATCAVE, TX QUAD; BULVERDE TX QUAD;
LONGHORN, TX QUAD; SCHERTZ, TX QUAD; SMITHSON VALLEY, TX QUAD

DRAINAGE FLOW → → →

Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP
Sheet 4 Of 4
ATTACHMENT B

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Attachment C – Project Narrative

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Living Rock Academy Water Pollution Abatement Plan (WPAP) is a primary and secondary school building with associated parking and circular drive on approximately 24.92 acres within the City of Bulverde, in Comal County, Texas. The site is located approximately 0.8 miles from the intersection of Bulverde Rd. and US-281, at 2500 Bulverde Road. The site is bound by the Bulverde Airpark to the west, undeveloped property to the east, and Bulverde Road to the north. The southern side of the site is partially cleared /undeveloped and lies within the Cibolo Creek watershed. The site does contain the 100-year floodplain to the south of the school building. There were no sensitive geological features identified in the Geologic Assessment. On March 23, 2016, TCEQ approved 1.35 acres of impervious cover, or 5.44% of the 24.92-acre project limits.

The northern edge of the site lies in the Contributing Zone and the remainder of the site is in the Edwards Aquifer Recharge Zone. Development of the site will be phased and subsequent MODS for additional facilities will be submitted in the future to allow for growth for increased student attendance. These future MODS will include proposed permanent BMPs as needed to provide treatment of impervious cover proposed with each subsequent phase. The first phase of regulated activity has already been completed and includes a circular drive with associated parking and a portable building with classrooms. It is anticipated that the daily population of the school will be 100 students and 75 faculty. The first approved phase of construction has been completed which includes the county approval from the OSSF.

This WPAP proposes approval of clearing, grading, drainage improvements, and installation of two (2) additional natural fifty-foot (50') Vegetative Filter Strips. The proposed disturbed area for this phase is approximately 7 acres of the 24.92 acres. Approximately 2.31 acres of additional impervious cover for additional buildings, sidewalk, and parking are proposed. After completion of the construction there will be 3.66 acres of impervious cover, or 14.7% of the 24.92-acre project limits. We are proposing the stormwater runoff from the 3.66 acres of impervious cover from the building, parking, and driveways to be treated by one (1) existing and two (2) proposed natural fifty-foot (50') Vegetative Filter Strips. All PBMPs have been designed in accordance with the Texas Commission on Environmental Quality's (TCEQ) Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.

*Potable water service is provided by Canyon Lake Water Service Company (CLWSC). The proposed development will generate approximately 2,100 gallons per day (average flow) of domestic wastewater based on the assumption of 12 gpd per student/staff (12gpd/person * 175 persons = 2,100 gpd). Wastewater will be disposed of by conveyance to a proposed aerobic septic treatment system. Please see attached septic proposal for additional reference.*

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GEOLOGIC ASSESSMENT FORM (TCEQ-0585)

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Geologist: Amanda L. Miller

Telephone: 210-375-9000

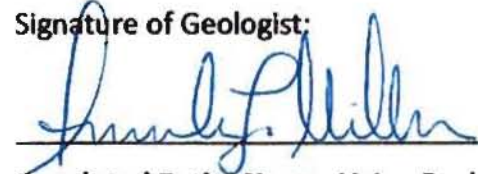
Date: 30 Oct. 2015

Fax: 210-375-9090

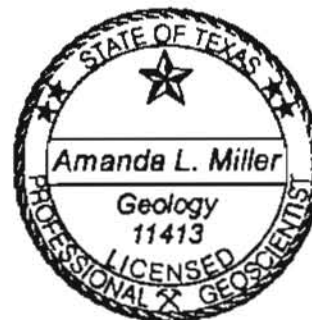
Representing: Pape-Dawson Engineers, Inc.

Texas Board of Professional Geoscientists No. 50351 [Name of Company and TBPG or TBPE registration number]

Signature of Geologist:



Regulated Entity Name: Living Rock Academy



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Project Information

1. Date(s) Geologic Assessment was performed: October 6, 2015

2. Type of Project:

- ☒ WPAP
☐ SCS

- ☐ AST
☐ UST

3. Location of Project:

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

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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)
Lewisville silty clay, 0 to 1 percent slopes (LeA)	B	3-5
Lewisville silty clay, 1 to 3 percent slopes (LeB)	B	3-6
Real-Comfort-Doss complex, 1 to 8 percent slopes (RcD)	D	1-2

Soil Name	Group*	Thickness(feet)
Sunev silty clay loam, 0 to 1 percent slopes (SuA)	B	2-5

** 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" = 60'
- Site Geologic Map Scale: 1" = 60'
- Site Soils Map Scale (if more than 1 soil type): 1" = 500'

9. Method of collecting positional data:

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

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

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

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

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

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

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

☐ There are _____ (#) 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.

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Administrative Information

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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.

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ATTACHMENT A

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ATTACHMENT B

LIVING ROCK ACADEMY

Stratigraphic Column

[Ashworth, J.B. (Jan 1983) Ground-Water Availability of the Lower Cretaceous Formations in the Hill Country of South-Central Texas, Texas Department of Water Resources, repl., 273, 12 pp.]

System	Series	Group	Stratigraphic Unit		Hydrologic Unit	Approximate Maximum Thickness (feet)	Character of Rocks	Water Bearing Properties			
Cretaceous	Comanche	Trinity	Glen Rose Limestone	Upper member (Kgru)	Upper Trinity	500	Alternating resistant and nonresistant beds of blue shale, nodular marl, and impure, fossiliferous limestone. Also contains two distinct evaporite zones	Yields very small to small quantities of relatively highly mineralized water			
				Lower Member (Kgrl)	Middle Trinity	320	Massive, fossiliferous limestone grading upward into thin beds of limestone, dolomite, marl, and shale. Numerous caves and reefs occur in the lower portion of the member	Yields small to moderate quantities of fresh to slightly saline water			
			Travis Park Formation	Hensell Sand Member Bexar Shale Member		300	Red to gray clay, silt, sand, conglomerate, and thin limestone beds grading downdip into silty dolomite, marl, calcareous shale, and shaley limestone	Not known to yield water			
				Cow Creek Limestone Member		90	Massive, fossiliferous, white to gray, argillaceous to dolomitic limestone with local thinly bedded layers of sand, shale, and lignite				
			Hammett Shale Member	80		Dark blue to gray, fossiliferous, calcareous and dolomitic shale with thinly interbedded layers of limestone and sand					
			Sligo Limestone Member Hosston Sand Member	Lower Trinity	120	Sandy dolomitic limestone	Yields small to large quantities of fresh to slightly saline water				
					350	Red and white conglomerate, sandstone, claystone, shale, dolomite, and limestone					
			Pre-Cretaceous rocks							Black, red, and green folded shale, hard massive dolomitic limestone, sandstone, and slate	Yield moderate quantities of fresh water in the northern portion of South-Central Texas Hill Country.

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ATTACHMENT C

LIVING ROCK ACADEMY

Site Geology

The overall potential for fluid migration to the Edwards Aquifer for the site is low. The northern portion of the site is located within the Contributing Zone, while the remainder is within the Edwards Aquifer Recharge Zone. With the exception of the area within the 100-year floodplain, which includes a small tributary, the entire site was farmland in the recent past according to historic aerial photographs. Currently, the northern portion of the site has been disturbed by temporary buildings and a gravel parking area. Fluvial terrace deposits (Qt) cover the site. The Qt is a river deposit that predominantly contains gravel, sand, silt and clay. Underlying the Qt is the upper member of the Glen Rose Limestone (Kgru). The Kgru is characterized as yellowish-tan thinly bedded limestone and marl. Karst development in the Kgru is generally characterized by few, small sinkholes and lateral cave development, as phreatic passages and springs. No caves or sinkholes were identified on site. In addition, no faults were identified on site. The predominant trend of faults in the vicinity of the site is approximately N55°E, based on published maps (Barnes, 1983; Collins, 2000).

Feature S-1

Feature S-1 is a non-karst closed depression located within the on-site tributary. It appears to have been created by stream scour. No voids or potential pathways to the subsurface were observed and the depression contained fine infilling and gravel deposits. Due to the non-karst origin, the probability of rapid infiltration is low.

Feature S-2

Feature S-2 is a non-karst closed depression likely created by upland drainage. The depression contained fine infilling similar to the surrounding ground with no signs of rapid infiltration. Therefore, because of the non-karst origin, the probability of rapid infiltration is low.

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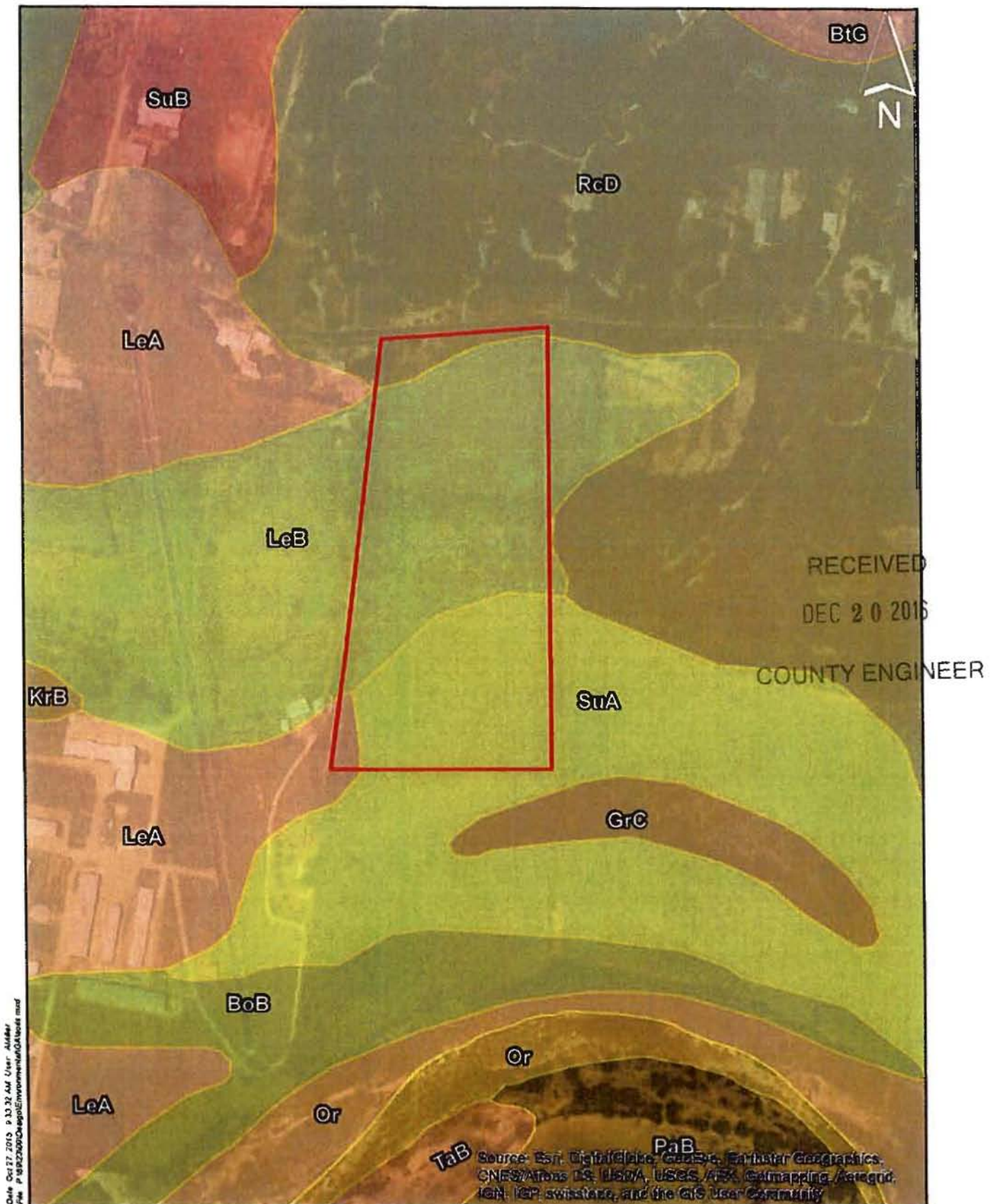
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ATTACHMENT D

