TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 18, 2014

The Honorable Sherman Krause
Comal County
195 David Jonas Dr.
New Braunfels, Texas 78132

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Tejas Rodeo Culvert Project; Located at 401 Obst Road; ETJ of Bulverde, Texas

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

Investigation No. 1159829; Regulated Entity No. RN107206963; Additional ID No. 13-14040801

Dear Judge Krause:

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 Comal County on April 8, 2014. Final review of the WPAP was completed after additional material was received on May 13, 2014, June 9, 2014 and June 12, 2014. As presented to the TCEQ, the Temporary Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The Tejas Rodeo Culvert project consists of an existing county road and low water crossing in which improvements to the culvert are proposed. Grading upstream and downstream of the culvert is also proposed. The project limits are approximately 0.26 acres with approximately 0.01 acres (3.85 percent) of impervious cover. The impervious cover consists of concrete rip-rap to be built with the culvert at the upstream and downstream inlet and outlets. No wastewater will be generated from this project.

PERMANENT POLLUTION ABATEMENT MEASURES

An exception to a permanent BMP for treatment of the 0.01 acres (3.85 percent) of impervious cover consisting of concrete rip-rap has been approved. The concrete rip-rap is a part of the infrastructure and not the actual driving surface.

GEOLOGY

According to the geologic assessment included with the application, the site is located within the lower member of the Glen Rose Formation. No geologic or manmade features were located by the project geologist in the area of the proposed culvert improvements. The San Antonio Regional Office site assessment conducted on May 21, 2014 revealed that the site was generally as described in the application.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

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

and this notice of approval shall be maintained at the project location until all regulated activities are completed.

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

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

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

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

<u>During Construction:</u>

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

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

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

13. No wells exist on the site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

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

years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Dianne Pavlicek, P.G., of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4074.

Sincerely,

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

LB/DP/eg

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

cc: Mr. Rick Wood, P.E., Pape-Dawson Engineers, Inc.
Mr. Thomas H. Hornseth, P.E., Comal County Engineer
Mr. Bill Krawietz, City of Bulverde
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

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JUN 23 2014
COUNTY ENGINEER

Change in Responsibility for Maintenance
on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: _____

Regulated Entity Name: _____

Site Address: _____

City, Texas, Zip: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____

Telephone: _____ FAX: _____

_____ _____
Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

PAPE-DAWSON ENGINEERS

LAND DEVELOPMENT ENVIRONMENTAL TRANSPORTATION WATER RESOURCES SURVEYING

June 6, 2014

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RECEIVED TCEQ
2014 JUN -9 PM 2:23
SAN ANTONIO REGION

Ms. Dianne Pavlicek
TCEQ - Region 13
14250 Judson Road
San Antonio, TX 78233-4480

Re: Tejas Rodeo Culvert
SA File No. 13-14040801

Dear Ms. Pavlicek:

We have reviewed your WPAP comments dated May 23, 2014, and offer the following responses.

1. It has been determined that an Exception Request for a permanent BMP must be submitted and equivalent water quality protection documented.

   Even though the impervious cover is only 0.01 acres (3.85 percent), it does not meet the condition of being a part of a single-family residential development, multi-family residential development, school or small business, thus a waiver from a permanent BMP cannot be approved.

   Another option might be to implement a vegetative filter strip as a permanent BMP.

   Response: ***The required items are attached.***

If you have any questions or require any additional information, please do not hesitate to contact our office at your earliest convenience.

Sincerely,
Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration #470

Caleb Chance, P.E.
Sr. Project Manager

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TCEQ
Protecting Texas by Reducing and Preventing Pollution

Fax Cover Sheet

Number of Pages: *(Including this sheet)* 2

Date: May 23, 2014
To: Rick Wood, P.E.
Organization: Pape-Dawson Engineers, Inc.
Fax: 210-375-9010

To: Sherman Krause
Organization: Comal County
Fax: 830-608-2009

From: Dianne Pavlicek, P.G.
Division : Edwards Aquifer Protection Program – San Antonio Region
Texas Commission on Environmental Quality
Phone: 210-403-4074
Fax: 210-545-4329

Re: Edwards Aquifer, Bexar County

Name of Project: Tejas Rodeo Culvert Project; Located at 401 Obst Road; Bulverde, Texas

Plan Type: Request for the Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213

San Antonio File No. 13-14040801

Dear Mr. Wood:

Further review of the WPAP you submitted on the above-referenced project has resulted in an additional comment as discussed in email dated May 22, 2014.

1. It has been determined that an Exception Request for a permanent BMP must be submitted and equivalent water quality protection documented.

   Even though the impervious cover is only 0.01 acres (3.85 percent), it does not meet the condition of being a part of a single-family residential development, multi-family residential development, school or small business, thus a wavier from a permanent BMP cannot be approved.

   Another option might be to implement a vegetative filter strip as a permanent BMP.

We ask that you submit one original and four copies of the amended materials to supplement the WPAP to this office by no later than **14 days from the date of this fax** to avoid denial of the plan. If the response to this notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, a second notice will be sent to you requiring a response within 14 days from the notice date. 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 will be denied unless you provide written notification that the application is being withdrawn. Please note that the application fee will be forfeited if the plan is not withdrawn. If you have any questions or require additional information, please contact Dianne Pavlicek, P.G., of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4074.

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COUNTY ENGINEER

Recharge And Transition Zone
Exception Request Form
30 TAC §213.9 Effective June 1, 1999

Regulated Entity Name: Tejas Rodeo Culvert

1. ✓ **ATTACHMENT A - Nature of Exception.** A narrative description of the nature of each exception requested is provided as **ATTACHMENT A** at the end of this form. All provisions of 30 TAC §213 Subchapter A for which an exception is being requested have been identified in the description.

2. ✓ **ATTACHMENT B - Documentation of Equivalent Water Quality Protection.** Documentation demonstrating equivalent water quality protection for the Edwards Aquifer is provided as **ATTACHMENT B** at the end of this form.

ADMINISTRATIVE INFORMATION

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

4. ✓ The applicant understands that no exception will be granted for a prohibited activity in Chapter 213.

5. ✓ The applicant understands that prior approval under this section must be obtained from the executive director for the exception to be authorized.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **RECHARGE AND TRANSITION ZONE EXCEPTION REQUEST FORM** application is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Rick Wood, P.E.
Print Name of Customer/Agent

Rick Wood
Signature of Customer/Agent

6/9/14
Date

ATTACHMENT A – NATURE OF EXCEPTION

The purpose of this attachment is to clarify the nature of this Exception Request. This application addresses an exception request to the Tejas Rodeo Culvert Water Pollution Abatement Plan (WPAP). The request is to install a culvert with 6" concrete rip-rap headwalls under the existing Obst Road adjacent to Tejas Rodeo. The WPAP was submitted by Pape-Dawson for Comal County after instruction from TCEQ to submit the proposed project as an under 20% plan.

The Tejas Rodeo Culvert site is within Comal County and the ETJ of San Antonio and located entirely over the Edwards Aquifer Recharge Zone. The WPAP proposed the construction of a culvert under the existing Obst Road to convey up-gradient runoff. The site consists of 0.01 acres of impervious cover (3.85%) out of an 0.26-acre site. Permanent Best Management Practices (PBMPs) for the site include 2 sedimentation/filtration basins.

The total impervious cover proposed with this WPAP Exception Request is a proposed culvert crossing with 6 inch concrete rip-rap (0.01 acres). Since this impervious cover is less than 20% of the project limits (0.26 acres) no PBMPs are required.

The Tejas Rodeo Culvert site was prepared to address improvements for an approximate 0.26 acres located within the Comal County (Obst Road Right of Way (ROW) in front of Tejas Rodeo, 401 Obst Road Bulverde, Texas. Approximately 0.01 acres (3.85% of the project limits) of impervious cover are proposed for construction in this WPAP. The impervious cover consists of concrete rip-rap built with the culvert at the upstream and downstream inlet and outlets. This project is to drain an area which is currently blocked by the existing county road. The location of the small increase in impervious cover will be on the rip rap outside of the driving lane and not in a likely location to generate pollutants. The culvert construction within its project limits will be under 20% maximum increase in impervious cover, therefore, no other permanent BMPs are proposed for this WPAP.

The overall impervious cover proposed is less than 20% and therefore, in accordance with 30 TAC 213.5(6)(A)(III), the use of other permanent management practices (BPMPs) is not required. Since, increase of 0.01 acres of impervious cover will have an immeasurable effect to the overall impervious cover related to the 0.26 acres, we are requesting a WPAP exceptions request to additional PBMPs.

LOCATION MAP
MAPSCO MAP GRID: 414F8
NOT-TO-SCALE

SCALE: 1"= 50'
0' 50' 100' 150'

LEGEND

- PROJECT LIMITS
- 1190 EXISTING CONTOURS
- 1190 PROPOSED CONTOURS
- DRAINAGE AREA
- Tc DRAINAGE PATH
- EXISTING FENCE
- PROPOSED FENCE
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)

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JUN 23 2014
COUNTY ENGINEER

ATTACHMENT B

REVISIONS:

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

TEJAS RODEO CULVERT

WATER POLLUTION ABATEMENT PLAN ATTACHMENT B

JOB NO. 7674-00
DATE JUNE 2014
DESIGNER AT
CHECKED CC DRAWN AT
SHEET 1 OF 1

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 18, 2013

Mr. Trey Martin
Tejas Rodeo
401 Obst Road
Bulverde, Texas 78163

Re: Edwards Aquifer, Comal County

Name of Plan: Tejas Rodeo, located at 401 Obst Road, Bulverde, Texas

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

Edwards Aquifer Protection Program (EAPP) San Antonio File No. 2952.01
Regulated Entity No.: RN106035074; Investigation No. 1049717

Dear Mr. Martin:

The Texas Commission on Environmental Quality (TCEQ) received notice by mail from Ms. Cara Tackett, P.E., with Pape-Dawson Engineers, on April 16, 2013, to withdraw the above-referenced application from review on your behalf. As requested, the application fee of $6,500.00 will be held by the regional office for future submittal of the application.

If you have any questions or require additional information, please contact Todd Jones of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 490-3096.

Sincerely,

Todd Jones, Water Section Work Leader
San Antonio Regional Office

TJ/YD/eg

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

TCEQ
Protecting Texas by Reducing and Preventing Pollution

Fax Cover Sheet

Number of Pages: *(including this sheet)* 2

Date: May 23, 2014
To: Rick Wood, P.E.
Organization: Pape-Dawson Engineers, Inc.
Fax: 210-375-9010

To: Sherman Krause
Organization: Comal County
Fax: 830-608-2009

From: Dianne Pavlicek, P.G.
Division : Edwards Aquifer Protection Program – San Antonio Region
Texas Commission on Environmental Quality
Phone: 210-403-4074
Fax: 210-545-4329

Re: Edwards Aquifer, Bexar County

Name of Project: Tejas Rodeo Culvert Project; Located at 401 Obst Road; Bulverde, Texas

Plan Type: Request for the Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213

San Antonio File No. 13-14040801

Dear Mr. Wood:

Further review of the WPAP you submitted on the above-referenced project has resulted in an additional comment as discussed in email dated May 22, 2014.

1. It has been determined that an Exception Request for a permanent BMP must be submitted and equivalent water quality protection documented.

   Even though the impervious cover is only 0.01 acres (3.85 percent), it does not meet the condition of being a part of a single-family residential development, multi-family residential development, school or small business, thus a wavier from a permanent BMP cannot be approved.

   Another option might be to implement a vegetative filter strip as a permanent BMP.

We ask that you submit one original and four copies of the amended materials to supplement the WPAP to this office by no later than **14 days from the date of this fax** to avoid denial of the plan. If the response to this notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, a second notice will be sent to you requiring a response within 14 days from the notice date. 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 will be denied unless you provide written notification that the application is being withdrawn. Please note that the application fee will be forfeited if the plan is not withdrawn. If you have any questions or require additional information, please contact Dianne Pavlicek, P.G., of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4074.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 9, 2014

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

Re: Edwards Aquifer, Comal County
PROJECT NAME: Tejas Rodeo Culvert, located at 401 Obst Road, Bulverde, Texas

PLAN TYPE: Application for Approval of Water Pollution Abatement Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File No. and Regulated Entity No.: RN107206963
EAPP Additional ID: 13-14040801

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.

Please forward your comments to this office by May 9, 2014.

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

Todd Jones
Water Section Work Leader
San Antonio Regional Office

TJ/eg

PAPE-DAWSON ENGINEERS

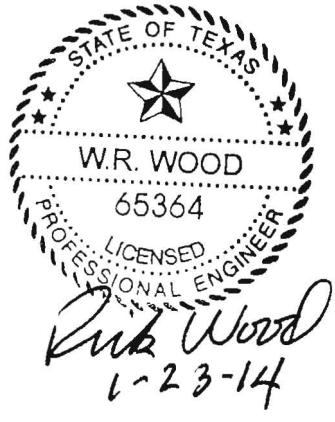
TEJAS RODEO CULVERT

Water Pollution Abatement Plan

January 2014

TEJAS RODEO CULVERT

Water Pollution Abatement Plan



January 2014

Texas Board of Professional Engineers, Firm Registration # 470

PAPE-DAWSON ENGINEERS

PAPE-DAWSON ENGINEERS

LAND DEVELOPMENT ENVIRONMENTAL TRANSPORTATION WATER RESOURCES SURVEYING

January 20, 2014

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

Re: Tejas Rodeo Culvert
Water Pollution Abatement Plan

Dear Mr. Anderson:

Please find attached one (1) original and five (5) copies of the Tejas Rodeo Culvert Water Pollution Abatement Plan. This Water Pollution Abatement Plan 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 0.26-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 ($3,000) and fee application are included. If you have questions or require additional information, please call our office.

Sincerely,
Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Rick Wood

Rick Wood, P.E.
Executive Vice President

Attachments

P:\76\74'00\Word\Report\Tejas Rodeo Culvert WPAP\131231a1_letter.doc

GENERAL INFORMATION

General Information Form
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

REGULATED ENTITY NAME: ***Tejas Rodeo Culvert***

COUNTY: ***Comal*** STREAM BASIN: ***Cibolo Creek***

EDWARDS AQUIFER: ✓ RECHARGE ZONE
__ TRANSITION ZONE

PLAN TYPE: ✓ WPAP __ AST __ EXCEPTION
__ SCS __ UST __ MODIFICATION

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: ***Sherman Krause***
Entity: ***Comal County***
Mailing Address: ***195 David Jonas Dr.***
City, State: ***New Braunfels, TX*** Zip: ***78132***
Telephone: ***(830) 608-2090*** FAX: ***(830) 608-2009***

Agent/Representative (If any):

Contact Person: ***Rick Wood, P.E.***
Entity: ***Pape-Dawson Engineers, Inc.***
Mailing Address: ***555 E. Ramsey***
City, State: ***San Antonio, Texas*** Zip: ***78216***
Telephone: ***(210) 375-9000*** FAX: ***(210) 375-9010***

2. __ This project is inside the city limits of _____.
✓ This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of ***Bulverde***.
__ This project is not located within any city's limits or ETJ.

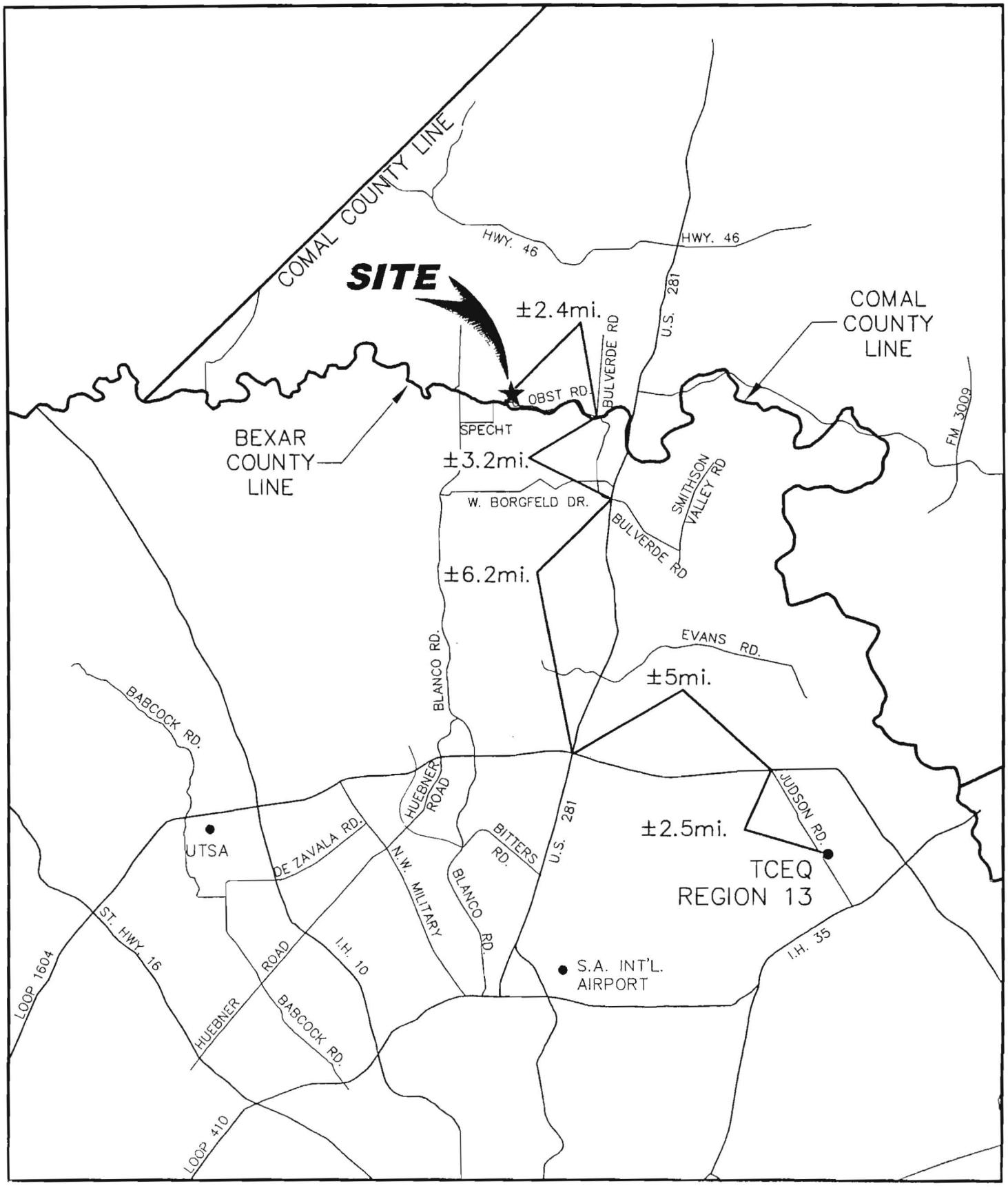
3. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

From TCEQ's regional office, travel 2.5 miles north on Judson Road to Loop 1604. Turn left onto Loop 1604 and proceed west approximately 5 miles to Hwy. 281 North. Exit 1604 and turn right onto U.S. Hwy. 281 North. Travel approximately 6.8 miles to Borgfeld Drive. Turn left onto E. Borgfeld Drive and proceed about 0.5 miles to Bulverde Road. Turn right onto Bulverde Road. Bulverde becomes Obst Road. The site is on the right at 401 Obst Road.

4. √ **ATTACHMENT A - ROAD MAP**. A road map showing directions to and the location of the project site is attached ~~at the end of this form~~ ***behind this sheet***.

TEJAS RODEO CULVERT
Water Pollution Abatement Plan

NOT TO SCALE



Pape-Dawson Engineers, Inc.

Date: Jan 08, 2014, 1:29pm User ID: rjackinia
File: P:\76\74\00\Design\Environmental\WPAP Texas Rodeo Culvert\RM767400.dwg

ATTACHMENT A
Road Map

5. √ **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 behind this sheet. The map(s) should clearly show:
   - √ Project site.
   - √ USGS Quadrangle Name(s).
   - √ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
   - √ Drainage path from the project to the boundary of the Recharge Zone.

6. √ 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. **The TCEQ must be able to inspect the project site or the application will be returned.**

7. √ **ATTACHMENT C - PROJECT DESCRIPTION**. ~~Attached at the end of this form~~ ***Provided below*** is a detailed narrative description of the proposed project.

Tejas Rodeo Culvert project consists of an existing county road and low water crossing in which improvements will be made to the culvert as well as grading upstream and downstream. The project limits will be approximately 0.26 acres within the Comal County (Obst Road) Right of Way (ROW) in front of 401 Obst Road Bulverde, Texas 78163. The project site is located outside the city limits but inside the extra-territorial jurisdiction of the City of Bulverde in Comal County, Texas. The site is located over the Edwards Aquifer Recharge Zone.

The Tejas Rodeo Culvert Water Pollution Abatement Plan (WPAP) proposes grading and drainage improvements.