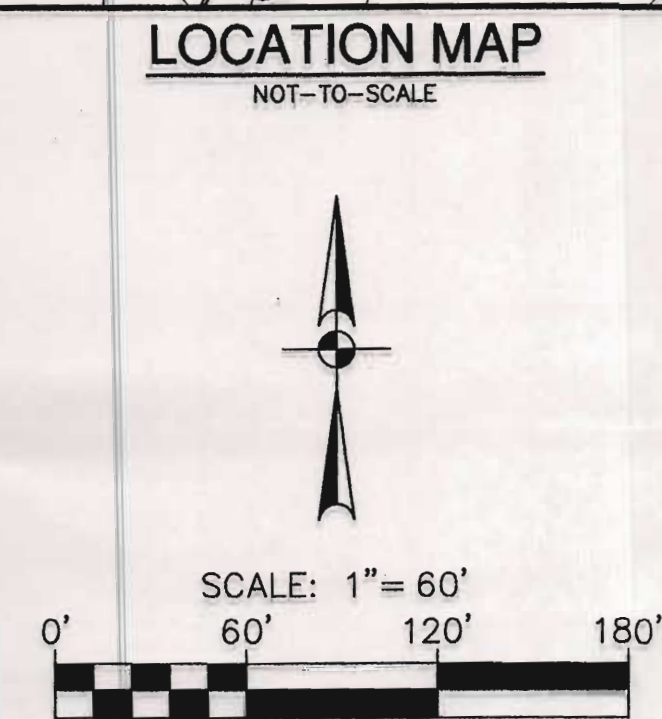
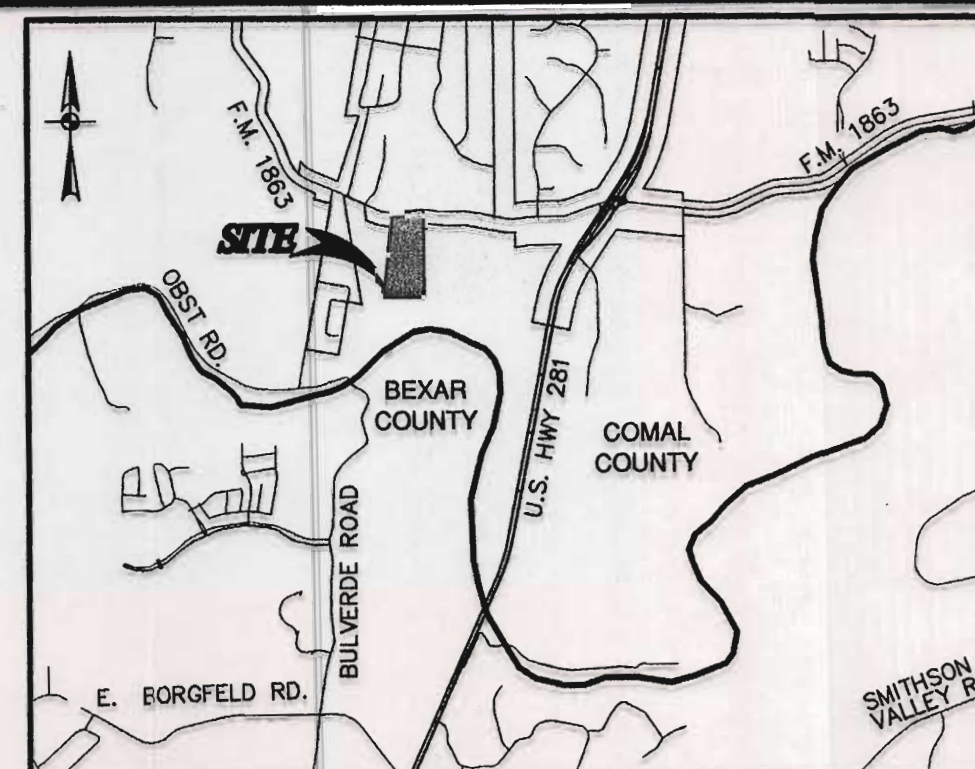
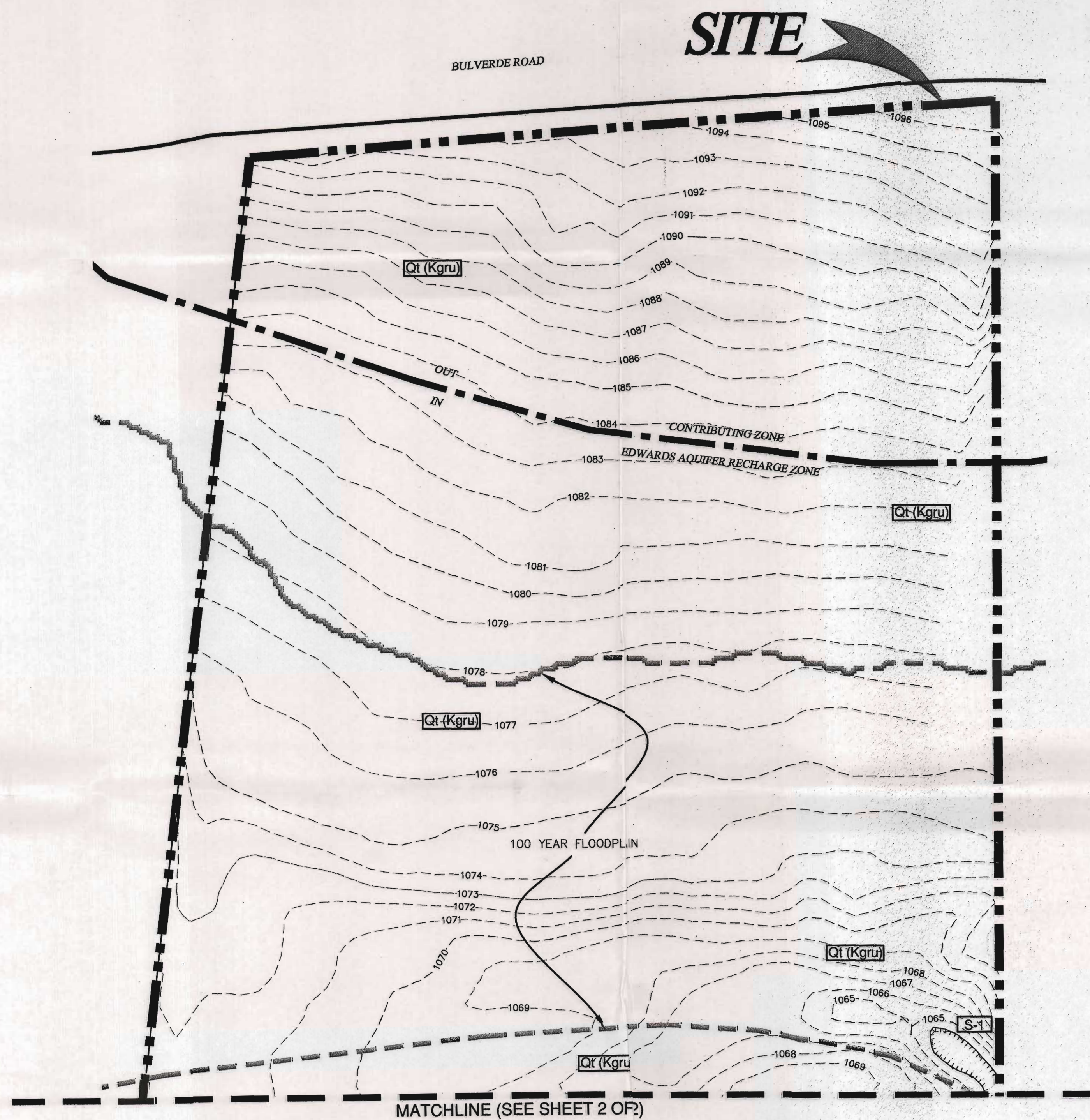
LIVING ROCK ACADEMY Geologic Assessment



ATTACHMENT D

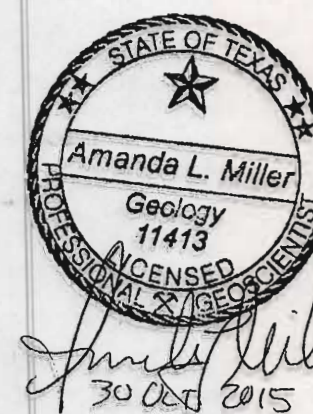
2004 BEXAR COUNTY SOIL SURVEY
2014 AERIAL PHOTOGRAPH
SCALE: 1"= 500'

**PAPE-DAWSON
ENGINEERS**



LEGEND	
Qt	FLUVIAL/TERRACE DEPOSITS
Kbu	BUDA LIMESTONE
Kdr	DEL RIO CLAY
Kgt	GEORGETOWN FORMATION
Kep	PERSON FORMATION
Kek	KAINER FORMATION
Kgru	GLEN ROSE FORMATION (UPPER)
S-1	POTENTIAL RECHARGE FEATURE
	DRAINAGE PATHWAY
	CONTACT, LOCATED APPROXIMATELY
	FAULT, LOCATED APPROXIMATELY
	(O, downthrown side; U, upthrown side)
	FAULT, EXISTENCE UNCERTAIN
	POSSIBLE FAULT
	(as located by aerial photographs)
	STRIKE AND DIP OF BEDDING
	STRIKE AND DIP OF JOINTS
	STRIKE OF VERTICAL JOINTS
	CAVE
	NON-KARST CLOSED DEPRESSION
	SINKHOLE
	SOLUTION CAVITY
	OTHER NATURAL BEDROCK FEATURES:
	VUGGY ROCK, REEF DEPOSITS
	ZONE
	MAN-MADE FEATURE IN BEDROCK
	WATER WELL
	SANITARY SEWER LINE

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.



**PAPE-DAWSON
ENGINEERS**

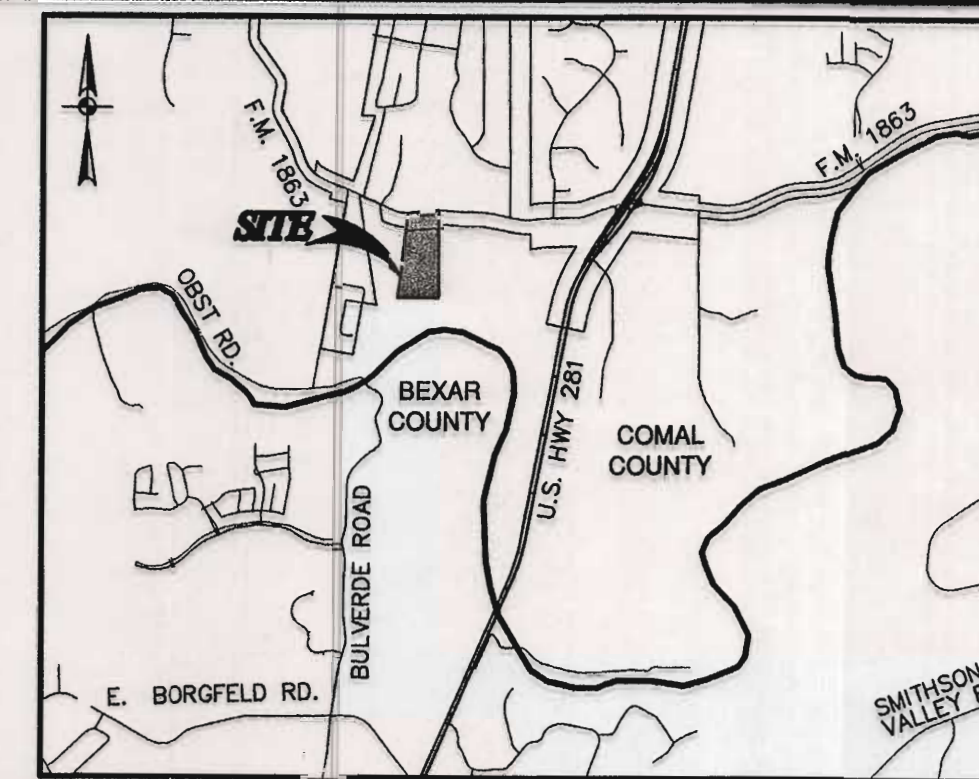
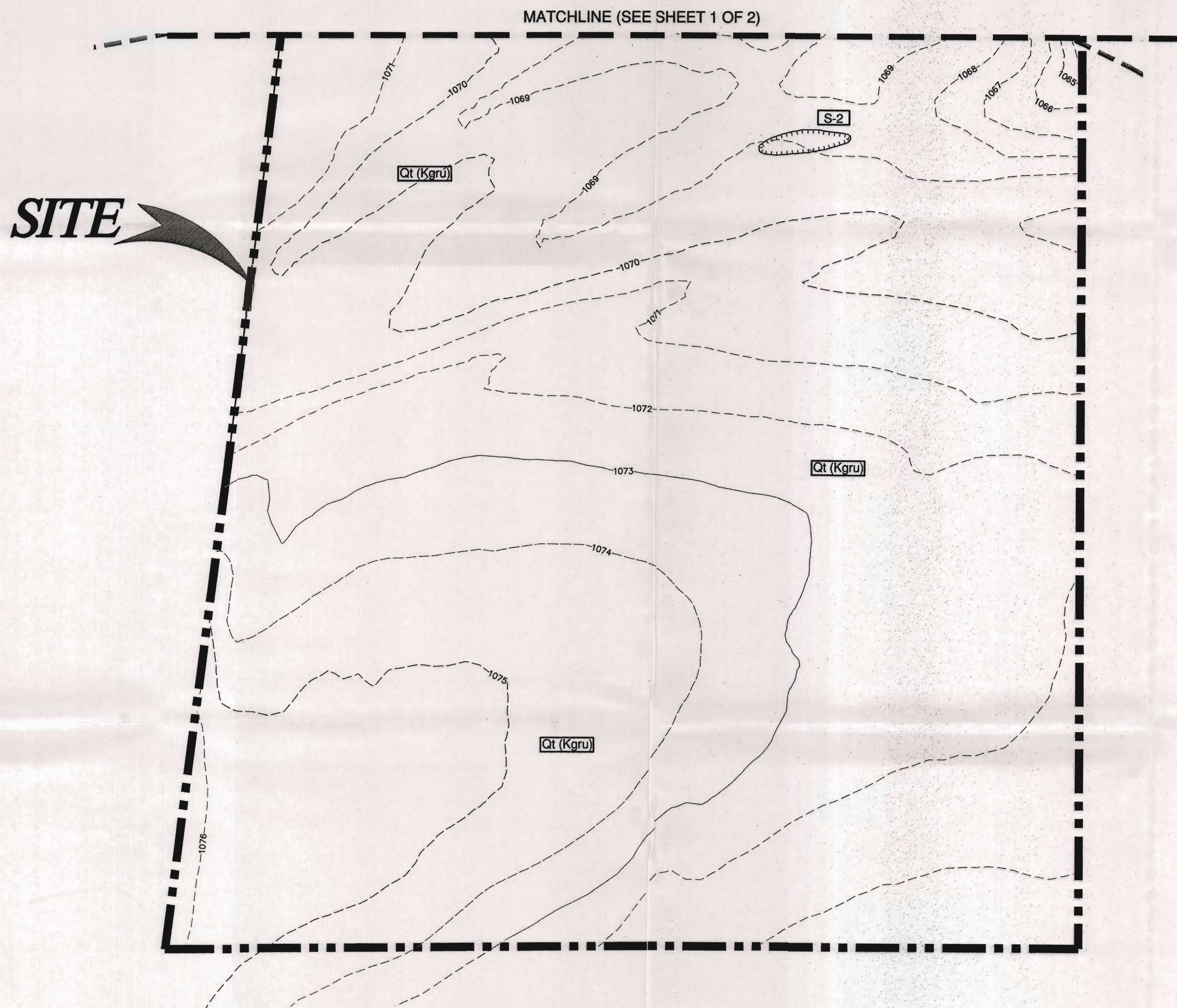
2000 NW LOOP 410 | SAN ANTONIO, TEXAS 78213 | PHONE: 210.375.9000
FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, PEW REGISTRATION # 24051
TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS, PEW REGISTRATION # 24051

LIVING ROCK ACADEMY
BULVERDE, TEXAS
WATER POLLUTION ABATEMENT PLAN
SITE GEOLOGIC MAP

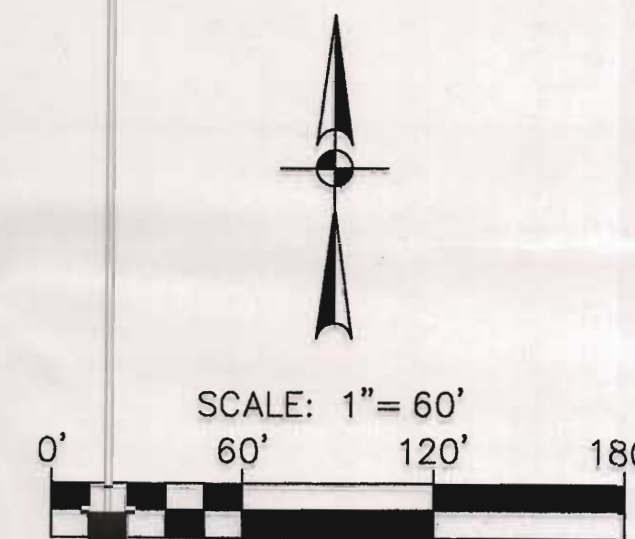
JOB NO. 8923-00
DATE OCTOBER 2015
GEOLOGIST ALM
CHECKED DR DRAWN ALM
ATTACHMENT D
SHEET 1 OF 2

Plot: Oct 30, 2015, 7:27am User: ID: Miller
File: P:\8923\100\Design\Environmental\GA GA 892300.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN MODIFIED/ALTERED. RELY ONLY ON FINAL HAND-COPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.



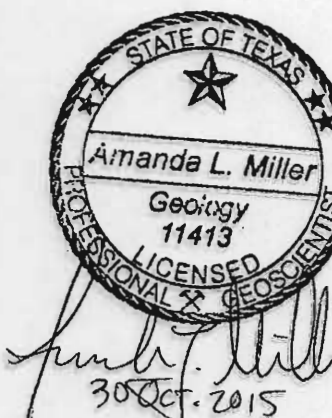
LOCATION MAP
NOT-TO-SCALE



LEGEND

Qt	FLUVIAL/TERRACE DEPOSITS
Kbu	BUDA LIMESTONE
Kdr	DEL RIO CLAY
Kgt	GEORGETOWN FORMATION
Kep	PERSON FORMATION
Kek	KAINER FORMATION
Kgru	GLEN ROSE FORMATION (UPPER)
S-1	POTENTIAL RECHARGE FEATURE
	DRAINAGE PATHWAY
	CONTACT, LOCATED APPROXIMATELY
	FAULT, LOCATED APPROXIMATELY (D, downthrown side; U, upthrown side)
	FAULT, EXISTENCE UNCERTAIN
	POSSIBLE FAULT (as located by aerial photographs)
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	STRIKE AND DIP OF JOINTS
	STRIKE OF VERTICAL JOINTS
	CAVE
	NON-KARST CLOSED DEPRESSION
	SINKHOLE
	SOLUTION CAVITY
	OTHER NATURAL BEDROCK FEATURES: YUGGY ROCK, REEF DEPOSITS
	ZONE
	MAN-MADE FEATURE IN BEDROCK
	WATER WELL
	SANITARY SEWER LINE

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.



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LIVING ROCK ACADEMY
BULVERDE, TEXAS
WATER POLLUTION ABATEMENT PLAN
SITE GEOLOGIC MAP

JOB NO. 8923-00
DATE OCTOBER 2015
GEOLOGIST ALM
CHECKED DR DRAWN ALM
ATTACHMENT D
SHEET 2 OF 2

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FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470
TEXAS BOARD OF PROFESSIONAL GEOSCIENTIST, FIRM REGISTRATION # 50351

**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: Dennis Rion, P.E.

Date: 12/13/16

Signature of Customer/Agent:



Regulated Entity Name: Living Rock Academy

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): 24.92

3. Estimated projected population: 0

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

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Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	37,945	$\div 43,560 =$	0.87
Parking	119,768	$\div 43,560 =$	2.75
Other paved surfaces	1,817	$\div 43,560 =$	0.04
Total Impervious Cover	159,530	$\div 43,560 =$	3.66

Total Impervious Cover $3.66 \div$ Total Acreage $24.92 \times 100 = 14.7\%$ 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: _____

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

Width of R.O.W.: _____ feet.

$L \times W =$ _____ $\text{Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} =$ _____ acres.

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10. Length of pavement area: _____ feet.

Width of pavement area: _____ feet.

$L \times W =$ _____ $\text{Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} =$ _____ acres.

Pavement area _____ acres \div R.O.W. area _____ acres $\times 100 =$ _____ % impervious cover.

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

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

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

<u>100%</u> Domestic	<u>2,100</u> Gallons/day
_____% Industrial	____Gallons/day
_____% Commingled	____Gallons/day
TOTAL gallons/day <u>2,100</u> = <u>175</u> students & staff x <u>12</u> gallons/person/day	

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15. Wastewater will be disposed of by:

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

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

- ☐ Sewage Collection System (Sewer Lines):

- ☐ Private service laterals from the wastewater generating facilities will be connected to an existing SCS.
- ☐ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.
- ☐ The SCS was previously submitted on ____.
- ☐ The SCS was submitted with this application.
- ☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

- ☐ The sewage collection system will convey the wastewater to the _____ (name) Treatment Plant. The treatment facility is:
- ☐ Existing.
- ☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 60'.