Approximately 0.01 acres (3.85 % of the project limits) of impervious cover are proposed for construction in this WPAP. The impervious cover consists of concrete rip-rap built with the culvert at the upstream and downstream inlet and outlets. The overall impervious cover proposed is less than 20%, and therefore, in accordance with 30 TAC 213.5(6)(A)(III), the use of other permanent best management practices (BMPs) is not required.

Runoff from an up-gradient area is bypassed through the proposed culvert. The culvert has been designed for ultimate development. Since the upstream drainage area is treated by previously approved WPAP Permanent structures and the culvert construction will be well under the 20% maximum increase in impervious cover, no other permanent BMPs are required.

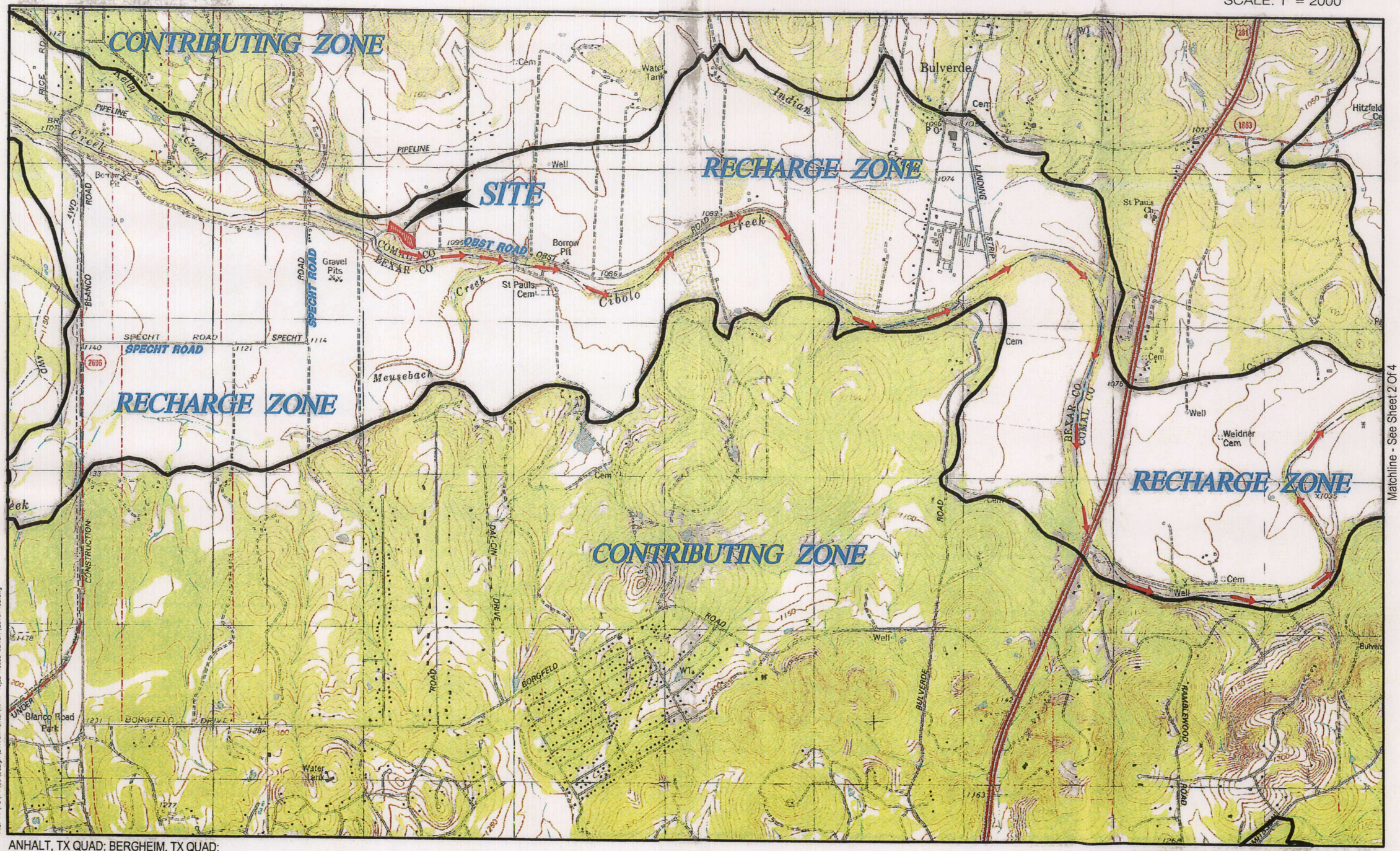
No geologic features have been identified in the Geologic Assessment.

No potable water service is to be provided. No wastewater will be disposed of.

8. 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)

TEJAS RODEO CULVERT
Water Pollution Abatement Plan

N
SCALE: 1" = 2000'



Date: Jan 08, 2014, 1:33pm User ID: rpaskin
File: P:\76\74.00\Design\Environmental\WPAP Tejas Rodeo Culvert\00767400.dwg

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

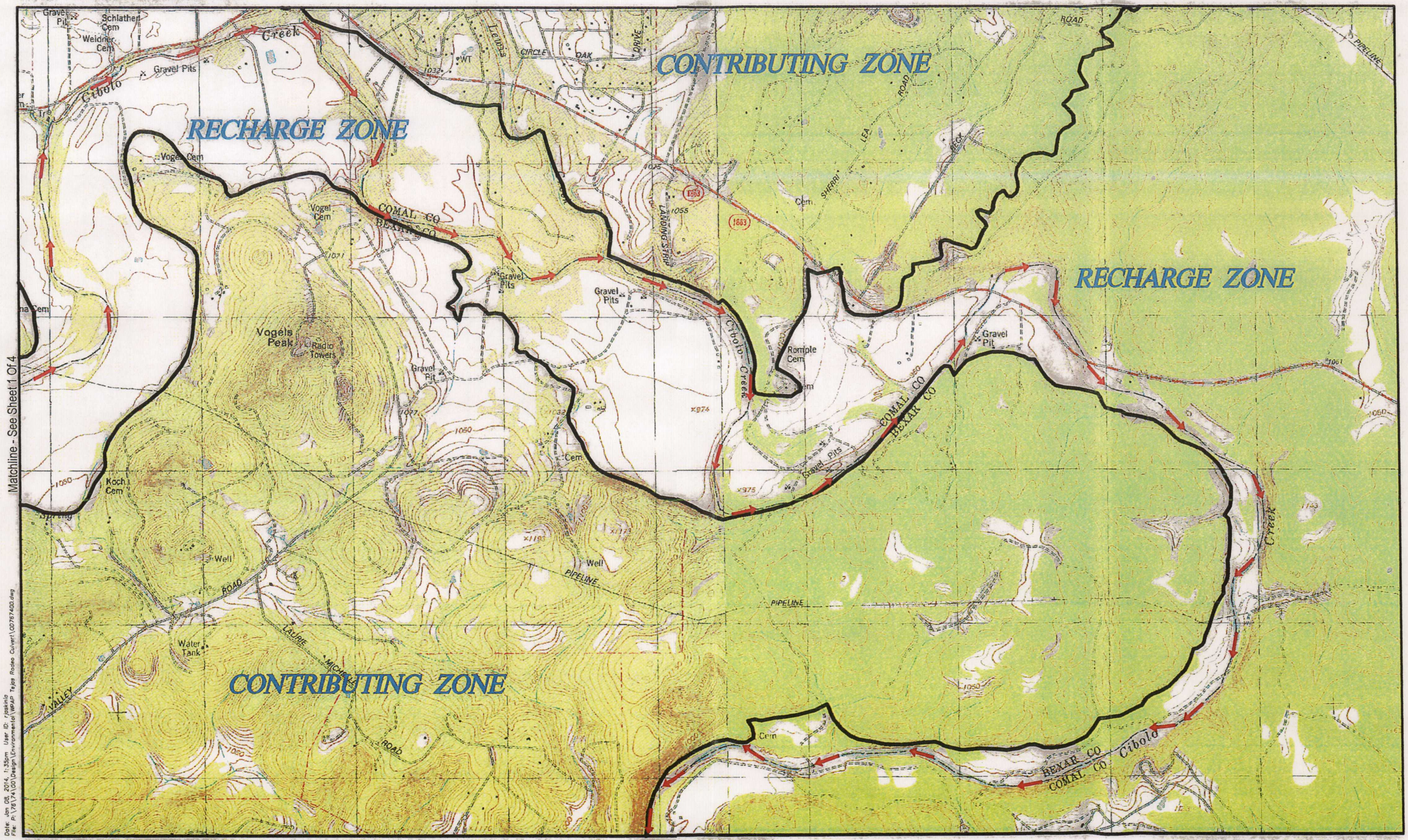
→ → Drainage Flow

Pape-Dawson Engineers, Inc.

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

TEJAS RODEO CULVERT
Water Pollution Abatement Plan

N
SCALE: 1" = 2000'



Matchline - See Sheet 1 Of 4

Date: Jan 08, 2014, 1:35pm User ID: rjaskinia
File: P:\761\4\GIS\design\Environmental\MapFiles Rodeo Culvert\GIS767402.dwg

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

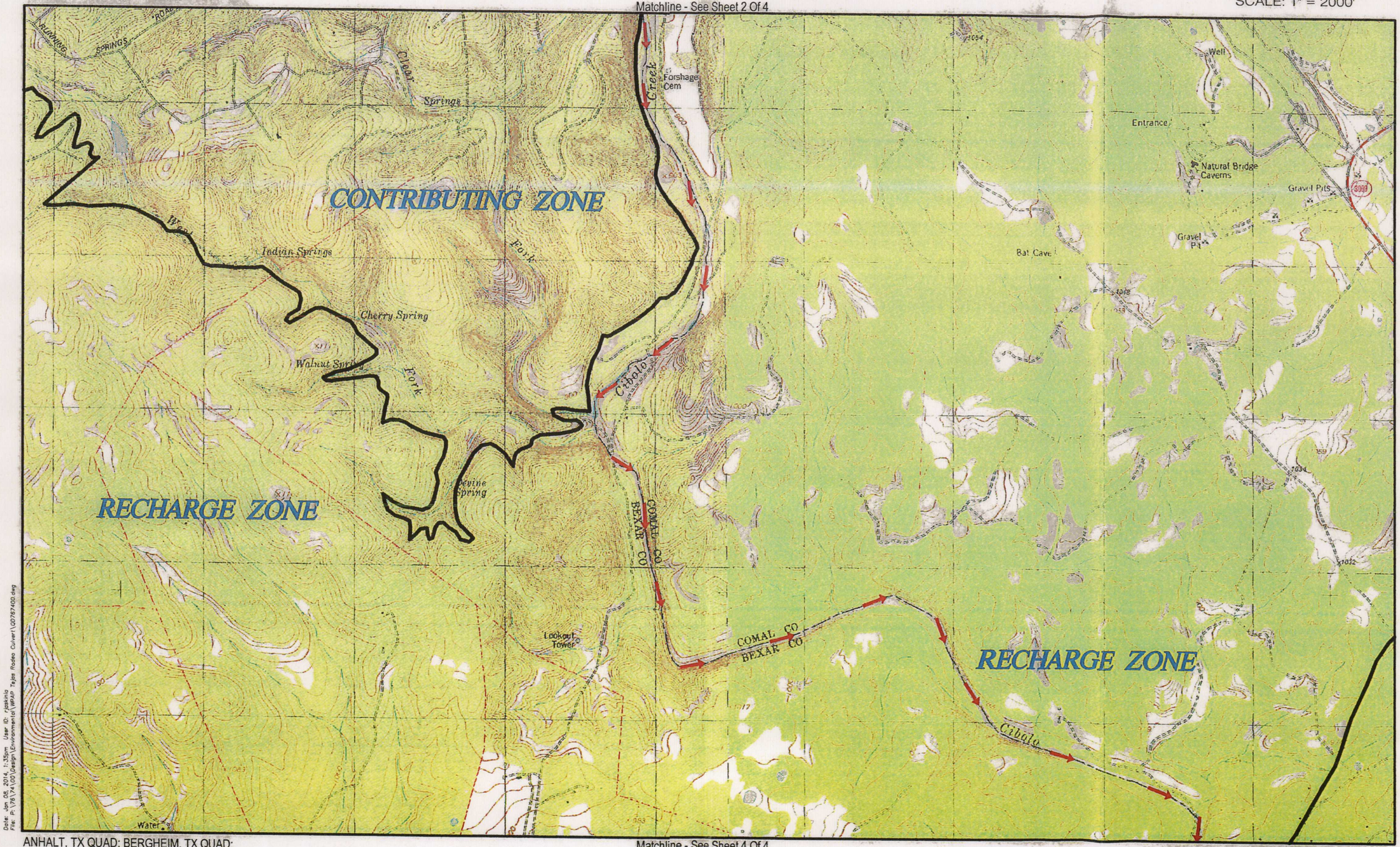
Matchline - See Sheet 3 Of 4

USGS/EDWARDS RECHARGE ZONE MAP
Sheet 2 Of 4
Attachment B

TEJAS RODEO CULVERT
Water Pollution Abatement Plan

N

SCALE: 1" = 2000'



Date: Jan 06, 2014, 1:35pm User ID: rjaskinia
File: P:\76\74100\Design\Environmental\WPAP Tejas Rodeo Culvert\007674100.dwg

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP

Sheet 3 Of 4

Attachment B

TEJAS RODEO CULVERT
Water Pollution Abatement Plan

Matchline - See Sheet 3 Of 4

N

SCALE: 1" = 2000'

Date: Jan 08, 2014, 1:35pm User ID: rpaskino
File: P:\76\74\00\Design\Environmental\WPAP Tejas Rodeo Culver\00767400.dwg

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX QUAD; BULVERDE, TX QUAD;
LONGHORN, TX QUAD; SCHERTZ, TX QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

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

__ Other: _____

PROHIBITED ACTIVITIES

9. ✓ 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).

10. ***N/A*** I am aware that the following activities are prohibited on the T**ransition 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

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

   ✓ For a Water Pollution Abatement Plan and Modifications, the total acreage of the site where regulated activities will occur.
   __ For an Organized Sewage Collection System Plans and Modifications, the total linear footage of all collection system lines.
   __ For a UST Facility Plan or an AST Facility Plan, 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.

12. 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)

13. ✓ 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.

14. ✓ 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.

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:

Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Rick Wood, P.E.
Print Name of ~~Customer~~/Agent

Rick Wood
Signature of ~~Customer~~/Agent

1-23-14
Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

PAPE-DAWSON ENGINEERS

MEMO

LAND DEVELOPMENT ENVIRONMENTAL TRANSPORTATION WATER RESOURCES SURVEYING

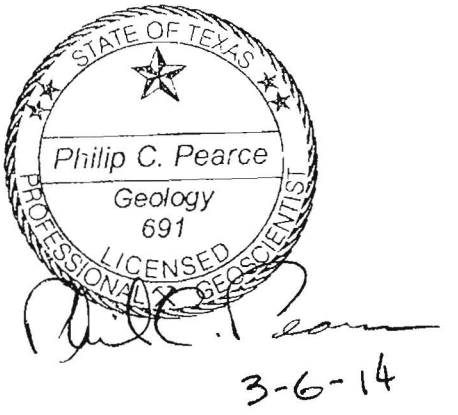
TO: Jason Diamond, P.E. **DATE: March 6, 2014**

FROM: Philip C. Pearce, P.G. **PROJECT NO.:7674-00**

CC:

RE: Tejas Rodeo/ Obst Road

I visited the site on March 6, 2014 and identified no geologic or manmade features in the area of the proposed culvert installation at Obst Road.



APPLICATION

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

REGULATED ENTITY NAME: ***Tejas Rodeo Culvert***

REGULATED ENTITY INFORMATION

1. The type of project is:
   - ___ Residential: # of Lots: _____
   - ___ Residential: # of Living Unit Equivalents: _____
   - ___ Commercial
   - ___ Industrial
   - ✓ Other: ***Drainage Improvements***

2. Total site acreage (size of property): ***0.26***

3. Projected population: ***0***

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

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops ***(& Driveways)***	***0***	÷ 43,560 =	***0***
Parking	***0***	÷ 43,560 =	***0***
Other paved surfaces ***(Streets & sidewalks)***	***281***	÷ 43,560 =	***0.01***
Total Impervious Cover	***281***	÷ 43,560 =	***0.01***
Total Impervious Cover ÷ Total Acreage x 100 =			***3.85%****

****0.01 ÷ 0.26 = 0.03846 x 100 = 3.85%***

5. √ **ATTACHMENT A - Factors Affecting Water Quality.** A description of any factors that could affect surface water and groundwater quality is provided ~~at the end of this form~~ ***below***.

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.***

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.

This application is not exclusively for a road project; therefore, questions 7-12 do not apply.

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: ***REMOVE AND REPLACE ASPHALT DURING INSTALLATION OF CULVERT***

9. Length of Right of Way (R.O.W.): ***350*** feet.
   Width of R.O.W.: ***80*** feet.
   L x W = ***350x80*** Ft² ÷ 43,560 Ft²/Acre = ***0.64*** acres.

10. Length of pavement area: ***6*** feet.
    Width of pavement area: ***20*** feet.
    L x W = ***6x20*** Ft² ÷ 43,560 Ft²/Acre = ***0.003*** acres.
    Pavement area ***0.003*** acres ÷ R.O.W. area ***0.64*** acres x 100 = ***0.47***% 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 description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is provided ~~at the end of this form~~ ***below***. The estimates of stormwater runoff quality and quantity should be based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Stormwater runoff will not increase as a result of this project. This project consists of drainage improvements by grading and construction of a culvert.

The grading will rout the water upstream towards the culvert which will bypass runoff under Obst Road towards a natural drainage area. The quality of the water will be consistent with that of an earthen drainage ditch along Obst Road. Since this development is less than 20% impervious cover the runoff will be of a higher quality than that of a high density or commercial development.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

N/A% Domestic	_____gallons/day
__% Industrial	_____ gallons/day
__% Commercial	_____ gallons/day

TOTAL_____ gallons/day ***(average)***

15. Wastewater will be disposed of by:

N/A **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. The appropriate licensing authority's (authorized agent) written approval is provided at the end of this form. It states that the land is suitable for the use of an on-site sewage facility or identifies areas that are not suitable.

✓ 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.

N/A 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. ***N/A*** All private service laterals will be inspected as required in 30 TAC §213.5.

SITE PLAN REQUIREMENTS

Items 17 through 27 must be included on the Site Plan.

Please see Exhibit 1 and 3 for site plan requirements.

17. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = ***20'***.

18. 100-year floodplain boundaries

✓ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

___ No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):

FEMA DFIRM (Digital Flood Insurance Rate Map for Bexar County, Texas and Incorporated areas) Panel 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. Show lots, recreation centers, buildings, roads, etc.

___ The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.

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

N/A 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.

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.

N/A **ATTACHMENT D - Exception to the Required Geologic Assessment**. An exception to the Geologic Assessment requirement is requested and explained ~~at the end of this form~~ ***Below***.

The adjacent Tejas Rodeo site was mapped previously. No features were identified in the location of the proposed grading & culvert. The entire ROW has been disturbed with construction of OBST Road.

22. √ The drainage patterns and approximate slopes anticipated after major grading activities.

Drainage patterns are illustrated by arrows. Slopes vary throughout the site. Typical slopes in this project will range from 1.2% to 33.3%(1:3 side slope).

23. √ Areas of soil disturbance and areas which will not be disturbed.

The nature of construction is such that it is difficult to predict areas that will be disturbed and revegetated. The construction plans include a note on Exhibit 1, which will require the contractor to revegetate disturbed areas with seeding, hydromulch or sod and sprinkling. All impervious cover areas will be disturbed. Approximately 0.26 acres may eventually be disturbed.

24. √ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

Temporary BMPs are shown on Exhibits 1. There are no Permanent BMPs, but we have still provided a Permanent Plan labeled Exhibit 2, respectively.

25. √ Locations where soil stabilization practices are expected to occur.

The nature of construction is such that it is difficult to predict areas that will be disturbed and revegetated. The construction plans include a note on Exhibit 1, which will require the contractor to revegetate disturbed areas with seeding, hydromulch or sod and sprinkling. All impervious cover areas will be disturbed. Approximately 0.26 acres may eventually be disturbed.

26. ***N/A*** Surface waters (including wetlands).

27. ___ Locations where stormwater discharges to surface water or sensitive features.
√ There will be no discharges to surface water or sensitive features.

ADMINISTRATIVE INFORMATION

28. √ 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.

29. √ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

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:

Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Rick Wood, P.E.
Print Name of ~~Customer~~/Agent

Rick Wood
Signature of ~~Customer~~/Agent

1-23-14
Date

TEMPORARY STORMWATER

Temporary Stormwater Section
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

REGULATED ENTITY NAME: ***Tejas Rodeo Culvert***

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:

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

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

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

   __ Fuels and hazardous substances will not be stored on-site.

   Temporary aboveground storage tank(s) may be located within the construction staging area in compliance with 30 TAC §213.