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) source(s): DFIRM (Digital Flood Insurance Rate Map for Comal County, Texas and incorporated areas) MAP Number: 48091C0380F dated September 2, 2009

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

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

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

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

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

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

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

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

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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.

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ATTACHMENT A

LIVING ROCK ACADEMY
Water Pollution Abatement Plan Application (TCEQ-0584)

Attachment A– 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.*

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ATTACHMENT B

LIVING ROCK ACADEMY
Water Pollution Abatement Plan Application (TCEQ-0584)

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 24.92 acre project will generate approximately 98 cfs. The runoff coefficient for the site changes from approximately 0.6 before development to 0.62 after development. Values are based on the Rational Method using runoff coefficients per the City of Bulverde Storm Drainage Design Criteria Manual.

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ATTACHMENT C



Comal County

OFFICE OF COMAL COUNTY ENGINEER

February 17, 2016

Ms. Jean Pritchett, E.I.T.
Pape-Dawson Engineers, Inc.
2000 NW Loop 410
San Antonio, TX 78213

Re: Living Rock Academy On-Site Sewage Facility Suitability Letter, within Comal County, Texas

Dear Ms. Pritchett:

In accordance with TAC §213.5(b)(4)(F)(ii), Comal County has found that the entire referenced site is suitable for the use of private sewage facilities and will meet the special requirements for on-site sewage facilities located on the Edwards Aquifer recharge zone as specified in TAC §285.40-42 based on the following information submitted to our office on February 17, 2016:

- The Geologic Assessment, prepared by Amanda L. Miller, P.G.
- The Water Pollution Abatement Plan, prepared by Pape-Dawson Engineers, Inc.

Moreover, according to TAC §285.41(b), James Johnson, the Head of School of the referenced site, must inform, in writing, each prospective purchaser, lessee, or renter of the following:

- All lots within Living Rock Academy are subject to the terms and conditions of TAC §285.40-42;
- A Permit to Construct is required from Comal County before an OSSF can be constructed in Living Rock Academy;
- A License to Operate is required from Comal County before an OSSF can be operated in Living Rock Academy;
- That an application for a water pollution abatement plan, as defined in TAC §213, has been made, whether it has been approved, and if any restrictions or conditions have been placed on that approval; and

Furthermore, according to TAC §285.42(a), if any recharge feature, is discovered during construction of an OSSF, all regulated activities near the feature shall be suspended immediately. The owner shall immediately notify the TCEQ San Antonio office of the discovery of the feature. All activities regulated under TAC §213 shall not proceed near the feature until Comal County, in conjunction with

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OFFICE OF COMAL COUNTY ENGINEER

Ms. Pritchett, E.I.T.

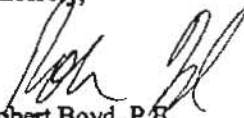
February 17, 2016

Page 2

the TCEQ San Antonio office, has reviewed and approved a plan proposed to protect the feature, the structural integrity of the OSSF, and the water quality of the aquifer. The plan shall be sealed, signed, and dated by a professional engineer.

If you have any questions or need additional information, please do not hesitate to contact our office.

Sincerely,



Robert Boyd, P.E.

Comal County Assistant Engineer

cc: Scott Haag, Comal County Commissioner Precinct No. 2

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**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: Dennis Rion, P.E.

Date: 12/13/16

Signature of Customer/Agent:



Regulated Entity Name: Living Rock Academy

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.

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- ☐ 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: Indian Creek

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Temporary Best Management Practices (TBMPs)

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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.

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- ☒ 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).

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Soil Stabilization Practices

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

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ATTACHMENT A

LIVING ROCK ACADEMY
Temporary Stormwater Section (TCEQ-0602)

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.

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In the event of an accidental significant or hazardous spill:

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- The contractor will be required to report significant or hazardous spills in reportable quantities to:
 - the National Response Center at (800) 424-8802
 - the Edwards Aquifer Authority at (210) 222-2204
 - the TCEQ Regional Office (210) 490-3096 (if during business hours: 8 AM to 5 PM) or
 - the State Emergency Response Center (800) 832-8224 (if after hours)

LIVING ROCK ACADEMY
Temporary Stormwater Section (TCEQ-0602)

- 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.

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ATTACHMENT B

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Attachment B – Potential Sources of Contamination

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Other potential sources of contamination during construction include:

- | | | |
|-----------------------------|---|---|
| <i>Potential Source</i> | • | <i>Asphalt products used on this project.</i> |
| <i>Preventative Measure</i> | ■ | <i>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.</i> |
| <i>Potential Source</i> | • | <i>Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.</i> |
| <i>Preventative Measure</i> | ■ | <i>Vehicle maintenance when possible will be performed within the construction staging area.</i> |
| | ■ | <i>Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.</i> |
| <i>Potential Source</i> | • | <i>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.</i> |
| <i>Preventative Measure</i> | ■ | <i>Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.</i> |
| | ■ | <i>Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.</i> |
| | ■ | <i>Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.</i> |
| | ■ | <i>A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.</i> |

LIVING ROCK ACADEMY
Temporary Stormwater Section (TCEQ-0602)

- | | | |
|-----------------------------|---|--|
| <i>Potential Source</i> | • | <i>Miscellaneous trash and litter from construction workers and material wrappings.</i> |
| <i>Preventive Measure</i> | ■ | <i>Trash containers will be placed throughout the site to encourage proper trash disposal.</i> |
| <i>Potential Source</i> | • | <i>Construction debris.</i> |
| <i>Preventive Measure</i> | ■ | <i>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.</i> |
| <i>Potential Source</i> | • | <i>Spills/Overflow of waste from portable toilets</i> |
| <i>Preventative Measure</i> | ■ | <i>Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets.</i> |
| | ■ | <i>Portable toilets will be placed on a level ground surface.</i> |
| | ■ | <i>Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.</i> |

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ATTACHMENT C

LIVING ROCK ACADEMY
Temporary Stormwater Section (TCEQ-0602)

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 clearing and grubbing of vegetation where applicable. As the initial phase of this development, this WPAP proposes clearing, grading, drainage improvements, and installation of one (1) natural fifty-foot (50') Vegetative Filter Strip. The total proposed disturbed area after this phase is 7 acres of the 24.92-acres. Approximately 2.31 acres of additional impervious cover are proposed in this application. The total impervious cover will be 3.66 acres, or 14.7% of the 24.92-acre project limits.

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ATTACHMENT D

Attachment D – Temporary Best Management Practices and Measures

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- 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.

Upgradient water will cross the site from the north due to the existing Bulverde Road. Upgradient water will be allowed to naturally flow across the site to the proposed natural fifty-foot (50') vegetative filter strip.

- 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) 50' natural buffer along the downgradient boundary of construction activities will be maintained for temporary erosion and sedimentation controls, (2) installation of stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, and (4) installation of construction staging area(s).

Prior to the initiation of construction, all previously installed control measures will be repaired or reestablished for their designed or intended purpose. This work, which is the remainder of all activity on the project, may also disturb additional soil. The construction contractor will be responsible for the installation of all remaining on-site control measures that includes installation of the concrete truck washout pit(s), as construction phasing warrants.

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

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

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

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

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

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ATTACHMENT F

LIVING ROCK ACADEMY
Temporary Stormwater Section (TCEQ-0602)

Attachment F – Structural Practices

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

- *A 50' vegetative buffer will be maintained along the downgradient boundary of construction activities, as located on Exhibit 1.*
- *Installation of stabilized construction entrance/exit(s) and construction staging area(s), as located on Exhibit 1, and illustrated on Exhibit 2.*

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

- *Installation of concrete truck washout pit(s), as required and located on Exhibit 1 and illustrated on Exhibit 2.*

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ATTACHMENT G

LIVING ROCK ACADEMY
Temporary Stormwater Section (TCEQ-0602)

Attachment G- Drainage Area Map

No more than ten (10) acres will be disturbed within a common drainage area at one time as construction of civil infrastructure (utilities, parking, side walk, drainage, etc.) will precede building construction. All TBMPs utilized are adequate for the drainage areas served.

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ATTACHMENT I

LIVING ROCK ACADEMY
Temporary Stormwater Section (TCEQ-0602)

Attachment I - Inspection and Maintenance for BMPs

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.

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LIVING ROCK ACADEMY
Temporary Stormwater Section (TCEQ-0602)

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."

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Inspector's Name _____

Inspector's Signature _____

Date _____

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LIVING ROCK ACADEMY
Temporary Stormwater Section (TCEQ-0602)

PROJECT MILESTONE DATES

Date when major site grading activities begin:

<u>Construction Activity</u>	<u>Date</u>
Installation of BMPs	

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

<u>Construction Activity</u>	<u>Date</u>

Dates when stabilization measures are initiated:

<u>Stabilization Activity</u>	<u>Date</u>

Removal of BMPs

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ATTACHMENT J

LIVING ROCK ACADEMY
Temporary Stormwater Section (TCEQ-0602)

Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

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

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

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**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: Dennis Rion, P.E.

Date: 12/13/16

Signature of Customer/Agent



Regulated Entity Name: Living Rock Academy

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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: _____

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☐ N/A

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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

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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

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Responsibility for Maintenance of Permanent BMP(s)

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

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

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ATTACHMENT B

LIVING ROCK ACADEMY
Permanent Stormwater Section (TCEQ-0600)

Attachment B – BMPs for Upgradient Stormwater

Upgradient flow will cross the project limit due to the existing Bulverde Road along the north side of the site. The existing topography of the site allows flow from north to south toward the proposed PBMP. All PBMPs are adequate for the drainage area served.

One (1) existing and two (2) proposed natural fifty-foot (50') Vegetative Filter Strips are the proposed PBMP for the development. All PBMPs have been designed in accordance with the Texas Commission on Environmental Quality's (TCEQ) Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.

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ATTACHMENT C

LIVING ROCK ACADEMY
Permanent Stormwater Section (TCEQ-0600)

Attachment C – BMPs for Onsite Stormwater

One (1) existing and two (2) proposed natural fifty-foot (50') Vegetative Filter Strips are the proposed PBMP for the development. All PBMPs have been designed in accordance with the Texas Commission on Environmental Quality's (TCEQ) Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.

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ATTACHMENT D

LIVING ROCK ACADEMY
Permanent Stormwater Section (TCEQ-0600)

Attachment D – BMPs for Surface Streams

Indian Creek which is a tributary to Cibolo Creek crosses the site just south of the school building and gymnasium parking lot. One (1) existing and two (2) proposed natural fifty-foot (50') Vegetative Filter Strips are the proposed PBMP for the development. All PBMPs have been designed in accordance with the Texas Commission on Environmental Quality's (TCEQ) Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.

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ATTACHMENT F

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Permanent Stormwater Section (TCEQ-0600)

Attachment F – Construction Plans

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

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ATTACHMENT G

LIVING ROCK ACADEMY Permanent Pollution Abatement Measures

PERMANENT POLLUTION ABATEMENT MEASURES MAINTENANCE SCHEDULE AND MAINTENANCE PROCEDURES

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

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

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

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

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


James Johnson, Head of School
Living Rock Academy

11-18-16
Date

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LIVING ROCK ACADEMY

Permanent Pollution Abatement Measures

INSPECTION AND MAINTENANCE SCHEDULE FOR PERMANENT POLLUTION ABATEMENT MEASURES

Recommended Frequency	Task to be Performed													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
After Rainfall	√							√	√	√	√		√	
Biannually*	√	√	√	√	√	√	√	√	√	√	√	√	√	√

*At least one biannual inspection must occur during or immediately after a rainfall event.