2. √ **ATTACHMENT A - Spill Response Actions**. A description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is provided at the end of this form.

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.** Describe ***below*** ~~in an attachment at the end of this form~~ any other activities or processes which may be a potential source of contamination.

   __ There are no other potential sources of contamination.

   Other potential sources of contamination during construction include:

   Potential Source • ***Asphalt products used on this project.***

   Preventative Measure ■ ***After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain.***

Potential Source • *Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.*

Preventative Measure
- *Vehicle maintenance when possible will be performed within the construction staging area.*
- *Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.*

Potential Source • *Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.*

Preventative Measure
- *Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.*
- *Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.*
- *Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.*
- *A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.*

Potential Source • *Miscellaneous trash and litter from construction workers and material wrappings.*

Preventive Measure
- *Trash containers will be placed throughout the site to encourage proper trash disposal.*

Potential Source • *Construction debris.*

Preventive Measure
- *Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.*

Potential Source • *Spills/Overflow of waste from portable toilets*

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

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 provided ~~at the end of this form~~ ***below***. For each activity described, an estimate of the total area of the site to be disturbed by each activity is given.

The sequence of major activities which disturb soil during construction on this

site will be completed in one stage. No more than 10 acres shall be disturbed within a common drainage area at one time, and construction of site preparation (grading, etc.) will precede culvert construction. The project consists of only grading and construction of a culvert. Total disturbance from construction may be approximately 0.26 acres, total.

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: ***Cibolo Creek***

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

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

7. √ **ATTACHMENT D - Temporary Best Management Practices and Measures.** A description of the TBMPs and measures that will be used during and after construction are provided ~~at the end of this form~~ ***below***. For each activity listed in the sequence of construction, include appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

Please see Exhibit 1 for TBMP layout and the response to "a" through "d" below for more details.

√ 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 has been provided ~~in the attachment at the end of this form~~ ***below***.

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.

Runoff from a small upgradient area crosses the site at the northeast boundary of the property. This upgradient area is developed. The runoff flow will be concentrated in the Obst Road drainage ditch and routed towards the proposed culvert. It will not cross over impervious areas of the road with the site. Since this project is under 20% other permanent BMPs are not required.

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: erection of silt fences along the downgradient boundary of construction activities for temporary erosion and sedimentation controls, installation of rock berms downgradient from areas of concentrated stormwater flow for temporary erosion control, installation

of stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, and 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 the aquifer, surface streams and/or sensitive features that may exist downstream.

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 the aquifer, surface streams and/or sensitive features that may exist downstream.

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.

Features discovered during construction will be reported and assessed in accordance with applicable regulations.

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.

   N/A **ATTACHMENT E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is provided at the end of this form. 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.** Describe 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. Placement of structural practices in floodplains has been avoided.

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

- *Erection of silt fences along the downgradient boundary of construction activities and rock berms for secondary protection, as located on Exhibit 1 and illustrated in Exhibit 2.*
- *Installation of stabilized construction entrance/exit(s) and construction staging area(s), as located on Exhibit 1, and illustrated on Exhibit 2.*

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

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

10. √ **ATTACHMENT G - Drainage Area Map**. A drainage area map is provided ~~at the end of this form~~ ***as Exhibit 2*** to support the following requirements.

— 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 ***will be used.***

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

11. *N/A* **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 has 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 provided as at the end of this form.

12. √ **ATTACHMENT I - Inspection and Maintenance for BMPs.** A plan for the inspection of temporary BMPs and measures and for their timely maintenance, repair, and, if necessary, retrofit is provided at the end of this form. A description of documentation procedures and recordkeeping practices is included in the plan.

13. √ All control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicates 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. *N/A* Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

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

SOIL STABILIZATION PRACTICES

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

17. √ **ATTACHMENT J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is ~~attached at the end of this form~~ ***below***.

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.

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.

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:

Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Rick Wood, P.E.
Print Name of ~~Customer~~/Agent

Rick Wood
Signature of ~~Customer~~/Agent

1-23-14
Date

Spill Response Actions

In the event of an accidental leak or spill:

- 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.

- Sand or material used to contain the spill should be collected and stored in such a way so as not to continue to affect additional ground. Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. In the event of potential rainfall the material should be covered with poly or plastic sheeting to prevent contaminating runoff.

- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill:

- The contractor will be required to report significant or hazardous spills in reportable quantities to:
  - 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)

- 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.

INSPECTIONS

Designated and qualified person(s) shall inspect Pollution Control Measures weekly and within 24 hours after a storm event. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of Storm Water TPDES data for a period of three years after the date of the inspection. 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.

Pollution Prevention Measure	Inspected	Corrective Action	
		Description	Date Completed
General			
Revegetation			
Erosion/sediment controls			
Vehicle exits			
Material areas			
Equipment areas			
Concrete rinse			
Construction debris			
Trash receptacles			
Infrastructure			
Roadway clearing			
Utility clearing			
Roadway grading			
Utility construction			
Drainage construction			
Roadway base			
Roadway surfaces			
Site cleanups			
Building			
Clearing for building			
Foundation grading			
Utility construction			
Foundation construction			
Building construction			
Site grading			
Site cleanup			

**Indicate N/A where measure does not apply.*

By my signature below, I certify that all items are acceptable and the project site is in compliance with SWPPP.

Inspector's Name _____ Inspector's Signature _____

Name of Owner/Operator (Firm) _____ Date _____

Note: Inspector is to attach a brief statement of his qualifications to this report.

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date

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

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date

PERMANENT STORMWATER

Permanent Stormwater Section

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

REGULATED ENTITY NAME: ***Tejas Rodeo Culvert***

Permanent best management practices (BMPs) 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.

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 provided below

   _____

   _____

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.

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.

   — This site will be used for low density single-family residential development and has 20% or less impervious cover.

   — This site will be used for low density single-family residential development but has more than 20% impervious cover.

   √ This site will not be used for low density single-family residential development.

   The impervious cover for this proposed project was calculated to be 3.85%; therefore, in accordance with TCEQ regulations, other permanent BMPs are not required.

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.

N/A **ATTACHMENT A - 20% or Less Impervious Cover Waiver.** This 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 found at the end of this form.

___ This site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

___ This 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 identified as **ATTACHMENT B** at the end of this form.

___ If no surface water, groundwater or stormwater originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form.

√ If 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, an explanation is provided ~~as **ATTACHMENT B** at the end of this form~~ ***below***.

Currently, the site receives upgradient flow from a developed area to the north. This area consists of rodeo grounds and a grass covered parking lot. This runoff is collected by the Obst Road drainage ditch and routed by the proposed culvert to Cibolo Creek. It will only cross proposed impervious cover of the culvert rip-rap associated with this project. Because of the nature and existing flow of this runoff, it will not increase the pollutant load generated. As such, no permanent pollution abatement measures will be necessary to treat up-gradient flow.

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 identified as **ATTACHMENT C** at the end of this form.

√ If 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, an explanation is provided ~~as **ATTACHMENT C** at the end of this form~~ ***below***.

Because this site will consist of drainage grading and culvert installation which has less than 20% impervious cover added to the area, other permanent BMPs will not be required. The impervious cover for this development was calculated to be 3.85%.

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 provided ~~at the end of this form~~ ***below***. Each feature identified in the Geologic Assessment as "sensitive" or "possibly sensitive" has been addressed.

The drainage improvement will ultimately have an impervious cover of less than 20% (calculated to be 3.85%); therefore, in accordance with TCEQ regulations, other BMPs are not required.

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" or "possibly sensitive" feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed for any naturally-occurring "sensitive" or "possibly sensitive" features on this site.

√ **ATTACHMENT E - Request to Seal Features.** A request to seal a naturally-occurring "sensitive" or "possibly sensitive" feature, that includes a justification as to why no reasonable and practicable alternative exists, is found at the end of this form. A request and justification has been provided for each feature.

10. ***N/A*** **ATTACHMENT F - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided at the end of this form. Design Calculations, TCEQ Construction Notes, all man-made or naturally occurring geologic features, all proposed structural measures, and appropriate details must be shown on the construction plans.

11. ***N/A*** **ATTACHMENT G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is provided at the end of this form. The plan has been prepared and certified by the engineer designing the permanent BMPs and measures. The plan has been signed by the owner or responsible party. The plan includes procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofits as well as a discussion of record keeping procedures.

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

— Pilot-scale field testing (including water quality monitoring) may be required for BMPs

that are not contained in technical guidance recognized by or prepared by the executive director.

N/A **ATTACHMENT H - Pilot-Scale Field Testing Plan.** A plan for pilot-scale field testing is provided at the end of this form.

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 provided ~~at the end of this form~~ ***below***. 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.

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

Responsibility for maintenance of permanent BMPs and measures after construction is complete.

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

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.

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:

Pape-Dawson Engineers, Inc.
Rick Wood, P.E.
Print Name of ~~Customer~~/Agent

Rick Wood
Signature of ~~Customer~~/Agent

1-23-14
Date

AGENT AUTHORIZATION

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I ***Sherman Krause***,
Print Name

County Judge,
Title - Owner/President/Other

RECEIVED
FEB 27 2014
COUNTY ENGINEER

of ***Comal County***,
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.

SIGNATURE PAGE:

Applicant's Signature

FEB 27, 2014
Date

THE STATE OF TEXAS §

County of COMAL §

BEFORE ME, the undersigned authority, on this day personally appeared Sherman Krause 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 27 day of February, 2014.

NOTARY PUBLIC

CHRISTY RULE
Notary Public, State of Texas
My Commission Expires
NOVEMBER 05, 2015

Christy Rule
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: Nov. 5th, 2015

RECEIVED
FEB 27 2014
COUNTY ENGINEER

FEE FORM

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Application Fee Form

NAME OF PROPOSED REGULATED ENTITY: ***Tejas Rodeo Culvert***
REGULATED ENTITY LOCATION: ***Right of Way near 401 Obst Road***
NAME OF CUSTOMER: ***Comal County***
CONTACT PERSON: ***Sherman Krause*** PHONE: ***(830) 221-1105***
(Please Print)

Customer Reference Number (if issued): CN _____ (nine digits)

Regulated Entity Reference Number (if issued): RN _____ (nine digits)

Austin Regional Office (3373) ☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362) ☐ Bexar ☒ Comal ☐ Medina ☐ Kinney ☐ Uvalde

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 (Check One):

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

☐ **Overnight Delivery to TCEQ:**
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-0347

Site Location (Check All That Apply): ☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	***0.26*** Acres	$ 3,000
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature _____ Date 3/3/14

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

PROJECT	PROJECT AREA IN ACRES	FEE
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

PROJECT	COST PER LINEAR FOOT	MINIMUM FEE MAXIMUM FEE
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

PROJECT	COST PER TANK OR PIPING SYSTEM	MINIMUM FEE MAXIMUM FEE
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 18, 2013

Mr. Trey Martin
Tejas Rodeo
401 Obst Road
Bulverde, Texas 78163

Re: Edwards Aquifer, Comal County

Name of Plan: Tejas Rodeo, located at 401 Obst Road, Bulverde, Texas

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

Edwards Aquifer Protection Program (EAPP) San Antonio File No. 2952.01
Regulated Entity No.: RN106035074; Investigation No. 1049717

Dear Mr. Martin:

The Texas Commission on Environmental Quality (TCEQ) received notice by mail from Ms. Cara Tackett, P.E., with Pape-Dawson Engineers, on April 16, 2013, to withdraw the above-referenced application from review on your behalf. As requested, the application fee of $6,500.00 will be held by the regional office for future submittal of the application.

If you have any questions or require additional information, please contact Todd Jones of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 490-3096.

Sincerely,

Todd Jones, Water Section Work Leader
San Antonio Regional Office

TJ/YD/eg

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

EXHIBITS

TCEQ FORM

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided)*

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Attachments — Describe Any Attachments: *(ex. Title V Application, Waste Transporter Application, etc.)*

☒ Yes ☐ No — Water Pollution Abatement Plan Applicaton and Exhibits

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN 600647275		RN

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)

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

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

7. General Customer Information

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State) ☒ No Change**

If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.

8. Type of Customer:	☐ Corporation	☐ Individual	☐ Sole Proprietorship- D.B.A
☐ City Government	☐ County Government	☐ Federal Government	☐ State Government
☐ Other Government	☐ General Partnership	☐ Limited Partnership	☐ Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)*	*If new Customer, enter previous Customer below*	*End Date:*

10. Mailing Address:							
	City		State		ZIP		ZIP + 4

11. Country Mailing Information *(if outside USA)*	12. E-Mail Address *(if applicable)*

13. Telephone Number	14. Extension or Code	15. Fax Number *(if applicable)*
( ) -		( ) -

16. Federal Tax ID *(9 digits)*	17. TX State Franchise Tax ID *(11 digits)*	18. DUNS Number *(if applicable)*	19. TX SOS Filing Number *(if applicable)*

20. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated?

☐ Yes ☐ No

SECTION III: Regulated Entity Information

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

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information ☐ No Change** *(See below)*

**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

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

Tejas Rodeo Culvert

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*	401 Obst Road						
	City	Bulverde	State	TX	ZIP	78163	ZIP + 4	2022
25. Mailing Address:	401 Obst Road						
	City	Bulverde	State	TX	ZIP	78163	ZIP + 4	2022

26. E-Mail Address:	trey@tejasrodeo.com	
27. Telephone Number	28. Extension or Code	29. Fax Number *(if applicable)*
(830) 980-2226		(830) 438-3395

30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)	33. Secondary NAICS Code (5 or 6 digits)
1623	1611	237110	237310

34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*

Construction of culvert and replace removed portion of Obst Rd.

Questions 34 – 37 address geographic location. Please refer to the instructions for applicability.

35. Description to Physical Location:	Approximately 2.4 miles from the intersection of Bulverde Lane and Obst Road.

36. Nearest City	County	State	Nearest ZIP Code
Bulverde	Comal	TX	78132

37. Latitude (N) In Decimal:	29.736247		38. Longitude (W) In Decimal:	98.490222		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	
29	44	10.4886	98	29	24.7992	

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 or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

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

SECTION IV: Preparer Information

40. Name:	Russell Jaskinia, E.I.T.	41. Title:	Engineer III

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 375-9000		(210) 375-9040	rjaskinia@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 9 and/or as required for the updates to the ID numbers identified in field 39.

(See the Core Data Form instructions for more information on who should sign this form.)

Company:	Pape-Dawson Engineers, Inc.	Job Title:	Executive Vice President
Name *(In Print)* :	Rick Wood, P.E.	Phone:	(210) 375-9000
Signature:	Rick Wood	Date:	4-3-14

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 29, 2015

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

Re: PROJECT NAME: Tejas Rodeo, located at 401 Obst Road, Bulverde, Texas

PLAN TYPE: Application for 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 June 29, 2015.

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

Todd Jones
Water Section Work Leader
San Antonio Regional Office

TJ/eg

PAPE-DAWSON ENGINEERS

50th ANNIVERSARY

San Antonio | Austin | Houston | Fort Worth | Dallas

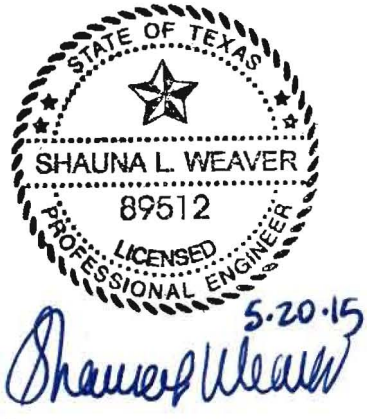
TEJAS RODEO

Water Pollution Abatement Plan

May 2015

TEJAS RODEO

Water Pollution Abatement Plan



May 2015

Texas Board of Professional Engineers, Firm Registration # 470

PAPE-DAWSON ENGINEERS

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or 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: *Tejas Rodeo*						**2. Regulated Entity No.:** *RN106035074*		
3. Customer Name: *Mr. Troy "Trey" S. Martin, III*						**4. Customer No.:** *CN603776451*		
5. Project Type: **(Please circle/check one)**	(New)		Modification			Extension	Exception	
6. Plan Type: **(Please circle/check one)**	(WPAP)	CZP	SCS	UST	AST	EXP EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		(Non-residential)			**8. Site (acres):**		*23.09*
9. Application Fee:	*$6,500*		**10. Permanent BMP(s):**			*Rainwater Collection, Engineered Vegetated Filter Strip, Retentional/Irrigation*		
11. SCS (Linear Ft.):	*N/A*		**12. AST/UST (No. Tanks):**			*N/A*		
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)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

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

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Pape-Dawson Engineers, Inc. / Shauna L. Weaver, P.E.
Print Name of Customer/Authorized Agent Shauna L Weaver 5-11-15 Signature of Customer/Authorized Agent Date

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

PAPE-DAWSON ENGINEERS

May 20, 2015

Mr. Joel Anderson
TCEQ - Region 13
14250 Judson Road
San Antonio, TX 78233-4480

Re: Tejas Rodeo
Water Pollution Abatement Plan

Dear Mr. Anderson:

Please find attached one (1) original and five (5) copies of the Tejas Rodeo Water Pollution Abatement Plan (WPAP). This WPAP has been prepared in accordance with the Texas Administrative Code (30 TAC 213), and current policies for development over the Edwards Aquifer Recharge Zone.

This WPAP applies to an approximate 23.09-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 fee ($6,500) and fee application were submitted with a previous application that was subsequently withdrawn. The fee was retained by TCEQ and should be applied to this application (see attached letter). If you have any questions or require additional information, please do not hesitate to contact me at your earliest convenience.

Sincerely,
Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Shauna L. Weaver, P.E.
Vice President

Attachments

P:\76\74\00\WORD\REPORT\WPAP 2015\150508A1 LTR - TCEQ.DOCX

GENERAL INFORMATION

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: Pape-Dawson Engineers, Inc./Shauna L. Weaver, P.E.

Date: 5-11-15

Signature of Customer/Agent:

Shauna L Weaver

Project Information

1. Regulated Entity Name: Tejas Rodeo
2. County: Comal
3. Stream Basin: Cibolo Creek
4. Groundwater Conservation District (If applicable): Edwards Aquifer Authority
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

Contact Person: Mr. Troy "Trey" S. Martin, III
Entity: Tejas Rodeo
Mailing Address: 401 Obst Road
City, State: Bulverde, TX Zip: 78163-2094
Telephone: (830) 980-2226 FAX: (830) 438-3395
Email Address: trey@tejasrodeo.com

8. Agent/Representative (If any):

Contact Person: Shauna L. Weaver, 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: sweaver@pape-dawson.com

9. Project Location:

☐ The project site is located inside the city limits of _____.
☒ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of San Antonio.
☐ 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 2.5 miles north on Judson Road to Loop 1604. Turn left onto Loop 1604 and proceed west approximately 5 miles to Hwy. 281 North. Exit 1604 and turn right onto U.S. Hwy. 281 North. Travel approximately 6.2 miles to Bulverde Rd. Turn left onto Bulverde Rd and proceed about 3.2 miles to where Bulverde Road becomes Obst Road. Proceed 2.4 miles on Obst Road. The site is on the right at 401 Obst Road.

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: Site is fenced.