√ Indicates maintenance procedure that applies to this specific site.

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

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

<u>Task No. & Description</u>	<u>Included in this project</u>	
1. Check Depth of Vegetation	Yes	No
2. Check Depth of Silt Deposit in Basin	Yes	No
3. Removal of Debris and Trash	Yes	No
4. Cut-off Valve	Yes	No
5. Inlet Splash Pad	Yes	No
6. Underdrain System	Yes	No
7. Structural Integrity	Yes	No
8. Discharge Pipe	Yes	No
9. Drawdown Time	Yes	No
10. Vegetated Filter Strips	Yes	No
11. For Pump Stations	Yes	No
12. For Pump Stations	Yes	No
13. For Pump Stations	Yes	No
14. Visually Inspect Security Fencing for Damage or Breach	Yes	No

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LIVING ROCK ACADEMY Permanent Pollution Abatement Measures

MAINTENANCE PROCEDURES FOR PERMANENT POLLUTION ABATEMENT MEASURES

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

1. Check Depth of Vegetation. Vegetation in the basin shall not exceed 18-inches in depth. When vegetation needs to be cut, it shall be cut to an approximately 4-inch height. *A written record should be kept of inspection results and maintenance performed.*
2. Check Depth of Silt Deposit in Basin. Top of cleanouts shall be set 4-inches above sand layer. When silt has accumulated to top of cleanouts, the silt shall be removed. The top two (2) inches of the sand media shall also be removed and replaced with clean, silica-based washed sand meeting ASTM C33 specifications [0.0165 inch (#40 sieve) to 0.0469 inch (#16 sieve)]. Silt/sediment shall be cleared from the inlet structure at least every year and from the basin at least every five (5) years. Any sand discolored as a result of apparent impact by petroleum hydrocarbon or hazardous materials should also be removed and replaced. *Written record should be kept of inspection results and maintenance performed.*
3. Removal of Debris and Trash. The basin and inlet structure shall be checked for the accumulation of debris and trash such as brush, limbs, leaves, paper cups, aluminum cans, plastic bottles etc. Accumulated trash and debris shall be raked or collected from the basin and inlet structure and disposed of properly. *Written record should be kept of inspection results and maintenance performed.*
4. Cut-off Valve. The cut-off valve shall be turned to confirm full opening and full closure. Prior to operating the valve, the valve setting shall be checked to determine the position to which the valve is to be returned (which should limit drawdown time of the basin between 24-hours and 48-hours). Count should be kept of number of turns to open and close the valve so that the valve can be reset to the starting position. Defects in the operation of the cut-off

LIVING ROCK ACADEMY

Permanent Pollution Abatement Measures

valve shall be corrected within 7 working days. *A written record should be kept of inspection results and maintenance performed.*

5. Inlet Splash Pad. The filter area around the inlet splash pad shall be checked for erosion and for the condition of the rock rubble. Erosion or disturbance of the rock rubble should be corrected by removing the rock rubble, restoring missing sand media to appropriate depth and replacement of the rock rubble. If the condition persists in subsequent inspections, the size of the rock rubble should be increased. Rubble should be placed to a density that minimizes the amount of exposed sand between the rock rubble. Deficiencies should be corrected within seven working days. *A written record should be kept of inspection results and maintenance performed.*

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6. Underdrain System. The underdrain system shall be visually inspected for the accumulation of silt in the pipe system. The pipe clean-outs shall have the caps removed and visually inspected for accumulation of silt deposits. If silt deposits appear to have accumulated so as to significantly reduce the drain capacity of the pipes then maintenance shall be performed. When silt deposits have accumulated to the stage described above, the clean-outs and drainpipes can be flushed with a high-pressure water flushing process. Clean-out caps must be replaced onto the clean-outs after maintenance so as to avoid the possibility of short circuiting the filtering process. Sediment accumulation at outlet pipe or in wet well due to flushing shall be removed and disposed of properly. *A written record should be kept of inspection results and the maintenance performed.*
7. Structural Integrity. In addition to Items 1 through 6 the following are measures which should be reviewed during a check of structural integrity:
- Observe the height of the confining berm for visible signs of erosion or potential breach. Signs of erosion should be identified and repaired immediately. Corrective measures include but are not limited to addition of topsoil or appropriate soil material so as to

LIVING ROCK ACADEMY

Permanent Pollution Abatement Measures

restore the original berm height of the sand filter basin. Restored areas shall be protected through placement of solid block sod.

- Bypass of filter process. This condition can manifest itself in several ways. One way is by visually inspecting the clean-outs for accumulation of silt as described in Item 6. Significant accumulations of silt could be a sign of a torn filter fabric. Observations should be made over several inspection cycles to determine whether the condition persists. A second non-intrusive way of making observations for structural condition would be to visually look for collapsed or depressed areas along the edge of the filter media interface with basin side slope. If condition exists, corrective action should be performed within 15 working days. Removal of sand and replacement of filter fabric and/or pipe and gravel may be necessary. *A written record should be kept of inspection results and corrective measures taken.*

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

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9. Drawdown Time. This characteristic can be a sign of the need for maintenance. The minimum drawdown time is 24 hours. If drawdown time is less than 24 hours, the gate valve shall be checked and partially closed to limit the drawdown time. Extensive drawdown time greater than 48 hours may indicate blockage of the sand media, the underdrain system and/or the discharge pipe. Corrective actions should be performed and completed within 15 working days. *A written record of the inspection findings and corrective actions performed should be made.*

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Permanent Pollution Abatement Measures

10. Vegetated Filter Strips. Vegetation height for native grasses shall be limited to no more than 18-inches. When vegetation exceeds that height, the filter strip shall be cut to a height of approximately 4 inches. Turf grass shall be limited to a height of 4-inches with regular maintenance that utilizes a mulching mower. Trash and debris shall be removed from filter strip prior to cutting. Check filter strip for signs of concentrated flow and erosion. Areas of filter strip showing signs of erosion shall be repaired by scarifying the eroded area, reshaping, regrading and placement of solid block sod over the affected area. *A written record of the inspection findings and corrective actions performed should be made*
11. For Pump Stations. Check wet well discharge pipe to confirm flow through the pump system. If flow is not present, allow sufficient time for pump to cycle on and off. If flow does not occur, the wet well should be checked for the level of water. The wet well should be opened and the on/off float switches should be moved up and down to activate the pump. If the pump does not start, a repair technician shall be called in to repair the malfunction within 5 working days. *A written record of the inspection findings and corrective actions performed should be made*
12. For Pump Stations. Check the wet well for accumulation for trash, debris and silt. Trash and debris shall be removed and disposed of properly. Silt depth can be checked by probing the bottom of the wet well with a stick or PVC pipe. Silt accumulations should be removed when silt collects to a depth of three (3) inches over the entire wet well bottom. Silt can be removed by vacuum pump method. If silt buildup continues, underdrain system shall be inspected. *A written record should be kept of inspection results and maintenance performed.*
13. For Pump Stations. Visually check aboveground pump wiring and connections for damage. Damaged or loose connections should be repaired within 5 working days. *A written record should be kept of inspection results and the maintenance performed.*

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LIVING ROCK ACADEMY
Permanent Pollution Abatement Measures

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

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ATTACHMENT I

LIVING ROCK ACADEMY
Permanent Stormwater Section (TCEQ-0600)

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.

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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 James Johnson
Print Name

Head of School
Title - Owner/President/Other

of Living Rock Academy
Corporation/Partnership/Entity Name

have authorized Pape-Dawson Engineers, Inc.
Print Name of Agent/Engineer

of Pape-Dawson Engineers, Inc.
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.

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SIGNATURE PAGE:

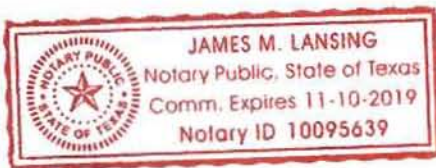
Applicant's Signature



11-18-16 Date

THE STATE OF Texas §
County of Concho §

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

GIVEN under my hand and seal of office on this 18th day of November 2016




NOTARY PUBLIC
James M. Lansing
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11/10/2019

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APPLICATION FEE FORM (TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Living Rock Academy

Regulated Entity Location: 2500 Bulverde Rd., Bulverde, Texas 78163

Name of Customer: Living Rock Academy

Contact Person: James Johnson

Phone: (830) 387-2929

Customer Reference Number (if issued): CN 605049683

Regulated Entity Reference Number (if issued): RN 108932682

Austin Regional Office (3373)

☐ Hays

☐ Travis

☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar

☐ Medina

☐ Uvalde

☒ Comal

☐ Kinney

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

☐ Austin Regional Office

☒ San Antonio Regional Office

☐ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

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Site Location (Check All That Apply):

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

Signature: 

Date: 12/13/16

Application Fee Schedule

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

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Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

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

Extension of Time Requests

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

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CORE DATA FORM (TCEQ-10400)



TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.) <input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.) <input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form) <input type="checkbox"/> Other	
2. Customer Reference Number (if issued) CN 605049683	3. Regulated Entity Reference Number (if issued) RN 108932682

Follow this link to search
for CN or RN numbers in
Central Registry**

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)	
<input type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership <input type="checkbox"/> 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)		<i>If new Customer, enter previous Customer below:</i>	
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:	<input type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other	<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Other:	
12. Number of Employees <input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		13. Independently Owned and Operated? <input type="checkbox"/> Yes <input type="checkbox"/> No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following:		RECEIVED	
<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator	DEC 20 2016		
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other:			
15. Mailing Address:	COUNTY ENGINEER		
City	State	ZIP	ZIP + 4
16. Country Mailing Information (if outside USA)		17. E-Mail Address (if applicable)	
18. Telephone Number () -	19. Extension or Code	20. Fax Number (if applicable) () -	

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application) <input type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> 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.)