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

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

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

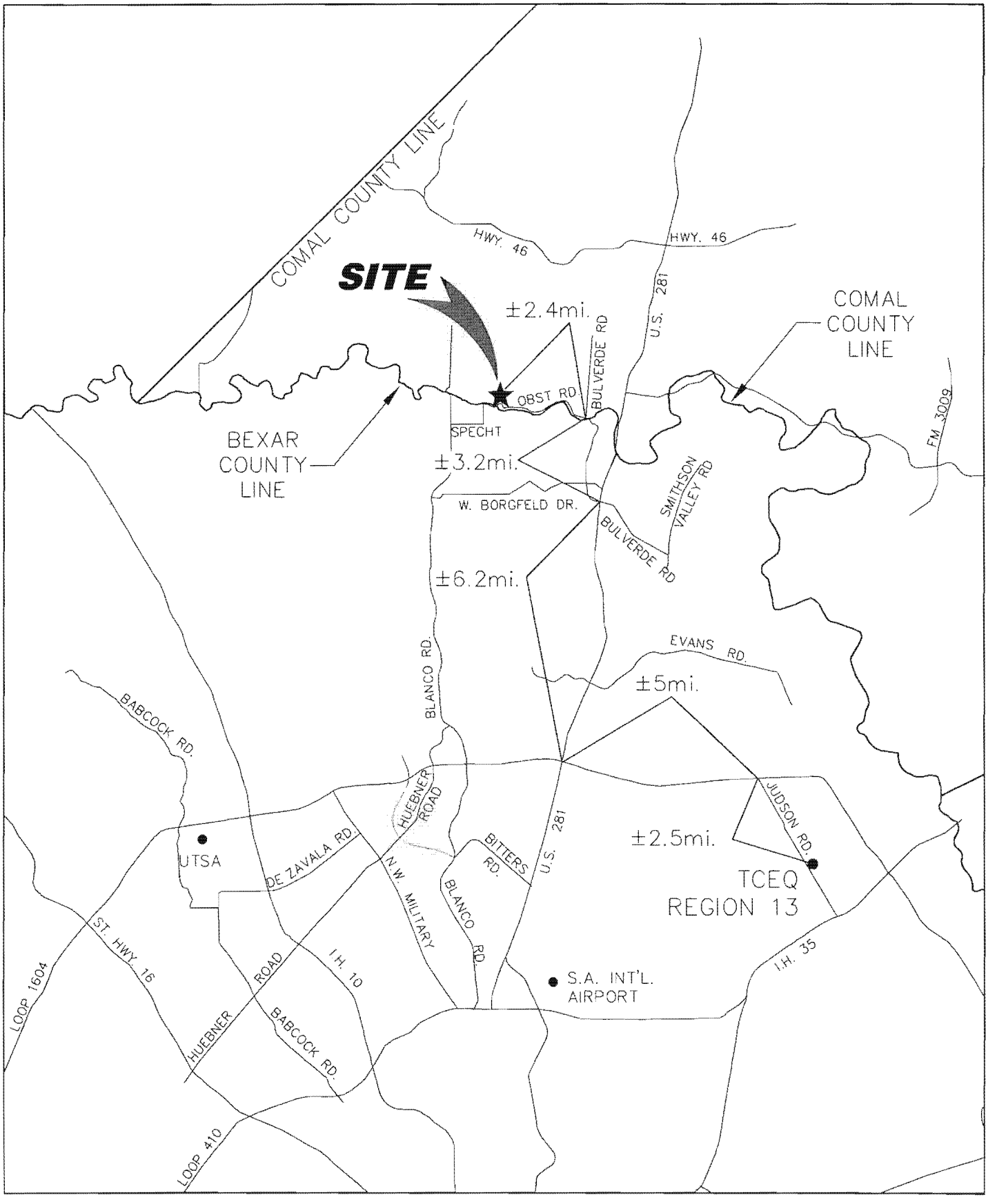
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

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

ATTACHMENT A

TEJAS RODEO
Water Pollution Abatement Plan

NOT TO SCALE



Pape-Dawson Engineers, Inc.

Date: May 08, 2015, 10:14am User ID: JQuintanilla
File: P:\76\74\00\Design\Environmental\WPAP\PM767400.dwg

ATTACHMENT A
Road Map

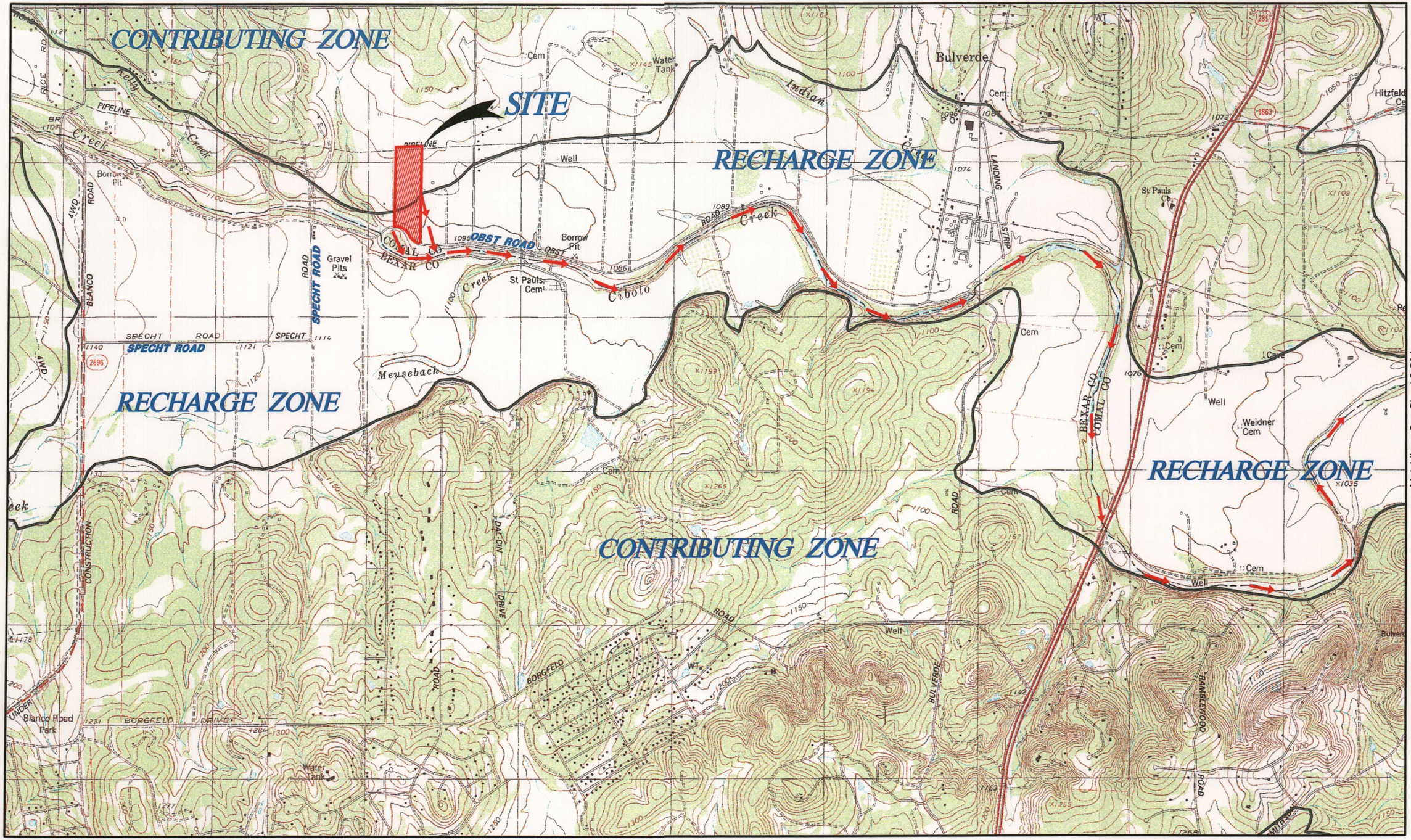
ATTACHMENT B

TEJAS RODEO

Water Pollution Abatement Plan

N

SCALE: 1" = 2000'



Date: May. 20, 2015, 9:32am User ID: mgelatweidt
File: P:\76 V74.100\Design\Environmental\MPAP\2076740O.dwg

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP

Sheet 1 Of 4

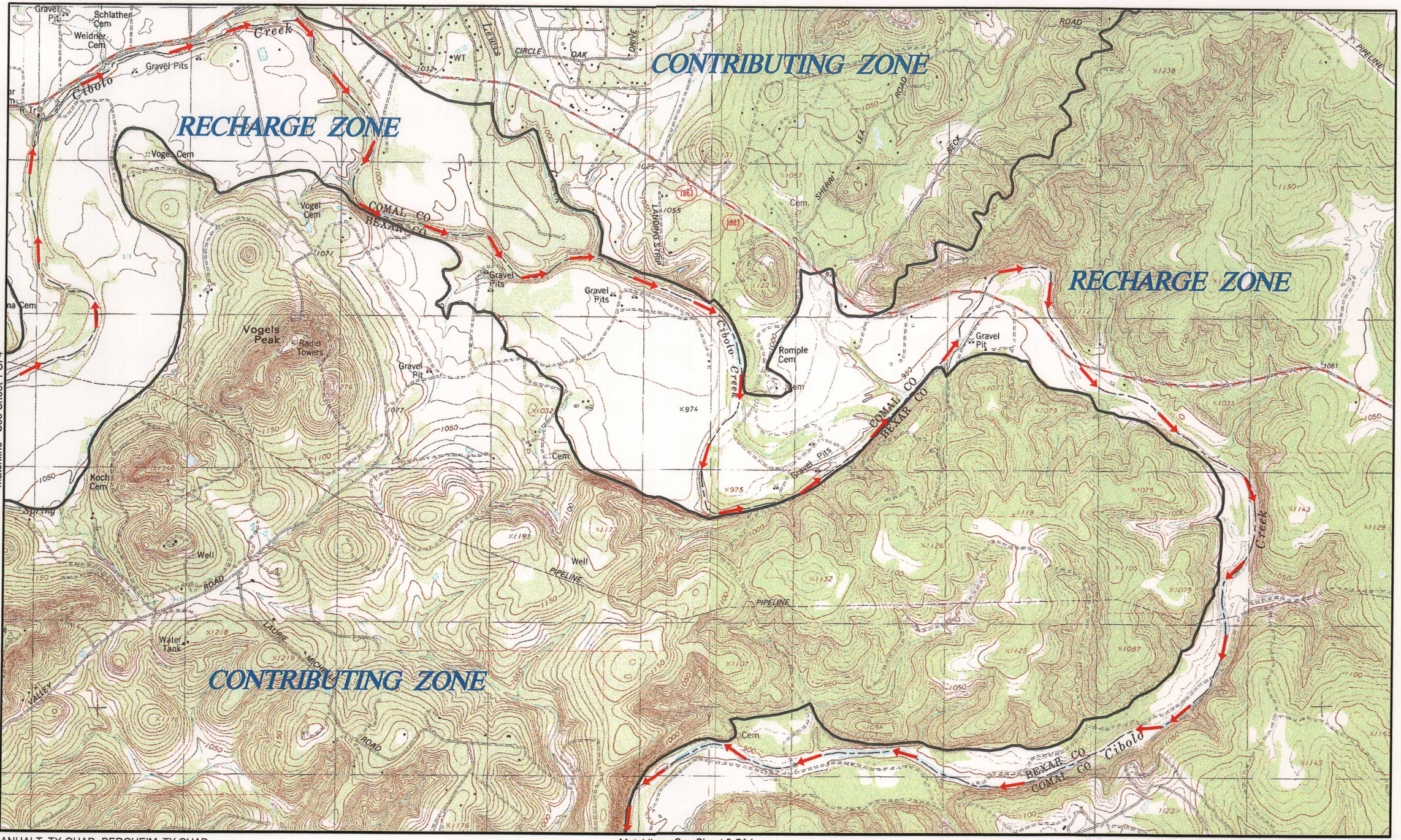
Attachment B

TEJAS RODEO

Water Pollution Abatement Plan

N

SCALE: 1" = 2000'



Matchline - See Sheet 1 Of 4

Matchline - See Sheet 3 Of 4

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP

Sheet 2 Of 4

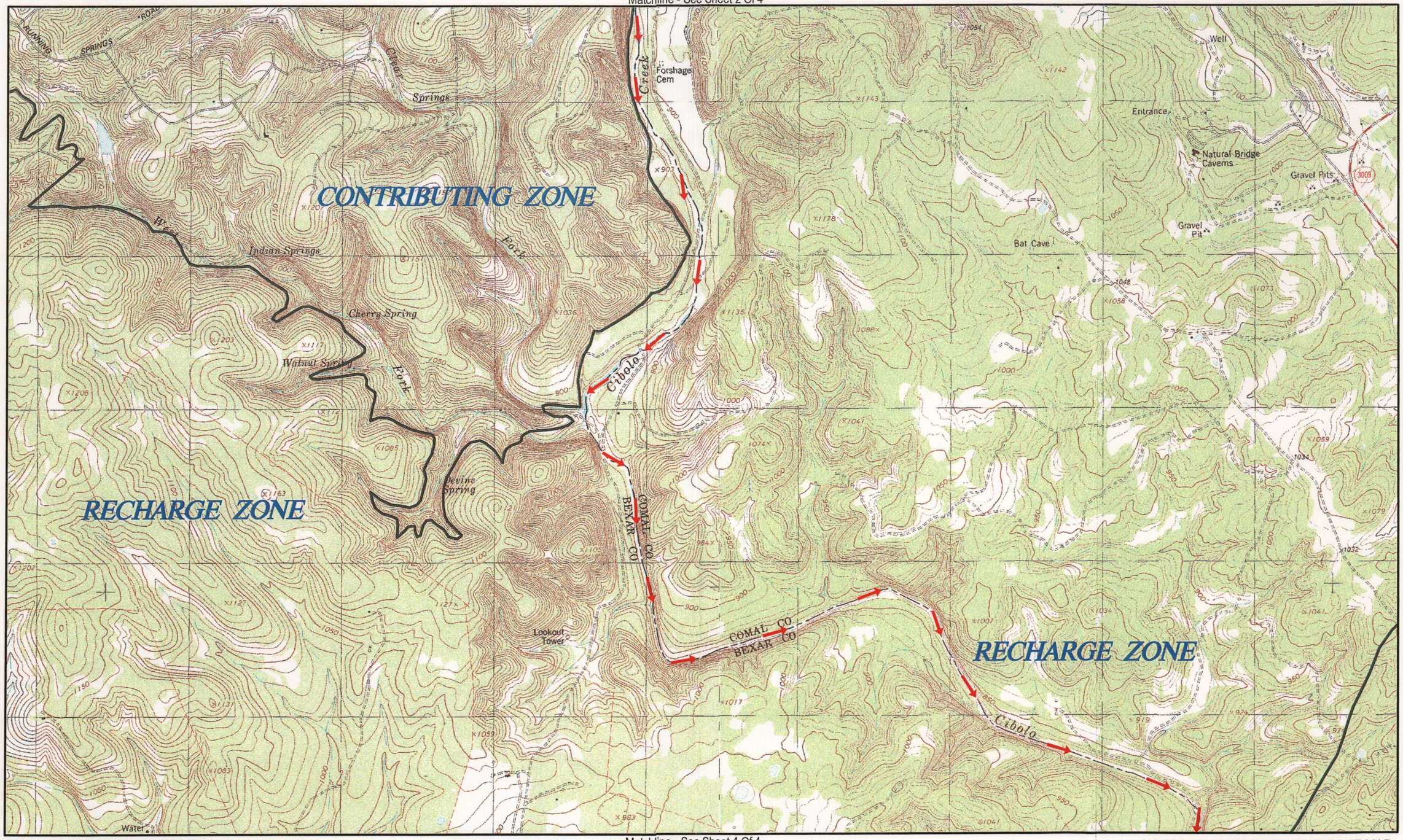
Attachment B

Date: May 20, 2015, 9:32am User ID: mgaistweidt
File: P:\09 Jobs\74 (00)\Design\Environmental\WPAP\00787400.dwg

TEJAS RODEO
Water Pollution Abatement Plan

N
SCALE: 1" = 2000'

Matchline - See Sheet 2 Of 4



Matchline - See Sheet 4 Of 4

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

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

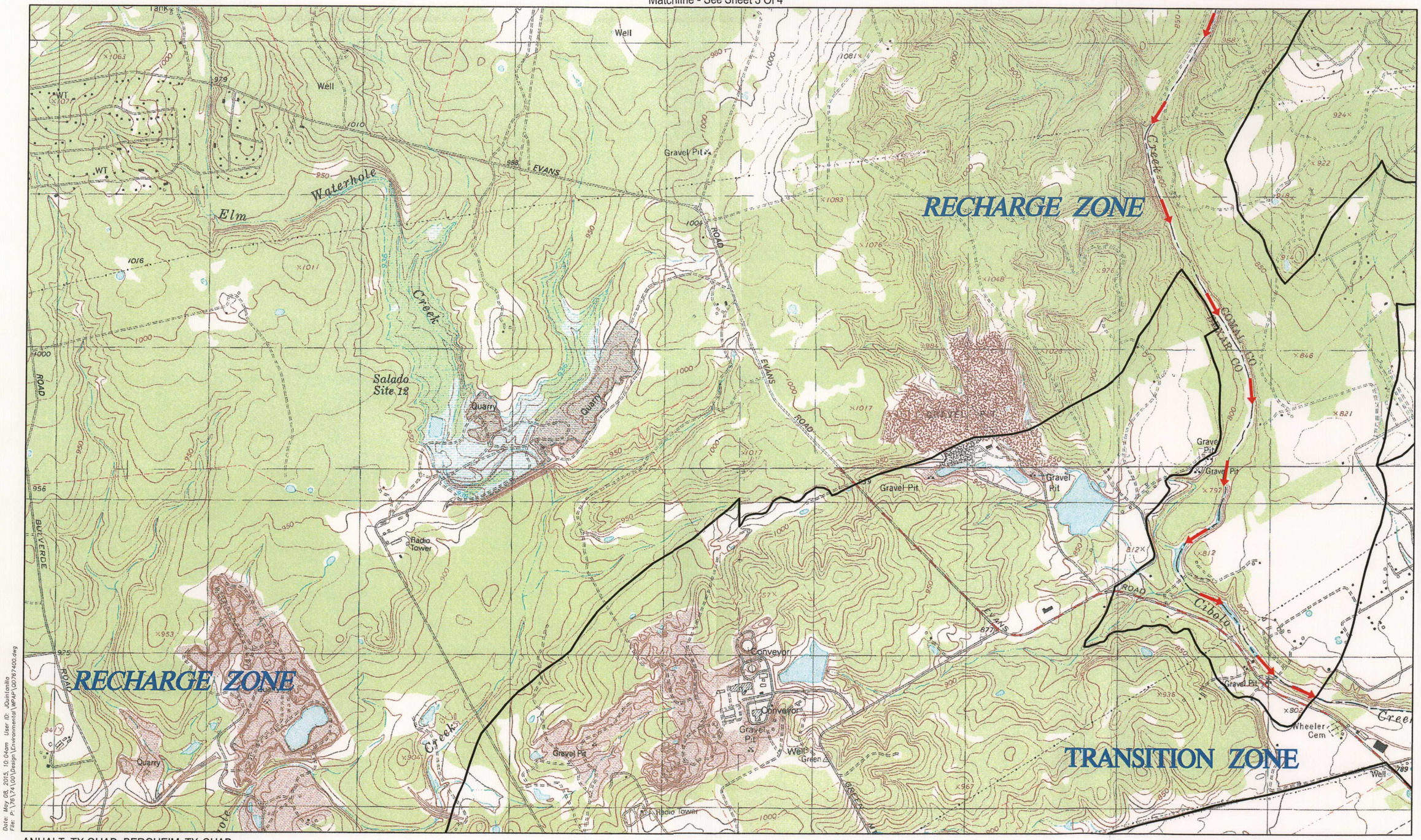
Date: May 20, 2015, 9:33am User ID: mgatewood
File: P:\76\74\00\Design\Environmental\MPAP\00767400.dwg

TEJAS RODEO
Water Pollution Abatement Plan

Matchline - See Sheet 3 Of 4

N

SCALE: 1" = 2000'



Date: May 08, 2015, 10:04am User ID: JQuintanilla
File: P:\76\74\00\Design\Environmental\WPAP\00767400.dwg

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX QUAD; BULVERDE, TX QUAD;
LONGHORN, TX QUAD; SCHERTZ, TX QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

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

ATTACHMENT C

Attachment C – Project Description

The following tables are referenced in the Project Description:
Table 1 – Master Loading Summary
Table 2 – Loading Summary by Watersheds
Table 3 – Loading Summary by Treatment Facility

Area of the Site and Offsite Areas

The onsite area of this property is 23.09 acres plus 0.409 acres of offsite area that include driveways to Obst Road and adjacent ranch road (Area B1) for a total of 23.50 acres. Significant offsite area from upstream sheet flows across grass pasture area in the northern portion of the property. Runoff from these upstream areas is intercepted and conveyed around developed area of project to a discharge point along the eastern boundary. Area B1 sheet flows onto the site and is captured by Basin A. Therefore Area B1 is counted as offsite area captured but not treated. All other offsite areas intercepted upstream of BMPs are considered uncaptured and untreated.

Impervious Cover

Existing onsite, existing offsite, and proposed impervious cover areas are delineated on Exhibit 3 and summarized in Tables 1, 2, and 3.

Impervious cover areas are located within eleven (11) separate watersheds (A-K), and are further classified as pavement, roof, and caliche.

Impervious Cover Summary (Onsite):

Current Impervious Cover	*6.033*	*Acres*[1]
Proposed Impervious Cover	*1.674*	*Acres*[2]
Total Proposed Impervious Cover	*7.707*	*Acres*[3]
Total Project Area	*23.09*	*Acres*
Total % Impervious	*33.4%*	

[1] *Pre-1997 Area = 0.610 Acres is included in total current impervious cover*
[2] *C6, F24, F32, F33, F36, H1, H4, J1, J2*
[3] *Total impervious area noted in Table 2 and Table 3 as 7.849 acres includes 0.10, 0.015, 0.017, and 0.010 acres impervious area from offsite Areas B1-1, I-2, J-2, and K-2.*

Permanent BMPs

This site has constraints which make stormwater treatment via structural measures difficult. For example, previous and historical development and adjacent roads for access are located in the floodplain. As a result, we believe a combination of measures is required to provide an adequate means of water quality protection on a site which currently does not have treatment.

Permanent BMPs for this site include:

1. *Retention/Irrigation (Basin A)*
2. *Rainwater Collection (Rooftops)*
3. *Engineered Vegetated Filter Strips*

All permanent BMPs have been design in accordance with TCEQ's Technical Guidance Manual (TGM) R6-348 (2005) to remove 80% of the increase in total suspended solids from this overall development.

Table 3 and Exhibit 3 include a detailed summary of each treatment method applied to specific impervious cover areas.

Proposed Site Use

Tejas Rodeo will continue to operate as a commercial development to include a rodeo arena, restaurant, stables, and accessory buildings that serve the public, primarily on the weekends. Additional paved parking is proposed north of Obst Road in order to serve customers and address erosion concerns resulting from existing vehicular traffic within this area. Potable water will continue to be provided by the existing approved public supply well. Wastewater will be disposed of by conveyance to an onsite septic system.

Site History

Tejas Rodeo is an existing commercial development on a 23.17-acre site, as defined by the project limits, at 401 Obst Road, Bulverde, Texas 78163. It is located outside the city limits but inside the extra-territorial jurisdiction of the City of San Antonio in Comal County, Texas.

Tejas Rodeo is partially on the Edwards Aquifer Recharge Zone and primarily on the Contributing Zone; however, the site is treated as if it is entirely on the Recharge Zone for the purposes of this Water Pollution Abatement Plan (WPAP) in accordance with 30 TAC 213.3(31).

This WPAP is a resubmittal of two previous plans submitted and withdrawn due to issues identified during technical review which have since been addressed.

The original Tejas Rodeo WPAP was submitted to the Texas Commission on Environmental Quality (TCEQ) on November 5, 2010. It proposed construction of approximately 2.0 acres of impervious cover consisting of rooftops and parking area (caliche) within the area already developed as the Tejas Rodeo commercial site. Approximately 4.5 acres of impervious cover had been constructed prior to the WPAP submittal. A number of structures were "grandfathered" as they were constructed prior to the regulation of the Contributing Zone in 1999 (house, barns, well, buildings, fronting Obst Road, stables, original kitchen, original dance floor and original restrooms); however, some were constructed post 1999 such as the arena, walk-in cooler, cantina, fee store/office, new horse stalls, new round pen, base parking lot, cedar arbor, new restrooms and bleachers. Considering the existing and proposed

impervious cover, the site would still be less than 20% impervious. As a result, an exemption from permanent BMPs was requested.

The Tejas Rodeo WPAP (2010) was withdrawn on February 11, 2011 due to the following issues:

- *Management of animal waste*
- *Water well setbacks*
- *Discharge into surface streams*

These issues have now been addressed as follows:

- *Animal waste is being collected in a large storage container and hauled off site. It is covered so rainwater does not enter the container and produce runoff contaminated with animal waste.*
- *The water well near the arena currently utilized for potable water supply now has a chlorinator installed. A variance request to utilize an existing well north of the pasture for public water supply was submitted to the TCEQ on August 8, 2011 and approved temporarily on November 28, 2011. A Public Water Supply Well application was submitted on July 24, 2012, and was subsequently approved and constructed (Registration 0460270).*

Since the 2010 WPAP withdrawal, the impervious cover calculations were recalculated and submitted to the Texas Commission on Environmental Quality on October 30, 2012. The 2012 WPAP also included a request for exemption from permanent BMPs based on a percent impervious cover of less than 20%. The 2012 WPAP was also subsequently withdrawn.

The southern portion of the Tejas Rodeo site is within the 100-year floodplain including existing improvements such as four (4) buildings and existing drives. The home structures in the floodplain, fronting Obst Road, have been in existence in excess of 100 years according to the property owner. These structures discharge to Cibolo Creek, as do other properties upgradient of the creek, including Obst Road.

<u>Previous Development</u>
Several ranch homes, accessory buildings, and driveways existed on the property prior to the provisions of 30 TAC Chapter 213.1. These areas are noted as "Pre-1997" on Exhibit 3 and Table 1. Several other structures constructed post-1997 exist on the property.

<u>Area(s) to be Demolished</u>
There are no impervious areas proposed for demolition.

GEOLOGIC ASSESSMENT

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: Philip C. Pearce, P.G.

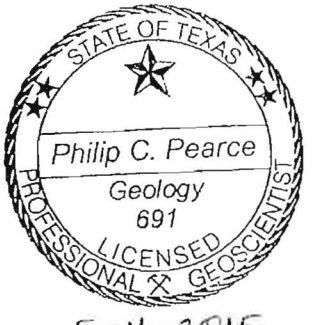
Telephone: (210) 877-2847

Fax: (210) 877-2848

Date: 05/11/15

Representing: SWCA Environmental Consultants, Inc. (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



5-11-2015

Regulated Entity Name: Tejas Rodeo

Project Information

1. Date(s) Geologic Assessment was performed: October 6, 2010
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Brackett-Rock Outcrop-Comfort Complex, undulating (BtD)	B	0-2
Purves Clay, 1 to 5 percent slopes (PuC)	B	0-2
Anhalt Clay, 1 to 3 percent slopes (AnB)	D	0-3
Denton Silty Clay, 1 to 3 percent slopes (DeB)	B	0-4

** 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" = 100'
   Site Geologic Map Scale: 1" = 100'
   Site Soils Map Scale (if more than 1 soil type): 1" = 1000'

9. Method of collecting positional data:

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

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

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

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

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

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

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

    ☒ There are 3 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    ☐ The wells are not in use and have been properly abandoned.
    ☐ The wells are not in use and will be properly abandoned.
    ☒ The wells are in use and comply with 16 TAC Chapter 76.
    ☐ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

TEJAS RODEO

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, rept., 273, 12 pp.]

System	Series	Group		Stratigraphic Unit	Hydrology Unit	Approximate Maximum Thickness (feet)	Character of Rocks	Water Bearing Properties
Cretaceous	Comanche	Trinity	Glen Rose Limestone	Upper member	Upper Trinity	500	Alternating and 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	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	
				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	Not known to yield water
				Sligo Limestone Member	Lower Trinity	120	Sandy dolomitic limestone	Yields small to large quantities of fresh to slightly saline water
				Hosston Sand Member		350	Red and white conglomerate, sandstone, clay stone, shale, dolomite, and limestone	
Pre-Cretaceous rocks							Black, red, and green folded shale, hard massive dolomite limestone, sandstone, and slate	Yield moderate quantities of fresh water in the northern portion of the study area.

Attachment B

GEOLOGIC ASSESSMENT TABLE | PROJECT NAME: TEJAS RODEO

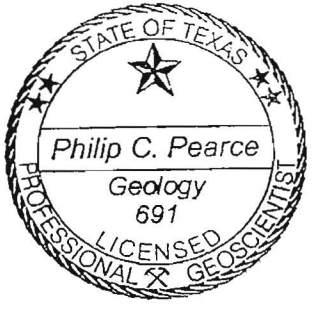
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B*	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILLING	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-1	29°44'16.6"	98°29'25.9"	MB	30	Qt				--	0			--	5	35	35		X		Hillside
S-2	29°44'19.6"	98°29'28.2"	MB	30	Kgrl				--	0			--	5	35	35		X		Hillside
S-3	29°49'21.3"	98°29'24.9"	CD	5	Kgrl	95	147	6	N-S	0			F	5	10	10		X		Hillside
S-4	29°44'28.6"	98°29'25.7"	MB	30	Kgrl				--	0			--	5	35	35		X		Hillside

* DATUM: NAD 83

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

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

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



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

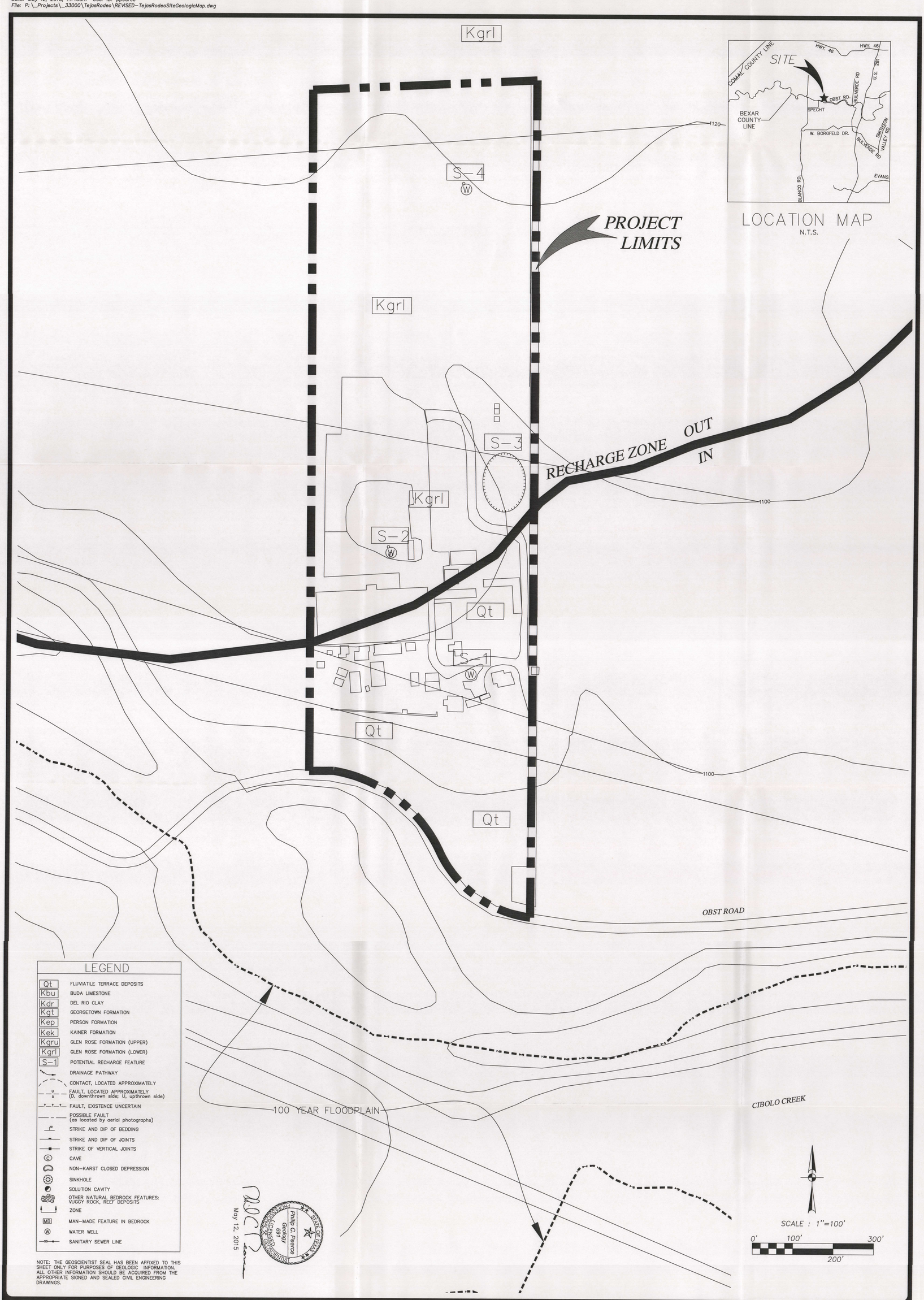
Date 5-1-15

Sheet 1 of 1

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

Attachment A

Date: May 12, 2015, 11:13am User ID: ppearce
File: P:_Projects_33000\TejasRodeo\REVISED-TejasRodeoSiteGeologicMap.dwg



LEGEND

Qt	FLUVIATILE TERRACE DEPOSITS
Kbu	BUDA LIMESTONE
Kdr	DEL RIO CLAY
Kgt	GEORGETOWN FORMATION
Kep	PERSON FORMATION
Kek	KAINER FORMATION
Kgru	GLEN ROSE FORMATION (UPPER)
Kgrl	GLEN ROSE FORMATION (LOWER)
S-1	POTENTIAL RECHARGE FEATURE
	DRAINAGE PATHWAY
	CONTACT, LOCATED APPROXIMATELY
U D	FAULT, LOCATED APPROXIMATELY (D, 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
C	CAVE
	NON-KARST CLOSED DEPRESSION
	SINKHOLE
	SOLUTION CAVITY
	OTHER NATURAL BEDROCK FEATURES: VUGGY ROCK, REEF DEPOSITS
	ZONE
MB	MAN-MADE FEATURE IN BEDROCK
W	WATER WELL
	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.

Philip C. Pearce
Geology
6910
LICENSED PROFESSIONAL GEOSCIENTIST
STATE OF TEXAS
May 12, 2015

ATTACHMENT B

CHECKED PCP DRAWN PCP
GEOLOGIST PCP
DATE MAY 2015
JOB NO. 7674-00

TEJAS RODEO
WATER POLLUTION ABATEMENT PLAN
SITE GEOLOGIC MAP

SWCA®
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

REVISIONS:

TEJAS RODEO

Narrative Description

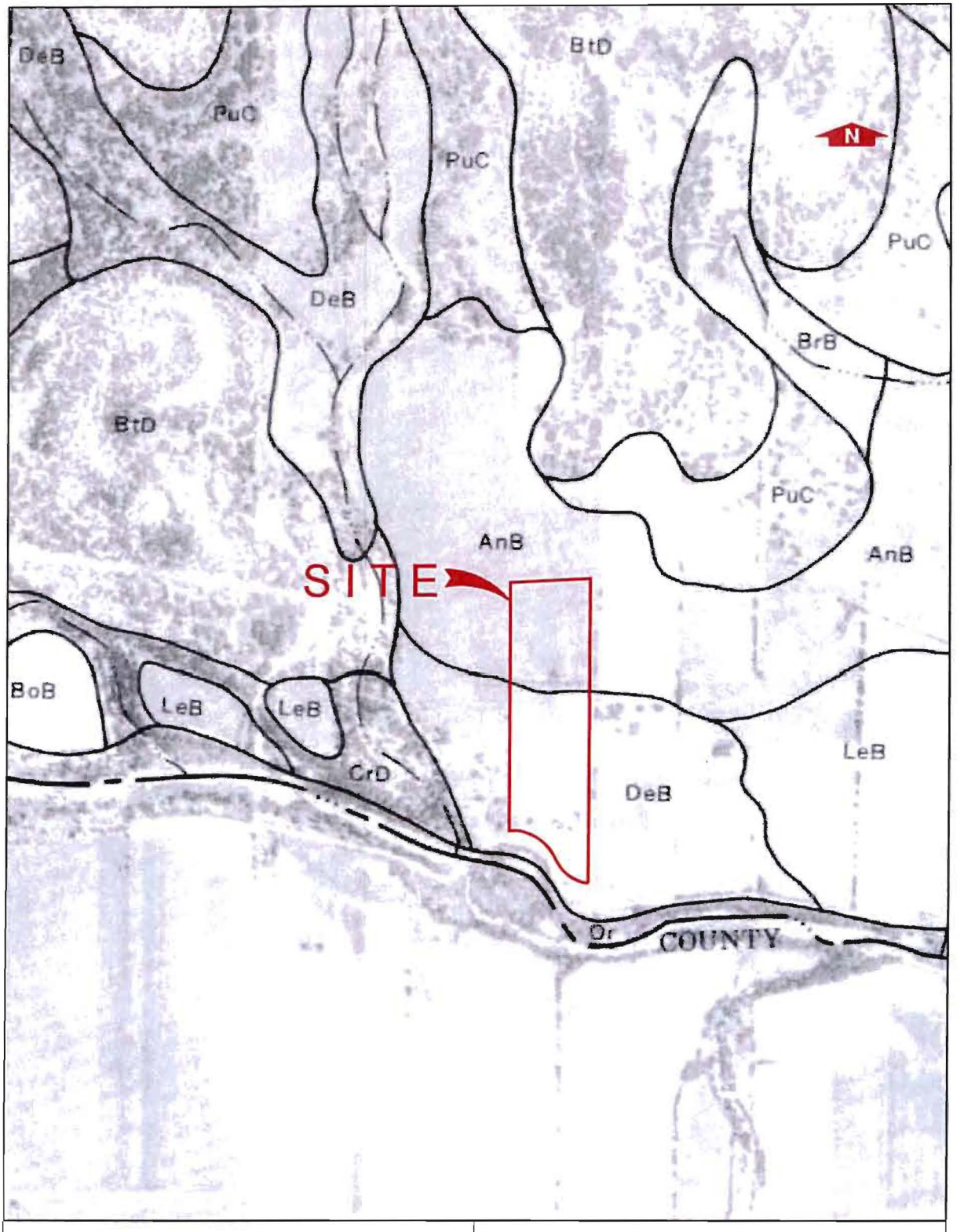
The overall potential for fluid migration to the Edwards Aquifer for the site is low. The site is located within the lower member of the Glen Rose Limestone (Kgrl). Fluviatile terrace deposits (Qt) overlie the Kgrl in the southern portion of the site. The Kgrl is characterized as yellowish-tan massively bedded fossilferous limestone grading upward into thin beds of limestone, dolomite, marl and shale. Karst development in the Kgrl is generally characterized by numerous caves and reefs in the lower portion of the member. No caves or sinkholes were identified onsite.

Features S-1, S-2, and S-4

Features S-1, S-2, and S-4 are water wells. The wells are equipped with submersible pumps and are in operation. Because the wells have casing above the ground surface and concrete slabs around the casing, the potential for rapid infiltration is low.

Feature S-3

Feature S-3 is a manmade closed depression that serves as a stock tank for livestock on site. Due to ponded water, fine infilling and lack of karst origin, the probability for rapid infiltration is low.



TEJAS RODEO PROPERTY **COMAL COUNTY, TX** **SOILS MAP**	**COMAL COUNTY SOIL SURVEY** **SCALE: 1" = 1000'**
	Attachment E

Date: May 08, 2015, 4:06pm User ID: adixon

TEJAS RODEO

References

Arnow, Ted, 1959, Groundwater Geology of Bexar County, Texas: Texas Board of Water Engineers, Bulletin 5911, 62 pp., 18 figs.

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, rept., 273, 12 pp.

Barnes, V.L., 1983, Geologic Atlas of Texas, San Antonio Sheet, Bureau of Economic Geology, The University of Texas at Austin, Texas.

Clark, C.S., Pritchett, J.W., & Spence, E.V., Feb 1947, Geology and Ground-Water Resources of Comal County, Texas, Texas Board of Water Engineers - United States Department of the Interior, Geological Survey, 17-22 pp.

Federal Emergency Management Agency (FEMA), July 17, 1995, Comal County, Texas and Incorporated areas, Flood Insurance Rate Map (FIRM), Panel 4854630055 D, FEMA, Washington, D.C.

Maclay, R.W., and Small, T.A., 1976, Progress Report on the Geology of the Edwards Aquifer, San Antonio Area, Texas and Preliminary Interpretation of Borehole Geophysical and Laboratory Data on Carbonate Rocks: U.S. Geol. Survey open file rept., 76-627, 62 pp., 20 figs.

Stein, W.G., and Ozuna, G.B., 1995, Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas: U.S. Geol. Survey, Water - Resources Investigations 95-4030, 8 pp., 2 figs.

Texas Natural Resource Conservation Commission, 1999, Edwards Aquifer Recharge Zone Map, Bulverde Quadrangle, TNRCC, San Antonio, Texas.

United States Department of Agriculture, 1984, Soil Survey - Comal County, Texas, USDA.

United States Geologic Survey, 1988, (USGS), Bulverde Quadrangle, USGS, Denver, Colorado.

Attachment F

WPAP APPLICATION

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.

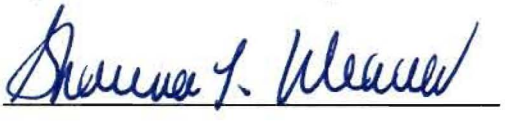
Signature

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: Pape-Dawson Engineers, Inc.

Date: 5/11/15

Signature of Customer/Agent:



Regulated Entity Name: Tejas Rodeo

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):23.09

3. Estimated projected population:1

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

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	71,438	÷ 43,560 =	1.64
Parking	241,758	÷ 43,560 =	5.55
Other paved surfaces	28,750	÷ 43,560 =	0.66
Total Impervious Cover	341,946	÷ 43,560 =	7.85

Total Impervious Cover 7.85 ÷ **Total Acreage** 23.50 **X 100 =** 33**% Impervious Cover**

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

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

For Road Projects Only

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

7. Type of project:

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

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

☐ Concrete
☐ Asphaltic concrete pavement
☐ Other: _____

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

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

10. Length of pavement area: _____ feet.

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

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

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

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

100% Domestic	3,000 Gallons/day
_____% Industrial	_____ Gallons/day
_____% Commingled	_____ Gallons/day
TOTAL gallons/day _____	

15. Wastewater will be disposed of by:

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

☒ **Attachment C - Suitability Letter from Authorized Agent.** An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.

☒ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

☐ Sewage Collection System (Sewer Lines):

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

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

☐ The SCS was previously submitted on_____.

☐ The SCS was submitted with this application.

☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

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

☐ Existing.
☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 100'.