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

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:							
26. Nearest City	State				Nearest ZIP Code		
	Texas						
27. Latitude (N) In Decimal:	28. Longitude (W) In Decimal:						
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		
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)				
			RECEIVED				
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)							DEC 20 2016
34. Mailing Address:	ENVIRONMENTAL ENGINEER						
	City		State		ZIP		ZIP + 4
35. E-Mail Address:							
36. Telephone Number		37. Extension or Code		38. Fax Number (if applicable)			
() -				() -			

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

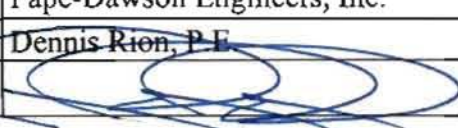
<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source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

SECTION IV: Preparer Information

40. Name:	Jean Pritchett, EIT	41. Title:	Environmental Specialist
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 375-9000		(210) 375-9010	jpritchett@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, Inc.	Job Title:	Executive Vice President
Name (In Print):	Dennis Rion, P.E.	Phone:	(210) 375-9000
Signature:		Date:	12/13/16

Date: Dec 06, 2016, 4:19pm User ID: R010427
File: P:\89\23\00\Design\Environmental\WPAF MOD 1\161117 TM892300_Living_Rock.dwg

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BULVERDE ROAD (F.M. 1863)



PROJECT LIMITS
(24.92 ACRES)

MATCHLINE (SEE SHEET 2 OF 2)

TEMPORARY BMP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

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

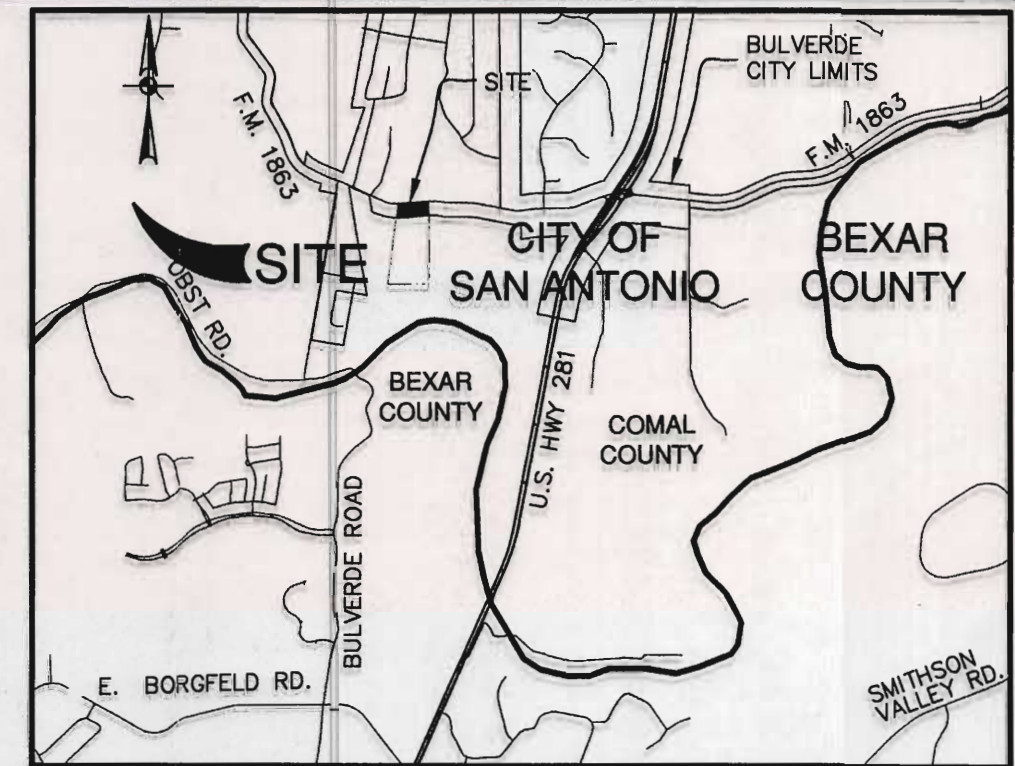
1. WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
 2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN 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 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. REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
 4. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM MAY BE INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.
 5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.
 6. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS TO WATER QUALITY (E.G., FUGITIVE SEDIMENT IN STREET BEING WASHED INTO SURFACE STREAMS OR SENSITIVE FEATURES BY THE NEXT RAIN).
 7. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.
 8. 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).
 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. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
 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 EDWARDS AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
 - A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO 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 RD.
SAN ANTONIO, TEXAS 78233-4480
PHONE: (210) 490-3086
FAX: (210) 545-4329

GENERAL NOTES:

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
2. LOCATIONS OF CONSTRUCTION ENTRANCE/EXITS, CONCRETE WASHOUT PITS, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARDS TO BE DETERMINED IN THE FIELD.
3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
6. CONTRACTOR, TO THE EXTENT PRACTICAL, SHALL MINIMIZE THE AMOUNT OF AREA DISTURBED, AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
7. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADE AREAS.
8. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATER SHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED.
9. ALL TEMPORARY BMP'S WILL BE REMOVED ONCE WATERSHED IS STABILIZED.
10. MUD OR DIRT INADVERTENTLY TRACKED OFF SITE AND ONTO EXISTING STREETS SHALL BE REMOVED IMMEDIATELY BY HAND OR MECHANICAL BROOM SWEEPING.
11. PRIOR TO INITIATION OF SUBSEQUENT PHASES OF CONSTRUCTION, TEMPORARY BMP'S INCLUDING SILT FENCING, CONSTRUCTION ENTRANCE/EXIT, CONCRETE WASHOUT PIT, AND CONSTRUCTION STAGING AREA SHALL BE FIELD LOCATED AS APPROPRIATE FOR THE AREA OF CONSTRUCTION.
12. SEDIMENTATION/FILTRATION BASIN EXCAVATION MAY BE UTILIZED AS A TEMPORARY SEDIMENT TRAP FOR EACH RESPECTIVE WATERSHED.
13. TEMPORARY POLLUTION ABATEMENT MEASURES SHOWN ON THE PLAN ARE FOR THE OVERALL DEVELOPMENT. TEMPORARY BMP'S MAY REQUIRE ADJUSTMENT BASED ON PHASING OF CONSTRUCTION OF THE DEVELOPMENT. RECORDS OF ADJUSTMENTS AND REVISIONS SHALL BE MAINTAINED ON THIS SHEET AS APPROPRIATE.
14. TEMPORARY BMP'S SHOWN ON THIS SHEET ARE FOR GRAPHICAL PURPOSES AND MAY NOT BE TO SCALE. BMP'S SHALL BE LOCATED WITHIN THE PROJECT LIMITS.
15. UPON COMPLETION OF A PHASE AND BEFORE FINAL PAYMENT IS ISSUED FOR A PARTICULAR PHASE, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES.

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.



LOCATION MAP
NOT-TO-SCALE

LEGEND

- PROJECT LIMITS
- EXISTING GRADE
- PROPOSED GRADE
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- 50' NATURAL VEGETATIVE BUFFER
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA. (FIELD LOCATE)
- CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)
- APPROXIMATE DISTURBED AREA (7 ACRES)
- FLUVIAL TERRACE DEPOSITS
- GLEN ROSE FORMATION (UPPER)
- NON-KARST CLOSED DEPRESSION

TEMPORARY POLLUTION ABATEMENT NOTES:

1. CONSTRUCTION OF DRAINAGE STRUCTURES MAY PRECEDE BUILDING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PLACING SILT FENCE ALONG THE DOWN GRADIENT SIDE OF THE DISTURBED AREA PERPENDICULAR TO THE DRAINAGE FLOW.
2. 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.
3. ROCK BERMS SHALL BE PLACED IN AREAS WHERE DRAINAGE FLOW IS CONCENTRATED DUE TO NATURAL CONDITIONS OR CONSTRUCTION ACTIVITIES SUCH AS AT DRAINAGE STRUCTURES. THESE BERMS WILL BE MAINTAINED UNTIL THEY ARE NO LONGER NEEDED OR UNTIL THEY ARE REPLACED WITH PERMANENT POLLUTION ABATEMENT MEASURES.

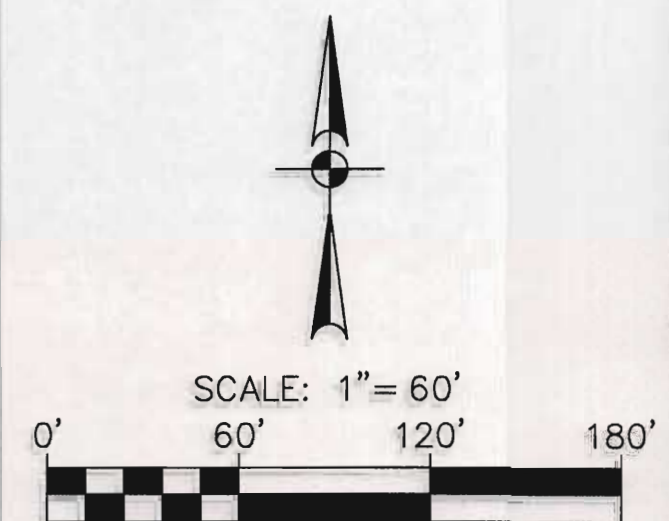


EXHIBIT 1

DATE	
NO.	
REVISION	
12-09-16	

67103
DENNIS R. RICH
6/7/03
6/7/03

PAPE-DAWSON
ENGINEERS

SAN ANTONIO 1 AUSTIN 1 HOUSTON 1 FORT WORTH 1 DALLAS
2000 NW LOOP 410 1 SAN ANTONIO, TX 78213 1 210.375.0000
TYPE FIRM REGISTRATION #470 1 TYPE FIRM REGISTRATION #1002800

LIVING ROCK ACADEMY
BULVERDE, TEXAS

WATER POLLUTION ABATEMENT PLAN MODIFICATION
TEMPORARY WATER POLLUTION ABATEMENT PLAN

PLAT NO.	
JOB NO.	8923-00
DATE	DECEMBER 2016
DESIGNER	JP
CHECKED	JD DRAWN RO
SHEET	1 OF 2

Topographic map showing the 2 YEAR FLOODPLAIN area. The map includes contour lines with elevations ranging from 1065 to 1076. Key locations are marked with labels: "Qt (Kgru)" and "S-2". A dashed line indicates the 2-year floodplain boundary. A north arrow is present in the upper right corner.

[illegible]

1. WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE OWNER OF THE PROJECT, THE NAME OF THE REGULATED ACTIVITY, THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THE PROJECT, ALL CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
3. IF ANY SENSITIVE FEATURE IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICIAL MUST BE NOTIFIED IMMEDIATELY. ANY WORK NEAR THE SENSITIVE FEATURE DURING CONSTRUCTION, THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
4. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM MAY BE INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.
5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES MUST BE PROPERLY DESIGNED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN MUST BE REMOVED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY OR INCORRECTLY, THE CONTROL MUST BE REMOVED OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.
6. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT THE FIRST OPPORTUNITY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS TO WATER QUALITY (E.G., FUGITIVE SEDIMENT IN STREET BEING WASHED INTO SURFACE STREAMS OR SENSITIVE FEATURES BY THE NEXT RAIN).
7. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT SLAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.
8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING A POTENTIAL SOURCE FOR STORMWATER DISCHARGES (E.G., SCREENING OUTFALLS, PICKED UP DAILY).
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 FILL PERMIT FROM THE TCEQ REGIONAL OFFICE. THE FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT ANOTHER SITE.

PROJECT LIMITS

EXISTING GRADE

PROPOSED GRADE

FLOW ARROW (EXISTING)

FLOW ARROW (PROPOSED)

INLET PROTECTION

GRAVEL FILTER BAGS

ROCK BERM

STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)

CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA. (FIELD LOCATE)

CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)

APPROXIMATE DISTURBED AREA (7 ACRES)

FLUVIATILE TERRACE DEPOSITS

GLEN ROSE FORMATION (UPPER)

NON-KARST CLOSED DEPRESSION

RECEIVE

1. CONSTRUCTION OF DRAINAGE STRUCTURES MAY PRECEDE BUILDING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PLACING SILT FENCE ALONG THE DOWN GRADIENT SIDE OF THE DISTURBED AREA PERPENDICULAR TO THE DRAINAGE FLOW.
2. 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.
3. ROCK BERMS SHALL BE PLACED IN AREAS WHERE DRAINAGE FLOW IS CONCENTRATED DUE TO NATURAL CONDITIONS OR CONSTRUCTION ACTIVITIES SUCH AS AT DRAINAGE STRUCTURES. THESE BERMS WILL BE MAINTAINED UNTIL THEY ARE NO LONGER NEEDED OR UNTIL THEY ARE REPLACED WITH PERMANENT POLLUTION ABATEMENT MEASURES.