18. 100-year floodplain boundaries:

☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☐ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRM (Federal Insurance Rate Map) Number 48091C0380F, effective 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 3 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

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

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

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

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

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

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

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

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

Administrative Information

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

ATTACHMENT A

Attachment A – Factors Affecting 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;*
- *Animal waste*
- *Dirt and dust which may fall off vehicles and equipment; and*
- *Miscellaneous trash and litter.*

ATTACHMENT B

Attachment B – Volume and Character of Stormwater

Stormwater runoff will increase as a result of this development. For a 25-year storm event, the overall project will generate approximately 163 cfs. The runoff coefficient for the site changes from approximately 0.50 before development to 0.85 after development. Values are based on the Rational Method using runoff coefficients per the City of San Antonio Unified Development Code. The character of runoff can be described as overland flow from a developed commercial area.

ATTACHMENT C

Comal County

OFFICE OF COMAL COUNTY ENGINEER

License to Operate

On-site Sewage Treatment and Disposal Facility

Date Issued: 3/24/2011 Permit Number: 92956

Location Description:	401 Obst Road - 46.757 acres, Bulverde, TX 78163
	JM Rivas Surv #191 A-973 Subdivision
Type of System:	Aerobic Treatment with Surface Irrigation Discharge
License issued to:	Troy Martin III

This license is authorization for the owner to operate and maintain a private facility at the location described in accordance to the rules and regulations for on-site sewerage facilities of Comal County, Texas, and the Texas Natural Resource Conservation Commission.

The license grants permission to operate the facility. It does not guarantee successful operation. It is the responsibility of the owner to maintain and operate the facility in a satisfactory manner.

Inspection and licensing of a facility indicates only that the facility meets certain minimum requirements. It does not impede any governmental entity in taking the proper steps to prevent or control pollution, to abate nuisance, or to protect the public health.

This license to operate is valid for an indefinite period. The holder may transfer it to a succeeding owner, provided the facility has not been remodeled and is functioning properly.

Licensing Authority

Comal County Environmental Health

OS0023773

ENVIRONMENTAL HEALTH INSPECTOR

OS7722

ENVIRONMENTAL HEALTH COORDINATOR

This "License-Operate" report was printed on 3/24/2011 by Comal County Environmental Health, , operator, using CASST Ver 2.1

System Profile

Printed: Thursday, March 24, 2011

System is installed at:

401 Obst Road - 46.757 acres
Bulverde, TX 78163
Comal County

Permit Number: 92956
System Name: Primary
Brand Name: Clearstream
Model:
Serial Number:

Owner Information:

Troy Martin III
401 Obst Road - 46.757 ac
Bulverde, TX 78163
Home Phone: (210)823-9413

The original contract for installation was written on .
This system was installed by: .
The installation date was 3/24/2011.
This system is to be inspected every 4 months.
The most recent inspection for this system occured on .
The next scheduled inspection for this system is due on 7/24/2011.

Permitting Agency:

Comal County Environmental Health
195 David Jonas Drive
New Braunfels, TX 78132-3760
Contact: Sandra Hernandez, Assistant Env. Health Coord
Phone: (830) 608-2090
Fax: (830) 608-2078

Installation Company Info:

JB Wastewater Maintenance Providers
Operator: Jim Blake

Maintenance Company Info:

JB Wastewater Maintenance Providers, Inc
P.O. Box 1350
Helotes, TX 78023
Operator: Jim Blake Jr
Phone: (210) 216-4111
Fax: (830) 426-5400

Most Recent Visits and Results

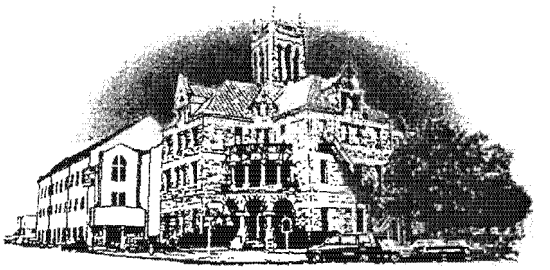
Date Comp.	Visit Type	Description of Repairs

Property Notes:

S1 - 1/21/11 S2 2/3/11 S4 - 3/24/11

System Notes:

1500 gal, grease trap
3x 1500 gl aerobics
4500 gal



Comal County

OFFICE OF COMAL COUNTY ENGINEER

Permit of Authorization to Construct an On-Site Sewage Facility
Permit Valid For One Year From Date Issued

Permit Number:	102947
Issued This Date:	04/08/2015
This permit is hereby given to:	Troy "Trey" S. Martin III

To start construction of a private, on-site sewage facility located at:

401 OBST RD
BULVERDE, TX 78163

Subdivision:	JM Rivas Survey 191 A-973
Unit:	
Lot:	
Block:	
Acreage:	46.7570

APPROVED MINIMUM SIZES AS PER ATTACHED DESIGN

Type of System:	Septic Tank
	Std Trenches / Beds

This permit gives permission for the construction of the above referenced on-site facility to commence. Installation must be completed by an installer holding a valid registration card from the Texas Commission on Environmental Quality (TCEQ). Installation and inspection must comply with current TCEQ and Comal County requirements.

Call (830) 608-2090 to schedule inspections.

Comal County OSSF Inspection Sheet

Permit#: 102947 Location: 401 OBST Rd.

Installer Name: Doug Donlearn License # 05000408 9

1st Inspection: 4/22/15 WS 11:30 2nd Inspection: _____ Final Inspection: _____
(inspector initials & date) (inspector initials & date) (inspector initials & date)

Are additional inspections required: _____

Re-inspection fee owed: _____ Re-inspection fee paid: _____

Existing soil conditions:
Site/soil conditions match soil evaluation: ____ Notes: _____

System Description:
Aerobic with spray: ___ Aerobic with drip emitters: ___ Low Pressure Dosing: ___ Absorptive drainfield: ✓
Evapotranspirative (ET) system: ___ Gravel-less drainfield piping: ____ Leaching chambers: ____
Soil substitution drainfield: ____ other: _____

Tank Inspection: Existing Tank
Tank set level & watertight: ___ Inlet/Outlet: ___ Tank Size or GPD: 1000 Manuf./Brand: _____
Model#: _____ Pump Tank Size: _____ Alarms/Audible & Visual: ____ Operational: ____
Is timer required/provided?: ____ Chlorination required/provided? ____
Notes: _____

Maintenance Tag for Aerobic: ( ) _____

System installation:
Pipe check/house to tank: ✓ Clean-out at structure/every 50 ft./@90's ✓ Pipe check/tank to drainfield: ____
(1/8"-ft..SDR 26 or Sch. 40)
Trenches/Excavations: Width/Depth: Existing Field. Trenches/Excavations Level: ____ Pipe & Gravel: ____
Slope within drainfield/spray area: ____ Leaching Chambers: ____ GeoTex: ____
Spray irrigation purple pipe: ____ Spray irrigation area checked: ____
Notes: Tight line inspection from wash rock to existing system – effluent filter ✓
– old tight line from tank room removed. Ready for cover.

Separation Distances
Prop. Lines: ✓ Water lines: ✓ Water Wells: ✓ Bldgs/Driveway/Improvements: ✓ Creeks/Rivers/Ponds: —
Drainage Easements/Sharp Slopes: — If over Recharge Zone check for recharge features: — Are there water lines crossing tightlines/or within 10 feet of system?: — Have they been properly sleeved: — Are there sewer lines crossing under driveways, sidewalks, or within 5 ft. of surface improvements: no Have the sewer lines been properly sleeved?: —
Notes: _____

Final Inspection:
Tank(s) Backfilled: ____
System Backfilled: ____ ET Systems Class II backfill & vegetative cover for transpiration in place: ____
Surface application area properly landscaped/vegetation acceptable: ____
Notes: _____

Size of Installed Drainfield/Spray Area: _____

___ Check here to confirm that service agreement has been received, entered and activated in CASST.

TEMPORARY STORMWATER

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: Pape-Dawson Engineers, Inc.

Date: 5/11/15

Signature of Customer/Agent:

Regulated Entity Name: Tejas Rodeo

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: N/A

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

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

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

ATTACHMENT A

Spill Response Actions

In the event of an accidental leak or spill:

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

In the event of an accidental significant or hazardous spill:

- The contractor will be required to report significant or hazardous spills in reportable quantities to:
  - 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)

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

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

ATTACHMENT B

Attachment B – Potential Sources of Contamination

Other potential sources of contamination during construction include:

Potential Source
- *Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.*

Preventative Measure
- *Vehicle maintenance when possible will be performed within the construction staging area.*
- *Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.*

Potential Source
- *Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used on site.*

Preventative Measure
- *Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.*
- *Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.*
- *Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.*
- *A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.*

Potential Source
- *Miscellaneous trash and litter from construction workers and material wrappings.*

Preventive Measure
- *Trash containers will be placed throughout the site to encourage proper trash disposal.*

Potential Source
- *Construction debris.*

Preventive Measure
- *Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.*

ATTACHMENT C

Attachment C – Sequence of Major Activities

The sequence of major activities which disturb soil during construction on this site will be divided into two stages. The first is site preparation that will include clearing and grubbing of vegetation where applicable. This will disturb approximately 17.56 acres. The second is construction that will include construction of buildings, new parking area, driveways, landscaping and site cleanup. This will disturb approximately 17.56 acres.

ATTACHMENT D

Attachment D – Temporary Best Management Practices and Measures

Please see Exhibit 1 for TBMP layout and the response to "a" through "d" below for more details.

Upgradient water from a residential area will cross the site. As this area is undisturbed, no TBMPs for it are necessary. Onsite TBMPs are adequate for the drainage areas served.

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 method for pollution prevention of on-site stormwater will include: (1) erection of silt fences along the downgradient boundary of construction activities for temporary erosion and sedimentation controls and (2) 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 that may exist downstream.

No naturally-occurring sensitive features were identified in the Geologic Assessment.

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 the aquifer or surface streams and/or sensitive features that may exist downstream.

No naturally-occurring sensitive features were identified in the Geologic Assessment. 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. Features discovered during construction will be reported and assessed in accordance with applicable regulations.

ATTACHMENT F

Attachment F – Structural Practices

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

- ***Erection of silt fences along the downgradient boundary of construction activities, as located on Exhibit 1 and illustrated in Exhibit 2.***
- ***Installation of stabilized construction entrance/exit(s) and construction staging area(s), as located on Exhibit 1, and illustrated on Exhibit 2.***
- ***Installation of concrete truck washout pit(s), as required, and located on Exhibit 1 and illustrated on Exhibit 2.***

ATTACHMENT G

LEGEND:

950 — 1' CONTOURS

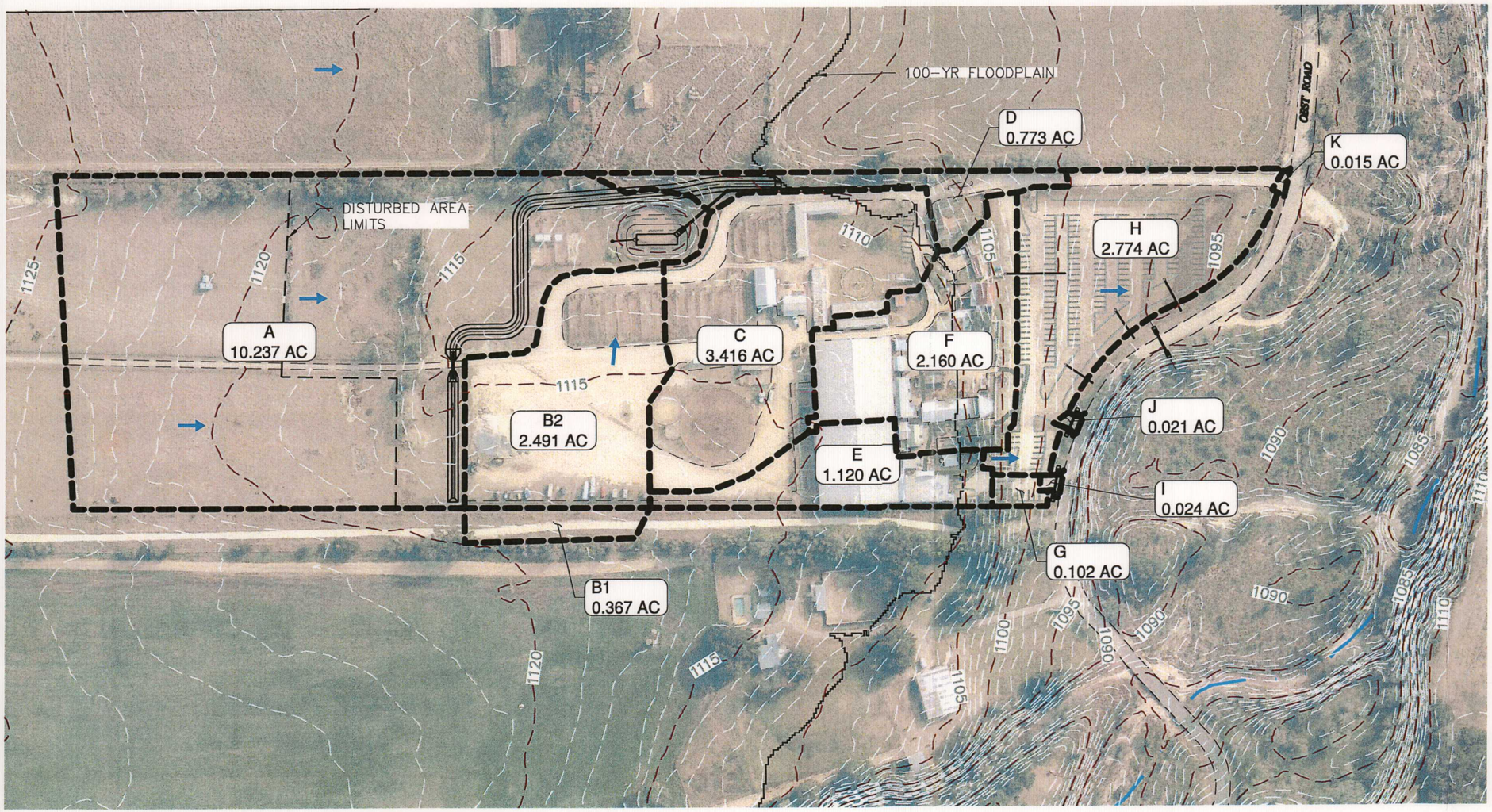
DISTURBED LIMITS

DRAINAGE AREAS

DRAINAGE FLOW ARROW

SCALE: 1"=200'

200' 0' 100' 200'



PAPE-DAWSON ENGINEERS

2000 NW LOOP 410 | SAN ANTONIO, TEXAS 78213 | PHONE: 210.375.9000 FAX: 210.375.9010

TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

TEJAS RODEO

BULVERDE, TEXAS

ATTACHMENT G - DRAINAGE AREA MAP

JOB NO. 7674-000
DATE MAY 2015
DESIGNER MBG
CHECKED
DRAWN ARD
SHEET AT. G

Date: May 11, 2015, 9:17am User ID: adixon
File: P:\76\74\00\Design\Exhibits\WPAP\150511-DRMP-ATTACHMENT G.dwg

ATTACHMENT I

INSPECTIONS

Designated and qualified person(s) shall inspect Pollution Control Measures weekly and within 24 hours after a storm event. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of Storm Water TPDES data for a period of three years after the date of the inspection. 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.

Pollution Prevention Measure	Inspected	Corrective Action	
		Description	Date Completed
General			
Revegetation			
Erosion/sediment controls			
Vehicle exits			
Material areas			
Equipment areas			
Concrete rinse			
Construction debris			
Trash receptacles			
Infrastructure			
Roadway clearing			
Utility clearing			
Roadway grading			
Utility construction			
Drainage construction			
Roadway base			
Roadway surfaces			
Site cleanups			
Building			
Clearing for building			
Foundation grading			
Utility construction			
Foundation construction			
Building construction			
Site grading			
Site cleanup			

**Indicate N/A where measure does not apply.*

By my signature below, I certify that all items are acceptable and the project site is in compliance with SWPPP.

Inspector's Name _____ Inspector's Signature _____

Name of Owner/Operator (Firm) _____ Date _____

Note: Inspector is to attach a brief statement of his qualifications to this report.

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date

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

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date

ATTACHMENT J

Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

Interim on-site stabilization measures, which are continuous during construction, 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.

PERMANENT STORMWATER

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)(li), (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: Pape-Dawson Engineers, Inc.

Date: 5/11/15

Signature of Customer/Agent

Regulated Entity Name: Tejas Rodeo

Permanent Best Management Practices (BMPs)

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

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

   ☐ N/A

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

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

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

☐ N/A

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

   ☐ N/A

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

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

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

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

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

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

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

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

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

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

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

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

☐ N/A

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

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

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

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

☒ Design calculations (TSS removal calculations)
☒ TCEQ construction notes
☒ All geologic features
☒ All proposed structural BMP(s) plans and specifications

☐ N/A

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

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

    ☐ N/A

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

    ☒ N/A

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

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

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

    ☐ N/A

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

    ☐ N/A

ATTACHMENT B

Attachment B – BMPs for Upgradient Stormwater

The Tejas Rodeo site receives off-site upgradient storm water runoff from three areas discussed below:

Upgradient Area #1 (North):
Tejas Rodeo receives upgradient storm water runoff from developed residential areas to the north. A vegetated grass pasture separates the homes from the commercial Tejas Rodeo area. Runoff from Upgradient Area #1 flows across both off-site and on-site grass pasture areas and is ultimately intercepted by a proposed earthen interceptor channel. The proposed interceptor channel will convey the upstream drainage areas around the developed areas of the site and proposed permanent BMPs. Storm water from this area will not flow across on-site developed areas. Therefore, no permanent BMPs are proposed.

Upgradient Area #2 (West):
Tejas Rodeo receives upgradient storm water runoff from an existing grassy field and caliche ranch road to the west. A vegetated grass pasture separates the field and ranch road from the commercial Tejas Rodeo area. Runoff from Upgradient Area #2 flows across both off-site and on-site grass pasture areas and is ultimately intercepted by a proposed earthen interceptor channel. The proposed interceptor channel will convey the upstream drainage areas around the developed areas of the site and proposed permanent BMPs. Storm water from this area will not flow across on-site developed areas. Therefore, no permanent BMPs are proposed.

Upgradient Area #3 (Area B1)
Tejas Rodeo receives upgradient storm water runoff from an existing caliche ranch road to the west within an area identified as Area B1 in Tables 1 and 2. Area B1 contains 0.10 acres of existing impervious cover that flows across an existing grassy strip located upstream of developed areas of the site. In addition Area B1 will be captured within Basin A. No other permanent BMPs are proposed.

ATTACHMENT C

Attachment C – BMPs for Onsite Stormwater

Table 1: Master Loading Table was prepared to calculate annual pollutant load and required load removal for the overall site and incorporate parameters for caliche material currently used throughout the site in customer areas, rodeo staging areas and driveways. Parameters for caliche material utilized in Table 1 were based on the following study:

Appropriate Runoff Coefficient for Caliche Fill
The large flat staging area behind or north of the Tejas Rodeo Arena consist of native clay soils overlaid with a few inches (typically less than 4 – 6 inches) of caliche soil to improve traction for vehicles during wet weather. This area is not consistent with the hydraulic characteristics of compacted road base material. Compacted road base consist of graded (screened) and washed limestone aggregate. The caliche material used at Tejas Rodeo does not meet the specifications for road base used by TxDOT. It has many more clay fines and is much more consistent with caliche soils that are common in this region. During wet weather this caliche staging area is very soft and readily ruts when subject to traffic. In the absence of traffic, grass tends to grow into this area.

Based on the nature of this material, it is appropriate to consider an alternative runoff coefficient for use in the TSS Removal and BMP Sizing Calculations found in the TCEQ's Technical Guidance Manual (TGM). The TGM states that all impervious areas are required to use a runoff coefficient of 0.90 while all landscaped or natural areas are required to use a runoff coefficient of 0.03. According to the TGM, compacted road base is considered impervious for purposes of the calculations. Since we are dealing with a condition that does not fit the definitions found in the TGM, we have developed a specific runoff coefficient to better represent the condition that exists at Tejas Rodeo.
Using the TXDOT Hydraulic Design Manual Section 12: Rational Method for rural and mixed-use watersheds:

$$C=C_r + C_i + C_v + C_s$$

Where: C = *runoff coefficient*
C_r = *component of coefficient accounting for watershed relief*
C_i = *component of runoff coefficient accounting for soil infiltration*
C_v = *component of runoff coefficient accounting for vegetal cover*
C_s = *component of coefficient accounting for surface type*

From Table 4-11:
C_r = *0.08 -0.14 for average slopes of 0 – 5%*
C_i = *0.08 – 0.12 for clay soils that are slow to take up water*
C_v = *0.12 – 0.16 for no effective plant cover or bare*
C_s = *0.10 – 0.12 for negligible surface depressions*

C = 0.11 + 0.12 + 0.16 + 0.12
C = 0.51

Therefore, we recommend using a runoff coefficient of 0.51 in calculating the TSS Removal and BMP Sizing.

Storm water runoff originating from within on-site Areas A-K as shown on Exhibit 3 and Tables 1, 2, and 3 will be treated by one of three types of BMPs proposed for this site: retention/irrigation, rainwater collection, and engineered vegetated filter strip.

Retention/Irrigation:
Details for Retention/Irrigation Basin A are shown on Exhibits 4 and 5. Based on calculations from RG-348, a total of 1.11 acres is required for irrigation on-site. The proposed irrigation are is shown on Exhibit 3.

Rainwater Collection:
A total of 9 structures within watershed areas C, E, and F are proposed for rainwater collection. Rainwater collection tanks will be sized for 1.5-inches of runoff for the entire roof area.

Engineered Vegetated Filter Strips:
Four 15' wide engineered vegetated filter strip areas are proposed within the following watersheds:

- *VFS#1 is proposed adjacent to each side of an existing caliche ranch road within Watershed A.*
- *VFS#2 is proposed adjacent to the downgradient side of an existing dry-stack rock wall to treat upstream impervious cover areas within Watersheds F and D.*
- *VFS#3 is designed within proposed new parking areas within Area H.*
- *VFS#4 is proposed adjacent to existing impervious cover within Area E.*

All permanent BMPs have been designed in accordance with TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in total suspended solids due to development.

ATTACHMENT D

Attachment D – BMPs for Surface Streams

See Attachment B for paths of drainage from the site to Cibolo Creek located across Obst Rd as shown on the U.S.G.S. topo map provided. All captured runoff from impervious cover areas will be treated before being discharged to adjacent grass-lined ditches and storm drain pipes that discharge to Cibolo Creek downstream of the Tejas Rodeo site.

Storm water runoff originating from within on-site Areas A-K as shown on Exhibit 3 and Tables 1, 2, and 3 will be treated by one of three types of BMPs proposed for this site: retention/irrigation, rainwater collection, and engineered vegetated filter strip. All permanent BMPs have been designed in accordance with TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in total suspended solids due to development.

In addition, runoff from upstream areas to the north and west are intercepted by a proposed earthen channel and conveyed around on-site developed areas to a discharge point along the eastern boundary.

ATTACHMENT F

ATTACHMENT G

PERMANENT POLLUTION ABATEMENT MEASURES
MAINTENANCE SCHEDULE AND MAINTENANCE PROCEDURES

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

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.

Troy "Trey" S. Martin, III
Tejas Rodeo

Date 5/11/15

INSPECTION AND MAINTENANCE SCHEDULE FOR PERMANENT POLLUTION ABATEMENT MEASURES

Recommended Frequency	Task to be Performed													
	1	2	3	4	5	6	7	8	9	10	11	12	13	
After Rainfall								√	√	√	√		√	
Bi-monthly	√				√									
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.

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

Task No. & Description	*Included in this project*	
1. Check Depth of Vegetation	Yes	~~No~~
2. Sediment Removal	Yes	~~No~~
3. Removal of Debris and Trash	Yes	~~No~~
4. Inlet Splash Pad	Yes	~~No~~
5. Irrigation System	Yes	~~No~~
6. Irrigation Areas	Yes	~~No~~
7. Structural Integrity	Yes	~~No~~
8. Discharge Pipe	Yes	~~No~~
9. Rainwater Harvesting Tanks	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~~

MAINTENANCE PROCEDURES FOR PERMANENT POLLUTION ABATEMENT MEASURES

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

1. Check Depth of Vegetation. Vegetation in the basin shall not exceed 18-inches in depth. When vegetation needs to be cut, it shall be cut to an approximately 4-inch height. *A written record should be kept of inspection results and maintenance performed.*

2. Sediment Removal. Remove sediment from splitter box, basin, and wet wells at least two times per year or when the depth reaches 3 inches.

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. 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.*

5. Irrigation System. The irrigation system, including pumps, should be inspected and tested (or observed while in operation) to assure proper operation at least 6 times annually. Two of these inspections should occur during or immediately following wet weather. Any leaks, broken spray heads, or other malfunctions with the irrigation system should be repaired immediately. In particular, sprinkler heads must be checked to determine if any are broken, clogged, or not spraying properly. All inspection and testing reports should be kept on site and accessible to inspectors.

6. Irrigation Areas. To the greatest extent practicable, irrigation areas are to remain in their natural state. However, vegetation must be maintained in the irrigation area such that it does not impede the spray of water from the irrigation heads. Tree and shrub trimmings and other large debris should be removed from the irrigation area.

7. Structural Integrity. The following are measures which should be reviewed during a check of structural integrity:
   - Observe the height of the confining berm for visible signs of erosion or potential breach. Signs of erosion should be identified and repaired immediately. Corrective measures include but are not limited to addition of topsoil or appropriate soil material so as to restore the original berm height. Restored areas shall be protected through placement of solid block sod.
   - *A written record should be kept of inspection results and corrective measures taken.*

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

9. Rainwater Harvesting Tanks. The volume of the rainfall collection system must be sufficient to retain runoff from a 1.5-inch rainfall and the system should be managed so that it is emptied at least weekly to provide storage for subsequent storms.

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

ATTACHMENT I

Attachment I – Measures for Minimizing Surface Stream Contamination

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

AGENT AUTHORIZATION FORM

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I ***Troy "Trey" S. Martin, III***,
Print Name

Owner,
Title - Owner/President/Other

of ***Tejas Rodeo Company***,
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.

SIGNATURE PAGE:

Applicant's Signature _____ Date 5/11/15

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Troy "Trey" S. Martin, III 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 11 day of May, 2015.

_____
NOTARY PUBLIC

Mary Ramirez
Typed or Printed Name of Notary

MARY RAMIREZ NOTARY PUBLIC STATE OF TEXAS EXPIRES 4-23-2016

MY COMMISSION EXPIRES: 04/23/2016

FEE FORM

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 14, 2011

Mr. Trey Martin
Tejas Rodeo Company
401 Obst Road
Bulverde, Texas 78249-1646

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Tejas Rodeo; Located at 401 Obst Road; Bulverde, Texas

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

Edwards Aquifer Protection Program San Antonio File No. 2952.00; Investigation No. 878324; Regulated Entity No. RN106035074

Dear Mr. Martin:

The TCEQ received confirmation from your authorized agent, Pape-Dawson Engineers, Inc., to withdraw the above referenced water pollution abatement plan application from review on February 11, 2011. Because you have voluntarily withdrawn the plan, the application fee of $6,500 can be refunded. However, per your request, the review fee will be retained by the TCEQ and applied to the future submittal of the revised water pollution abatement plan application.

If you have any questions or require additional information, please contact Javier Anguiano of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 490-3096.

Sincerely,

Todd Jones
Water Section Team Leader
Texas Commission on Environmental Quality

TJ/JA/eg

cc: Mr. Cara C. Tackett, P.E., LEED® AP, Pape-Dawson Engineers, Inc.
The Honorable Bill Krawietz, City of Bulverde
Ms. Thomas H. Hornseth, P.E., Comal County
Mr. Karl J. Dreher, Edwards Aquifer Authority
Mr. Scott Halty, San Antonio Water System
TCEQ Central Records, Building F, MC 212

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Tejas Rodeo
Regulated Entity Location: 401 Obst Road
Name of Customer: Tejas Rodeo
Contact Person: Troy "Trey" S. Martin, III Phone: (830) 980-2226
Customer Reference Number (if issued):CN 603776451
Regulated Entity Reference Number (if issued):RN 106035074

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☒ Comal ☐ Kinney

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

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

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

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	*Size*	*Fee Due*
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	23.17 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: 5/11/15

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

EXHIBITS

TCEQ

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided)*

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Attachments **Describe Any Attachments:** *(ex. Title V Application, Waste Transporter Application, etc.)*

☒ Yes ☐ No — Water Pollution Abatement Plan and Exhibits

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN 603776451		RN 106035074

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)

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

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other: _____

7. General Customer Information

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State) ☒ No Change**

If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.

8. Type of Customer:			
☐ Corporation	☐ Individual	☐ Sole Proprietorship- D.B.A	
☐ City Government	☐ County Government	☐ Federal Government	☐ State Government
☐ Other Government	☐ General Partnership	☐ Limited Partnership	☐ Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)* — *If new Customer, enter previous Customer below* — *End Date:*

10. Mailing Address:

City | State | ZIP | ZIP + 4

11. Country Mailing Information *(if outside USA)* — **12. E-Mail Address** *(if applicable)*

13. Telephone Number ( ) - — **14. Extension or Code** — **15. Fax Number** *(if applicable)* ( ) -

16. Federal Tax ID *(9 digits)* — **17. TX State Franchise Tax ID** *(11 digits)* — **18. DUNS Number** *(if applicable)* — **19. TX SOS Filing Number** *(if applicable)*

20. Number of Employees

☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated?

☐ Yes ☐ No

SECTION III: Regulated Entity Information

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

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information ☒ No Change** *(See below)*

**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

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

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*							
	City		State		ZIP		ZIP + 4	
25. Mailing Address:							
	City		State		ZIP		ZIP + 4	
26. E-Mail Address:							

27. Telephone Number	28. Extension or Code	29. Fax Number *(if applicable)*
( ) -		( ) -

30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)	33. Secondary NAICS Code (5 or 6 digits)

34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*

Questions 34 – 37 address geographic location. Please refer to the instructions for applicability.

35. Description to Physical Location:	

36. Nearest City	County	State	Nearest ZIP Code

37. Latitude (N) In Decimal:			38. Longitude (W) In Decimal:		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

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 or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

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

SECTION IV: Preparer Information

40. Name:	Shauna L. Weaver, P.E.	41. Title:	Vice President

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 375-9000		(210) 375-9010	sweaver@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 9 and/or as required for the updates to the ID numbers identified in field 39.

(See the Core Data Form instructions for more information on who should sign this form.)

Company:	Pape-Dawson Engineers, Inc.	Job Title:	Vice President
Name *(In Print)*:	Shauna L. Weaver	Phone:	(210) 375-9000
Signature:	Shauna L. Weaver	Date:	5/11/2015

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR DRIVER'S LICENSE.

GENERAL WARRANTY DEED

Date: May 12, 2015

Grantor: Troy "Trey" S. Martin, III
Grantor's Mailing Address: 401 Obst Road
Bulverde, Comal County, Texas 78163

Grantee: Troy "Trey" S. Martin, III
Grantee's Mailing Address: 401 Obst Road
Bulverde, Comal County, Texas 78163

Consideration: The sum of TEN AND NO/100 ($10.00) DOLLARS and other valuable consideration to the undersigned paid by the Grantee, the receipt of which is hereby acknowledged.

Property (including any improvements): SEE EXHIBIT "A" ATTACHED HERETO.

BEING 23.0893 Acres out of a 46.757 Acres of land out of the J.M. RIVAS SURVEY No. 191, Abstract 973, Carnal County, Texas and being the same 46.757 Acre Tract of land as described in Quitclaim Deed recorded in Document No. 200706013787 of the Official Records of Coma] County, Texas and this 23.0893 Acre Tract of land being more particularly described as follows:

BEGINNING at a ½" dia. iron pin found on the north right of way line of Obst Road, being the southwest corner of said 46.757 Acre Tract and of the herein described tract and the Point of Beginning also being the southeast corner of Lot 1, Lindsey Acres Subdivision, recorded in Volume 11, Page 108 of the Plat Records of Comal County, Texas;

THENCE: N. 00° 30'00"E., 1,626.63 feet along the west line of said 46.757 Acre Tract also being the east line of said Lot 1, Lindsey Acres Subdivision, to a ½" dia. iron pin set, for the northwest corner of the herein described tract;

THENCE: N. 87° 21'51"E., 553.78 feet leaving the west line of said 46.757 Acre Tract and across said 46.757 Acre Tract and along the north line of this tract, to a ½" iron pin set on the east line of said 46.757 Acre Tract, for the northeast corner of the herein described tract, said point also being on the west line of a 58.35 Acre Tract conveyed to Anwar & Mary J. Gerges by General Warranty Deed recorded in Document No. 200506005780 of the Deed Records of Comal County, Texas;

THENCE: S. 00° 22'04" W., 2,049.64 feet along the east line of said 46.757 Acre Tract, also being the west line of said Anwar & Mary J. Gerges 58.35 Acre Tract, to a ½" dia. iron pin found at the north right of way line of Obst Road, being the southeast corner of said 46.757 Acre Tract and of the herein described tract, said point also being the southwest corner of said Anwar & Mary J. Gerges 58.35 Acre Tract and being the point of curvature of a curve to the right;

THENCE: 299.01 feet along the arc of said curve to the right and along the north right of way line of Obst Road, the curve has a central angle of 59° 04'35", a radius of 290.00 feet a tangent distance of 164.33 feet and the chord bears N. 50° 43'24" W., 285.94 feet to a ½"" dia. iron pin found for a point of tangent;

THENCE: N. 25° 32'28" W., 27.00 feet continuing with the north right of way line of Obst Road, to a ½" dia. iron pin found for a point of curvature of a curve to the left;

THENCE: 392.49 feet along the arc of said curve to the left and along the north right of way line of Obst Road, the curve has a central angle of 60° 46;41", a radius of 370.00 feet a tangent distance of 216.98 feet and the chord bears N. 59° 06'39" W., 374.34 feet, to the Point of Beginning and containing 23.0893 Acres of land more or less.

NOTE: Iron pin set with yellow cap stamped RAS#3976

Grantor, for the Consideration and subject to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee and Grantee's heirs, successors and assigns forever. Grantor binds

Grantor and Grantor's successors and assigns to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, successors and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the Reservation from Conveyance and the Exceptions to Conveyance and Warranty.

When the context requires, singular nouns and pronouns include the plural.

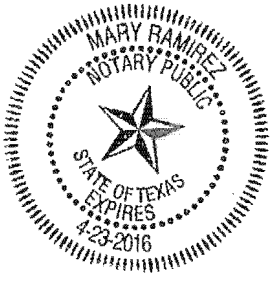
GRANTOR:

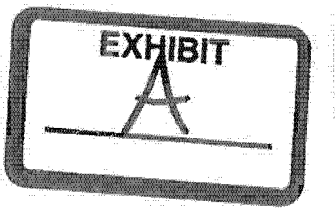
TROY "TREY" S. MARTIN, III

STATE OF TEXAS §
§
COUNTY OF BEXAR §

On May 12th, 2015 before me personally appeared Troy "Trey" Martin, III, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me he executed the same for the purposes and consideration therein expressed.

Notary Public in and for the State of Texas





FIELD NOTE DESCRIPTION
FOR A
23.0893 ACRE TRACT
(TRACT "A")

BEING 23.0893 Acres out of a 46.757 Acres of land out of the J.M. RIVAS SURVEY No. 191, Abstract 973, Comal County, Texas and being the same 46.757 Acre Tract of land as described in Quitclaim Deed recorded in Document No. 200706013787 of the Official Records of Comal County, Texas and this 23.0893 Acre Tract of land being more particularly described as follows:

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THENCE: N. 25° 32'28" W., 27.00 feet continuing with the north right of way line of Obst Road, to a ½" dia. iron pin found for a point of curvature of a curve to the left;

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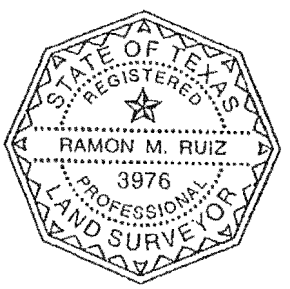
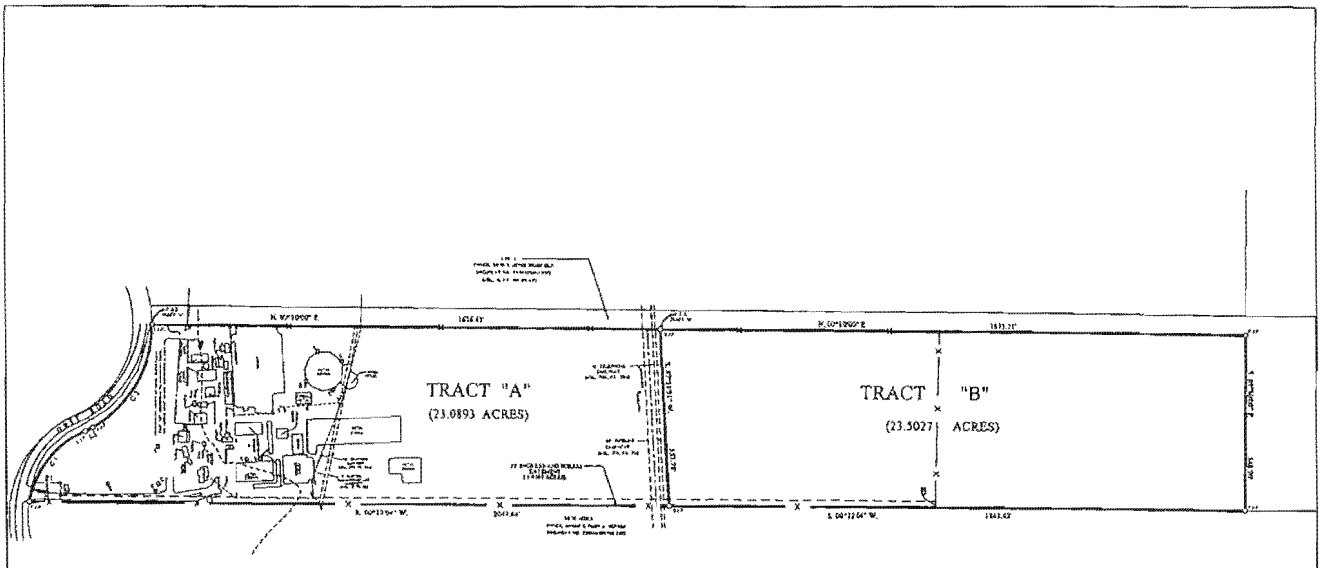
Note: Iron pin set with yellow cap stamped RAS#3976



Surveyed on the ground under my supervision
On this the 30th of March, 2015 A.D.

Ramon M. Ruiz, RPLS #3976

Job No.: 2015-017



LEGEND

- CHAINLINK FENCE
- BARBED WIRE FENCE
- OVERHEAD ELECTRIC
- SET 1/2" IRON ROD WITH YELLOW CAP STAMPED RAS3976
- FOUND 1/2" IRON ROD WITH YELLOW CAP STAMPED RAS3976
- POWER POLE
- EDGE OF PAVEMENT
- CONCRETE AREA

SCALE: 1" = 200'

CURVE DATA				
NO.	DELTA	RADIUS	LENGTH	TANGENT
C1	63°04'35"	283.00'	311.51'	174.33'
C2	60°18'41"	570.00'	599.79'	329.88'

EASEMENT		
LINE NO.	BEARING	DISTANCE
E1	N. 00°27'04" E.	83.33'
E2	S. 89°37'56" E.	40.00'
E3	S. 88°34'25" E.	20.00'

LINE DATA		
LINE NO.	BEARING	DISTANCE
1	N. 25°32'28" W.	27.00'

STATE OF TEXAS
COUNTY OF COMAL:

I HEREBY CERTIFY THAT THE ABOVE PLAT IS TRUE AND CORRECT ACCORDING TO AN ACTUAL SURVEY MADE ON THE GROUND UNDER MY SUPERVISION.

SURVEYED ON THIS THE 30TH, DAY OF MARCH, 2015 A.D.

Ramon M. Ruiz, RPLS #3976

STATE OF TEXAS · RAMON M. RUIZ · 3976 · REGISTERED LAND SURVEYOR

EASEMENTS:
DOCUMENT # 0606018593 (OR) - ELECTRIC EASEMENT
VOL. 997, PG. 683 (OR) - ELECTRIC EASEMENTS
VOL. 799, PG. 704 (OR) - 10' TELEPHONE EASEMENT
VOL. 170, PG. 76 (OR) - 30' PIPELINE EASEMENT
VOL. 71, PG. 24 (OR) - ELECTRIC TRANSMISSION LINE EASEMENT

DATE	REVISIONS

JOB NUMBER: 2015-017
SCALE: 1"=200'
DRAWN BY: J.S.
CHECKED BY: R.M.R.

RUIZ & ASSOCIATES SURVEYING, INC.
4411 CENTERVIEW, SUITE 211
SAN ANTONIO, TEXAS 78228
PHONE: (210) 737-1011 FAX: (210) 736-8868

PLAT SHOWING
BEING TRACT "A" (23.0893 ACRES) AND TRACT "B" (23.5027 ACRES) OUT OF A 46.757 ACRES OF LAND OUT OF THE J.M. RIVAS SURVEY NO. 191, ABSTRACT 973, COMAL COUNTY, TEXAS AND BEING SAME 46.757 ACRE TRACT OF LAND AS DESCRIBED IN QUITCLAIM DEED RECORDED IN DOCUMENT NO. 200706013787 OF THE OFFICIAL RECORDS OF COMAL COUNTY, TEXAS.