EXHIBIT 1



SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
 10000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
 TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

WATER POLLUTION ABATEMENT PLAN
TEMPORARY WATER POLLUTION ABATEMENT PLAN

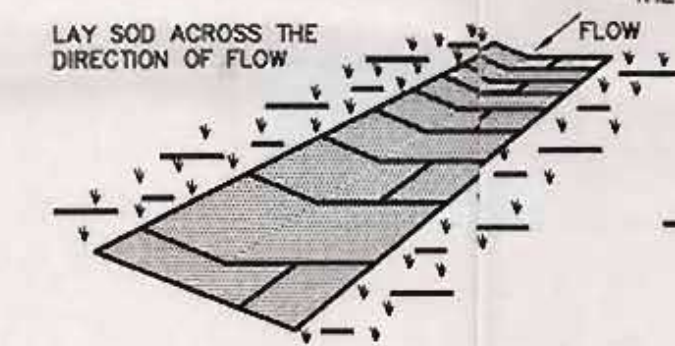
PLAT NO. _____
JOB NO. 8923-00
DATE DECEMBER 2016
DESIGNER JP
CHECKED JD DRAWN RC
SHEET 2 OF 2

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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 ROWEL 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.



MATERIALS

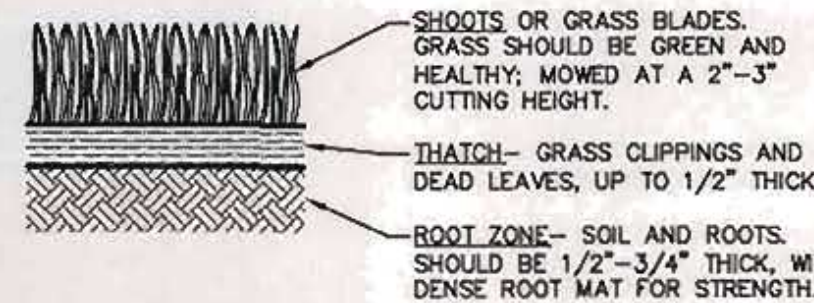
1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH ($\pm 1/4$ " INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.
2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5% 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 SOD PREPARATION, AREA TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.
2. THE SURFACE SHOULD BE CLEAR OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKE 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.

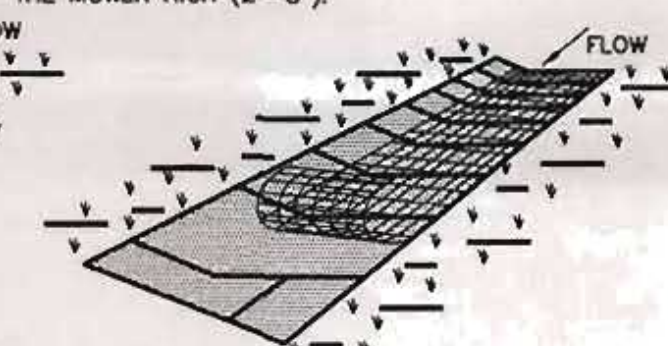
INSTALLATION IN CHANNELS

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.



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").



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

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

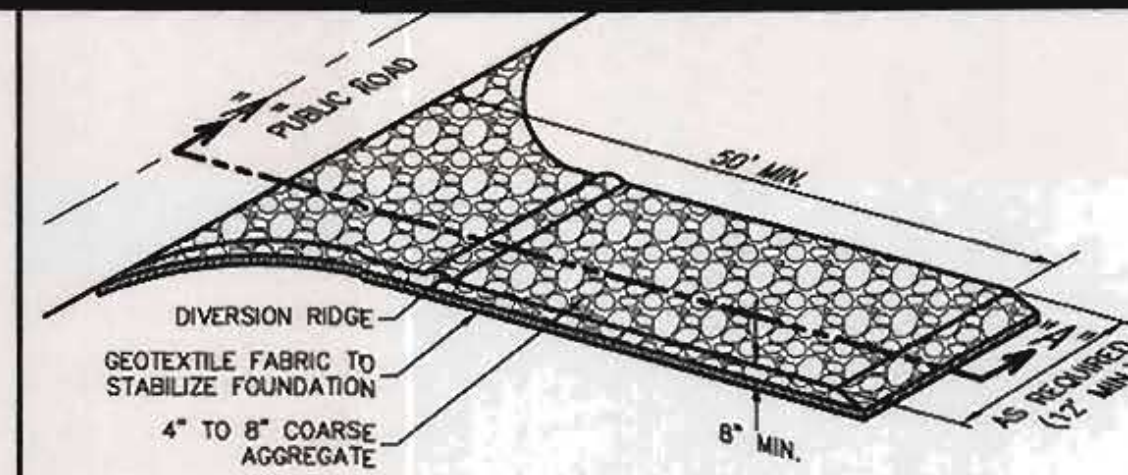
1. SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.
2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.
3. THE 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 SMALL STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

SOD INSTALLATION DETAIL

NOT-TO-SCALE



SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT

MATERIALS

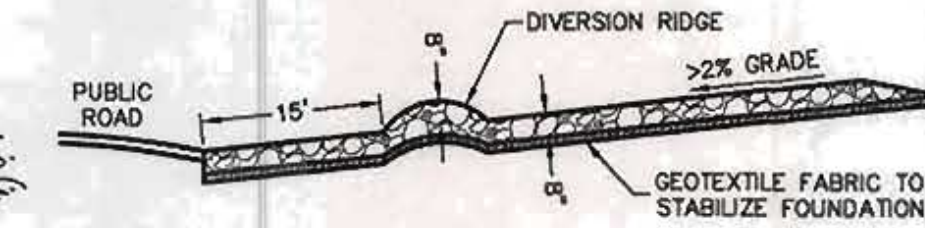
1. THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8-INCHES.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT 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 GROWN 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.

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT-TO-SCALE



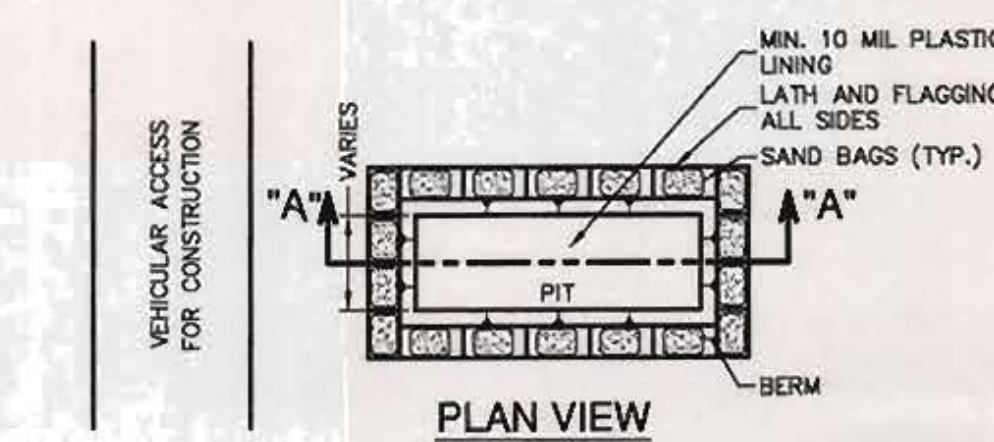
SECTION "A-A" OF A CONSTRUCTION ENTRANCE/EXIT

COMMON TROUBLE POINTS

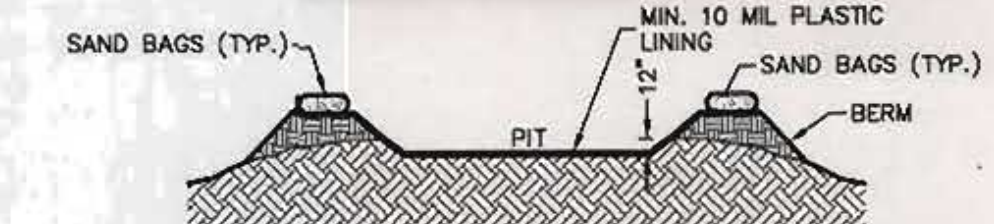
1. INADEQUATE RUNOFF CONTROL-SEDIMENT WASHES ONTO PUBLIC ROAD.
2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.
3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC-EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.
4. PAD NOT FLARED SUFFICIENTLY 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.



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.

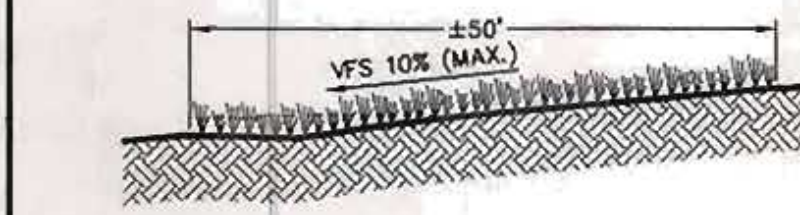
MAINTENANCE

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

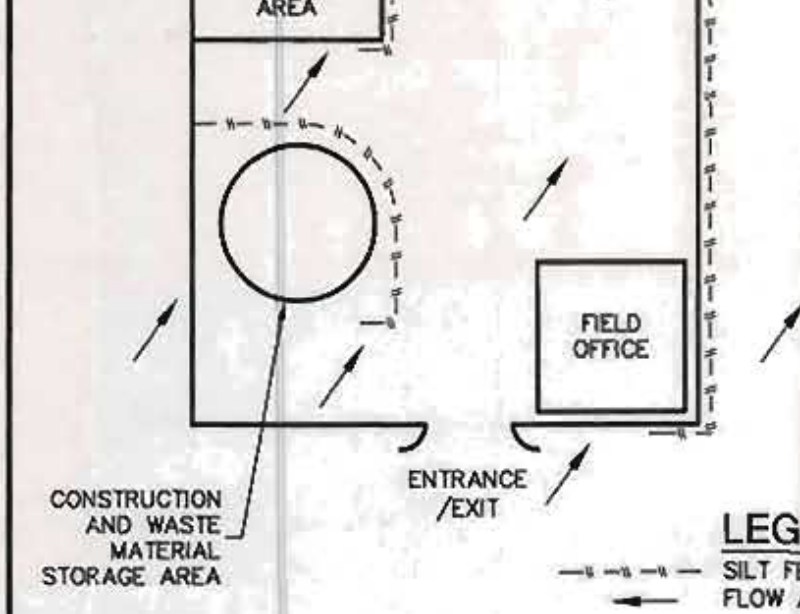
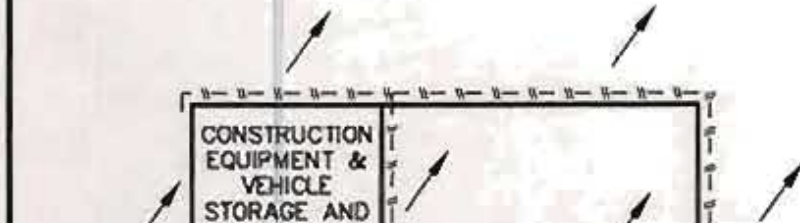
PIT DETAIL

NOT-TO-SCALE



NATURAL VEGETATIVE BUFFER DETAIL

NOT-TO-SCALE



CONSTRUCTION STAGING AREA

NOT-TO-SCALE

NO.	REVISION	DATE



**PAPE-DAWSON
ENGINEERS**

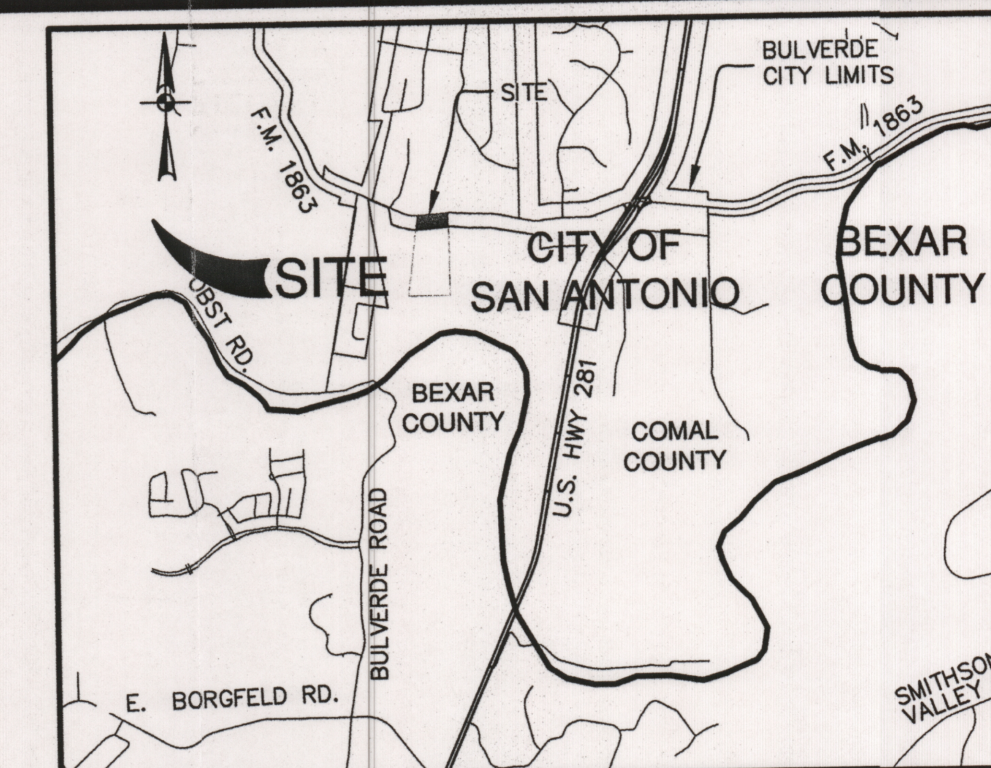
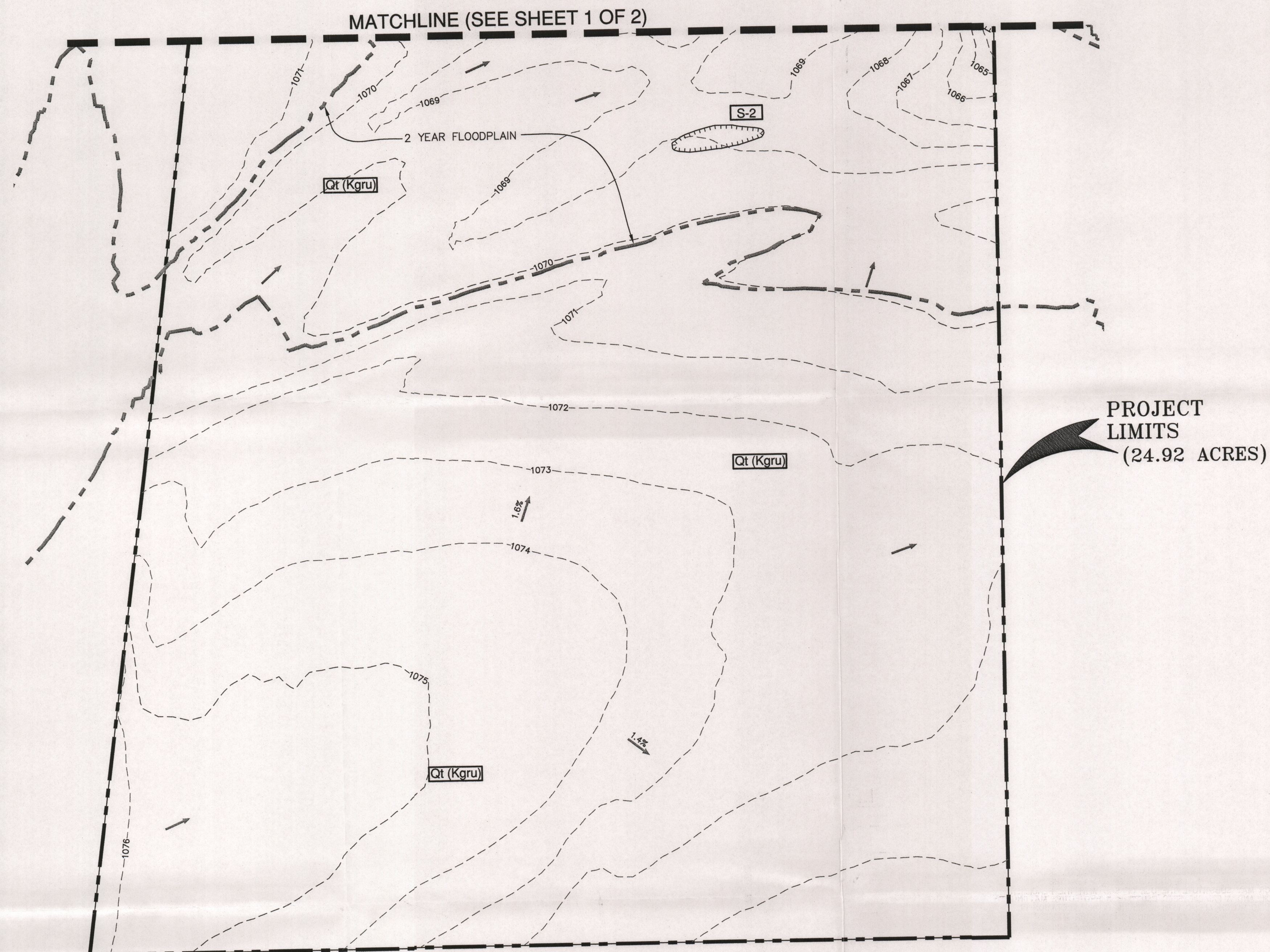
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.5000
TYPE FIRM REGISTRATION #470 | TYPE FIRM REGISTRATION #1002800

LIVING ROCK ACADEMY
BULVERDE, TEXAS

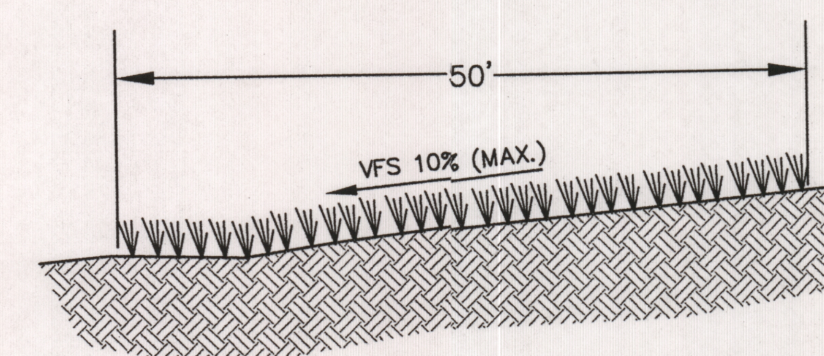
TEMPORARY POLLUTION ABATEMENT PLAN
TYPICAL DETAILS

PLAT NO.	8923-00
JOB NO.	8923-00
DATE	DECEMBER 2015
DESIGNER	JP
CHECKED	**
DRAWN	RO
SHEET	1 OF 1

EXHIBIT 2



LOCATION MAP
NOT-TO-SCALE



NATURAL VEGETATIVE BUFFER DETAIL
N.T.S.










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 SEEDS OF A SPECIES CONTRASTED TO THE SOIL. SEE DETAIL ON TEMPORARY POLLUTION ABATEMENT DETAIL SHEET AND REFER TO SECTION 1.3.11 IN TCEQ'S TECHNICAL GUIDANCE MANUAL R9-348 (2005). SOIL SHOULD BE USED IN CONTRAST TO THE SOIL TO BE REVEGETATED. USE OF TOP SOIL AND A FRABLE SEED BED WITH A PROTECTIVE MATTING OR HYDRAULIC MULCHING WITH WATER BOUND UNTIL VEGETATION IS ESTABLISHED. APPLICATION OF PRODUCTS SHALL BE DONE AS APPROVED BY TDDOT AS OF FEBRUARY 2001 AND IN COMPLIANCE WITH TGM R9-348 (2005). SEED MIXTURE AND APPLICATION RATES SHALL BE DETERMINED IN ACCORDANCE WITH TCEQ'S TECHNICAL GUIDANCE MANUAL (TGM) R9-348 (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 VEGETATIVE FILTERSTRIP. THIS PERMANENT BMP HAS BEEN DESIGNED TO REMOVE AT LEAST 80% OF THE TOTAL SOLIDS (TSS) FROM THE SOIL (TSS) FOR THE 24.92 ACRE IN ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL (TGM) R9-348 (2005).
5. TYPICAL SLOPES ON THIS PROJECT RANGE FROM APPROXIMATELY 2.8% TO 5.4%.

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.

LEGEND

- | | |
|---|-----------------------------|
|  | PROJECT LIMITS |
|  | EXISTING GRADE |
|  | PROPOSED GRADE |
|  | FLOW ARROW (EXISTING) |
|  | FLOW ARROW (PROPOSED) |
|  | FLUVIATILE TERRACE DEPOSITS |
|  | GLEN ROSE FORMATION (UPPER) |
|  | NON-KARST CLOSED DEPRESSION |
|  | 50' VEGETATIVE FILTER STRIP |

COUNTY ENGINEER

RECEIVED
DEC 20 2016

LIVING ROCK ACADEMY
BULVERDE, TEXAS

WATER POLLUTION ABATEMENT PLAN
PERMANENT WATER POLLUTION ABATEMENT PLAN

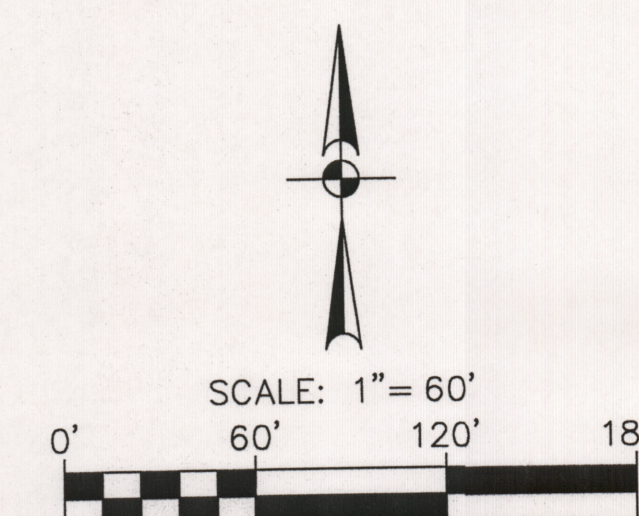


EXHIBIT 3

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.

PLAT NO. _____
JOB NO. 8923-00
DATE DECEMBER 2016
DESIGNER JP
CHECKED JD DRAWN R
SHEET **2 OF 2**