Sheet 1 of 1

Table 1: Master Loading Table

Loading Equation (Eq. 3.1 - TGM)

$$L = (0.226)(P)(A)(R_v)(C)$$

A = Area (ac.)
P = Average Annual Precipitation (in) - (33" for Comal)
R_v = Runoff Coefficient (IC Factor)
C = Average TSS concentration (mg/L)
0.226 = Conversion Factor

Generalized Required TSS Removal (Eq. 3.2 TGM)

$$L_M = (0.80)(0.226)(P)(A_I - A_E)(R_{VI}C_I - R_{VP}C_P)$$

A_I = Total Impervious Area in Watershed (ac.)
A_E = Total Existing Impervious Area in Watershed (ac.)
P = Average Annual Precipitation (in) - (33" for Comal)
R_{VI} = Appropriate Runoff Coefficient of Impervious Area
C_I = Appropriate Average TSS Concentration (mg/L) of Impervious Area
R_{VP} = Appropriate Runoff Coefficient of Pervious Area
C_P = Appropriate Average TSS Concentration (mg/L) of Pervious Area
0.80 = TAC Required Removal Rate of Total Loading
0.226 = Conversion Factor
L_M = Required Annual Load Removal (lbs)

Generalized TSS Removal by BMP (Eq. 3.7 TGM)

$$L_R = (\eta)(0.226)(P)(A_I R_{VI} C_I + A_P R_{VP} C_P)$$

A_I = Total Impervious Area in Watershed Contributing to a BMP (ac.)
A_P = Total Pervious Area in Watershed Contributing to a BMP (ac.)
P = Average Annual Precipitation (in) - (33" for Comal)
R_{VI} = Appropriate Runoff Coefficient of Impervious Area
C_I = Appropriate Average TSS Concentration (mg/L) of Impervious Area
R_{VP} = Appropriate Runoff Coefficient of Pervious Area
C_P = Appropriate Average TSS Concentration (mg/L) of Pervious Area
η = Efficiency of BMP
0.226 = Conversion Factor
L_R = Annual Load Removed by BMP (lbs)

Cover Class Table

Cover Class	C - Average TSS Concentration (mg/L)	Rv
Undeveloped	80	0.03
Caliche	125	0.51
Paved	170	0.9

BMP Efficiency Table

BMP Name	BMP Type	BMP Efficiency
Basin_A	Retention Irrigation	100%
RWC_C8	Rainwater Collection	100%
RWC_C9	Rainwater Collection	100%
RWC_E1	Rainwater Collection	100%
RWC_E2	Rainwater Collection	100%
RWC_E4	Rainwater Collection	100%
RWC_E5	Rainwater Collection	100%
RWC_F10	Rainwater Collection	100%
RWC_F13	Rainwater Collection	100%
RWC_F14	Rainwater Collection	100%
RWC_F4	Rainwater Collection	100%
RWC_F7	Rainwater Collection	100%
VFS1	Vegetated Filter Strip	80%
VFS2	Vegetated Filter Strip	80%
VFS3	Vegetated Filter Strip	80%
VFS4	Vegetated Filter Strip	80%

Notes:

1. L_M is the Required removal Load and is 80% of the annual load as defined by Equation 3.2 of the TGM. Existing Impervious areas are dropped from the calculation.
2. L_R is calculated for each area according to Equation 3.7 of the TGM (pg 3-33). Since each area in this case represents either wholely impervious or pervious area, the L_R is calculated based on the first term in the parantheses. The second term (the loading of the pervious area calculuated) is included when the area is summed.
3. Treatment by Vegetated filter strips of uncaptured areas is provided by treatment of existing (Pre-1997) areas and not necessarily "over-treatment"

Tejas Tract Water Quality Data Summary

								Area Properties					Required Load Removal Calculations					Load Removed By BMP Calculations					
Drainage Area Name	Sub-ID	Tag ID	Rainwater Collection	Development Timeline	Cover Type	Cover Sub-Type	Location Class	Area (SF)	Area (AC)	Cover Class	R_v	C	Annual Load from All Impervious Areas (lbs)	Annual Load from Post 1997 Impervious Areas (lbs)	Annual Load - Rain Collected Roofs (lbs)	Annual Load from Pre-Existing Imp. Areas (lbs)	L_M - 80% Annual Load (lbs)	Captured	BMP Name	Efficiency	L_R - BMP Load Removed (lbs)	Notes	Effective Area
A	1	A-1	No	Post 1997	Impervious	Caliche	Onsite	6771	0.155	Caliche	0.51	125	70.92	70.92	-	-	56.74	Captured	VFS1	0.80	58.96		0.08
A	2	A-2	No	Post 1997	Impervious	Roof	Onsite	458	0.011	Paved	0.90	170	12.35	12.35	-	-	9.88	Captured	VFS1	0.80	10.04		0.01
A	3	A-3	No	Post 1997	Pervious	Native	Onsite	438334	10.063	Undeveloped	0.03	80	-	-	-	-	-	Uncaptured	VFS1	-	-		0.30
A	4	A-4	No	Post 1997	Impervious	Roof	Onsite	364	0.008	Paved	0.90	170	8.99	8.99	-	-	7.19	Captured	VFS1	0.80	7.30		0.01
B1	1	B1-1	No	Post 1997	Impervious	Caliche	Offsite	4359	0.100	Caliche	0.51	125	45.75	-	-	-	-	Captured	Basin_A	1.00	-	Offsite area captured but not counted as treated	0.05
B1	2	B1-2	No	Post 1997	Pervious	Native	Offsite	11638	0.267	Undeveloped	0.03	80	-	-	-	-	-	Captured	Basin_A	1.00	-	Offsite area captured but not counted as treated	0.01
B2	1	B2-1	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	87426	2.007	Paved	0.90	170	2,254.21	2,254.21	-	-	1,803.37	Captured	Basin_A	1.00	2,290.14		1.81
B2	2	B2-2	No	Post 1997	Pervious	Native	Onsite	21089	0.484	Undeveloped	0.03	80	-	-	-	-	-	Captured	Basin_A	1.00	8.66		0.01
C	1	C-1	No	Pre 1997	Impervious	Roof	Onsite	324	0.007	Paved	0.90	170	7.86	-	-	7.86	-	Uncaptured	Basin_A	-	-		0.01
C	2	C-2	No	Pre 1997	Impervious	Asphalt/Concrete	Onsite	3383	0.078	Paved	0.90	170	87.61	-	-	87.61	-	Uncaptured	Basin_A	-	-		0.07
C	3	C-3	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	29276	0.672	Paved	0.90	170	754.77	754.77	-	-	603.82	Captured	Basin_A	1.00	766.80		0.60
C	4	C-4	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	10816	0.248	Paved	0.90	170	278.55	278.55	-	-	222.84	Captured	Basin_A	1.00	282.99		0.22
C	5	C-5	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	338	0.008	Paved	0.90	170	8.99	8.99	-	-	7.19	Uncaptured	VFS3	-	-		0.01
C	6	C-6	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	1519	0.035	Paved	0.90	170	39.31	39.31	-	-	31.45	Uncaptured	Basin_A	-	-		0.03
C	7	C-7	No	Post 1997	Impervious	Roof	Onsite	685	0.016	Paved	0.90	170	17.97	17.97	-	-	14.38	Captured	Basin_A	1.00	18.26		0.01
C	8	C-8	Collected	Post 1997	Impervious	Roof	Onsite	2048	0.047	Paved	0.90	170	52.79	52.79	52.79	-	42.23	Captured	RWC_C8	1.00	53.63		0.04
C	9	C-9	Collected	Post 1997	Impervious	Roof	Onsite	1184	0.027	Paved	0.90	170	30.33	30.33	30.33	-	24.26	Captured	RWC_C9	1.00	30.81		0.02
C	10	C-10	No	Post 1997	Impervious	Roof	Onsite	2100	0.048	Paved	0.90	170	53.91	53.91	-	-	43.13	Captured	Basin_A	1.00	54.77		0.04
C	11	C-11	No	Post 1997	Impervious	Roof	Onsite	3012	0.069	Paved	0.90	170	77.50	77.50	-	-	62.00	Captured	Basin_A	1.00	78.73		0.06
C	12	C-12	Collected	Post 1997	Impervious	Roof	Onsite	1747	0.040	Paved	0.90	170	44.93	44.93	44.93	-	35.94	Captured	RWC_E1	1.00	45.64		0.04
C	13	C-13	No	Post 1997	Pervious	Native	Onsite	92389	2.121	Undeveloped	0.03	80	-	-	-	-	-	Captured	Basin_A	1.00	37.96		0.06
D	1	D-1	No	Pre 1997	Impervious	Asphalt/Concrete	Onsite	6364	0.146	Paved	0.90	170	163.98	-	-	163.98	-	Uncaptured	VFS2	-	-		0.13
D	2	D-2	No	Pre 1997	Impervious	Roof	Onsite	841	0.019	Paved	0.90	170	21.34	-	-	21.34	-	Uncaptured	VFS2	-	-		0.02
D	3	D-3	No	Post 1997	Impervious	Roof	Onsite	270	0.006	Paved	0.90	170	6.74	6.74	-	-	5.39	Uncaptured	RWC_C8	-	-		0.01
D	4	D-4	No	Post 1997	Pervious	Native	Onsite	21017	0.482	Undeveloped	0.03	80	-	-	-	-	-	Uncaptured	VFS2	-	-		0.01
D	5	D-5	No	Pre 1997	Impervious	Roof	Onsite	818	0.019	Paved	0.90	170	21.34	-	-	21.34	-	Captured	VFS2	0.80	17.34		0.02
D	6	D-6	No	Post 1997	Pervious	Native	Onsite	4365	0.100	Undeveloped	0.03	80	-	-	-	-	-	Captured	VFS2	0.80	1.43		0.00
E	1	E-1	Collected	Post 1997	Impervious	Roof	Onsite	17875	0.410	Paved	0.90	170	460.50	460.50	460.50	-	368.40	Captured	RWC_E1	1.00	467.84		0.37
E	2	E-2	Collected	Post 1997	Impervious	Roof	Onsite	484	0.011	Paved	0.90	170	12.35	12.35	12.35	-	9.88	Captured	RWC_E2	1.00	12.55		0.01
E	3	E-3	No	Post 1997	Impervious	Roof	Onsite	685	0.016	Paved	0.90	170	17.97	17.97	-	-	14.38	Uncaptured	RWC_E1	-	-		0.01
E	4	E-4	Collected	Post 1997	Impervious	Roof	Onsite	3581	0.082	Paved	0.90	170	92.10	92.10	92.10	-	73.68	Captured	RWC_E4	1.00	93.57		0.07
E	5	E-5	Collected	Post 1997	Impervious	Roof	Onsite	504	0.012	Paved	0.90	170	13.48	13.48	13.48	-	10.78	Captured	RWC_E5	1.00	13.69		0.01
E	6	E-6	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	5082	0.117	Paved	0.90	170	131.41	131.41	-	-	105.13	Uncaptured	Basin_A	-	-		0.11
E	7	E-7	No	Post 1997	Impervious	Caliche	Onsite	287	0.007	Caliche	0.51	125	3.20	3.20	-	-	2.56	Uncaptured	RWC_E2	-	-		0.00
E	8	E-8	No	Post 1997	Impervious	Caliche	Onsite	194	0.004	Caliche	0.51	125	1.83	1.83	-	-	1.46	Uncaptured	RWC_E5	-	-		0.00
E	9	E-9	No	Post 1997	Impervious	Caliche	Onsite	2011	0.046	Caliche	0.51	125	21.05	21.05	-	-	16.84	Uncaptured	RWC_E4	-	-		0.02
E	10	E-10	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	283	0.006	Paved	0.90	170	6.74	6.74	-	-	5.39	Uncaptured	RWC_E1	-	-		0.01
E	11	E-11	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	118	0.003	Paved	0.90	170	3.37	3.37	-	-	2.70	Uncaptured	RWC_E4	-	-		0.00
E	12	E-12	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	1476	0.034	Paved	0.90	170	38.19	38.19	-	-	30.55	Uncaptured	VFS3	-	-		0.03
E	13	E-13	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	238	0.005	Paved	0.90	170	5.62	5.62	-	-	4.50	Uncaptured	RWC_E1	-	-		0.00
E	14	E-14	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	36	0.001	Paved	0.90	170	1.12	1.12	-	-	0.90	Uncaptured	RWC_E5	-	-		0.00
E	15	E-15	No	Post 1997	Pervious	Native	Onsite	11891	0.273	Undeveloped	0.03	80	-	-	-	-	-	Uncaptured	RWC_E1	-	-		0.01
E	16	E-16	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	515	0.012	Paved	0.90	170	13.48	13.48	-	-	10.78	Captured	VFS4	0.80	10.95		0.01
E	17	E-17	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	3510	0.081	Paved	0.90	170	90.98	90.98	-	-	72.78	Uncaptured	RWC_E1	-	-		0.07
F	1	F-1	No	Post 1997	Impervious	Roof	Onsite	1281	0.029	Paved	0.90	170	32.57	32.57	-	-	26.06	Uncaptured	RWC_F14	-	-		0.03
F	2	F-2	No	Post 1997	Impervious	Roof	Onsite	1930	0.044	Paved	0.90	170	49.42	49.42	-	-	39.54	Uncaptured	RWC_F14	-	-		0.04
F	3	F-3	No	Post 1997	Impervious	Roof	Onsite	648	0.015	Paved	0.90	170	16.85	16.85	-	-	13.48	Uncaptured	VFS2	-	-		0.01
F	4	F-4	Collected	Post 1997	Impervious	Roof	Onsite	332	0.008	Paved	0.90	170	8.99	8.99	8.99	-	7.19	Captured	RWC_F4	1.00	9.13		0.01
F	5	F-5	No	Post 1997	Impervious	Roof	Onsite	718	0.016	Paved	0.90	170	17.97	17.97	-	-	14.38	Uncaptured	VFS2	-	-		0.01
F	6	F-6	No	Post 1997	Impervious	Roof	Onsite	634	0.015	Paved	0.90	170	16.85	16.85	-	-	13.48	Captured	VFS2	0.80	13.69		0.01
F	7	F-7	Collected	Post 1997	Impervious	Roof	Onsite	640	0.015	Paved	0.90	170	16.85	16.85	16.85	-	13.48	Captured	RWC_F7	1.00	17.12		0.01
F	8	F-8	No	Post 1997	Impervious	Roof	Onsite	340	0.008	Paved	0.90	170	8.99	8.99	-	-	7.19	Captured	VFS2	0.80	7.30		0.01
F	9	F-9	No	Post 1997	Impervious	Roof	Onsite	676	0.016	Paved	0.90	170	17.97	17.97	-	-	14.38	Captured	VFS2	0.80	14.61		0.01

Table 1: Master Loading Table

Drainage Area Name	Sub-ID	Tag ID	Rainwater Collection	Development Timeline	Cover Type	Cover Sub-Type	Location Class	Area (SF)	Area (AC)	Cover Class	R_v	C	Annual Load from All Impervious Areas (lbs)	Annual Load from Post 1997 Impervious Areas (lbs)	Annual Load - Rain Collected Roofs (lbs)	Annual Load from Pre-Existing Imp. Areas (lbs)	L_M - 80% Annual Load (lbs)	Captured	BMP Name	Efficiency	L_R - BMP Load Removed (lbs)	Notes	Effective Area
F	10	F-10	Collected	Post 1997	Impervious	Roof	Onsite	2720	0.062	Paved	0.90	170	69.64	69.64	69.64	-	55.71	Captured	RWC_F10	1.00	70.75		0.06
F	11	F-11	No	Post 1997	Impervious	Roof	Onsite	270	0.006	Paved	0.90	170	6.74	6.74	-	-	5.39	Captured	VFS2	0.80	5.48		0.01
F	12	F-12	No	Pre 1997	Impervious	Roof	Onsite	146	0.003	Paved	0.90	170	3.37	-	-	3.37	-	Uncaptured	RWC_F14	-	-		0.00
F	13	F-13	Collected	Post 1997	Impervious	Roof	Onsite	1853	0.043	Paved	0.90	170	48.30	48.30	48.30	-	38.64	Captured	RWC_F13	1.00	49.07		0.04
F	14	F-14	Collected	Post 1997	Impervious	Roof	Onsite	18187	0.418	Paved	0.90	170	469.49	469.49	469.49	-	375.59	Captured	RWC_F14	1.00	476.97		0.38
F	15	F-15	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	570	0.013	Paved	0.90	170	14.60	14.60	-	-	11.68	Uncaptured	VFS2	-	-		0.01
F	16	F-16	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	578	0.013	Paved	0.90	170	14.60	14.60	-	-	11.68	Captured	VFS2	0.80	11.87		0.01
F	17	F-17	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	192	0.004	Paved	0.90	170	4.49	4.49	-	-	3.59	Uncaptured	RWC_F13	-	-		0.00
F	18	F-18	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	269	0.006	Paved	0.90	170	6.74	6.74	-	-	5.39	Uncaptured	RWC_C8	-	-		0.01
F	19	F-19	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	32	0.001	Paved	0.90	170	1.12	1.12	-	-	0.90	Uncaptured	RWC_F4	-	-		0.00
F	20	F-20	No	Pre 1997	Impervious	Roof	Onsite	328	0.008	Paved	0.90	170	8.99	-	-	8.99	-	Uncaptured	RWC_F4	-	-		0.01
F	21	F-21	No	Pre 1997	Impervious	Roof	Onsite	269	0.006	Paved	0.90	170	6.74	-	-	6.74	-	Captured	VFS2	0.80	5.48		0.01
F	22	F-22	No	Pre 1997	Impervious	Roof	Onsite	581	0.013	Paved	0.90	170	14.60	-	-	14.60	-	Captured	VFS2	0.80	11.87		0.01
F	23	F-23	No	Pre 1997	Impervious	Roof	Onsite	1620	0.037	Paved	0.90	170	41.56	-	-	41.56	-	Captured	VFS2	0.80	33.78		0.03
F	24	F-24	No	Post 1997	Impervious	Roof	Onsite	300	0.007	Paved	0.90	170	7.86	7.86	-	-	6.29	Uncaptured	RWC_F13	-	-		0.01
F	25	F-25	No	Pre 1997	Impervious	Roof	Onsite	572	0.013	Paved	0.90	170	14.60	-	-	14.60	-	Uncaptured	RWC_F13	-	-		0.01
F	26	F-26	No	Post 1997	Impervious	Caliche	Onsite	3310	0.076	Caliche	0.51	125	34.77	34.77	-	-	27.82	Uncaptured	RWC_F14	-	-		0.04
F	27	F-27	No	Post 1997	Impervious	Caliche	Onsite	1297	0.030	Caliche	0.51	125	13.73	13.73	-	-	10.98	Uncaptured	RWC_F10	-	-		0.02
F	28	F-28	No	Post 1997	Impervious	Caliche	Onsite	4779	0.110	Caliche	0.51	125	50.33	50.33	-	-	40.26	Uncaptured	VFS3	-	-		0.06
F	29	F-29	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	3202	0.074	Paved	0.90	170	83.11	83.11	-	-	66.49	Uncaptured	VFS2	-	-		0.07
F	30	F-30	No	Pre 1997	Impervious	Asphalt/Concrete	Onsite	1369	0.031	Paved	0.90	170	34.82	-	-	34.82	-	Uncaptured	RWC_F10	-	-		0.03
F	31	F-31	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	190	0.004	Paved	0.90	170	4.49	4.49	-	-	3.59	Uncaptured	RWC_F10	-	-		0.00
F	32	F-32	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	203	0.005	Paved	0.90	170	5.62	5.62	-	-	4.50	Captured	VFS2	0.80	4.56		0.00
F	33	F-33	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	160	0.004	Paved	0.90	170	4.49	4.49	-	-	3.59	Captured	VFS2	0.80	3.65		0.00
F	34	F-34	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	461	0.011	Paved	0.90	170	12.35	12.35	-	-	9.88	Uncaptured	RWC_E1	-	-		0.01
F	35	F-35	No	Pre 1997	Impervious	Asphalt/Concrete	Onsite	514	0.012	Paved	0.90	170	13.48	-	-	13.48	-	Uncaptured	RWC_F4	-	-		0.01
F	36	F-36	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	322	0.007	Paved	0.90	170	7.86	7.86	-	-	6.29	Uncaptured	RWC_F14	-	-		0.01
F	37	F-37	No	Post 1997	Pervious	Native	Onsite	2602	0.060	Undeveloped	0.03	80	-	-	-	-	-	Uncaptured	RWC_F4	-	-		0.00
F	38	F-38	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	225	0.005	Paved	0.90	170	5.62	5.62	-	-	4.50	Captured	VFS2	0.80	4.56		0.00
F	39	F-39	No	Post 1997	Impervious	Caliche	Onsite	1974	0.045	Caliche	0.51	125	20.59	20.59	-	-	16.47	Captured	VFS2	0.80	17.12		0.02
F	40	F-40	No	Post 1997	Impervious	Caliche	Onsite	3771	0.087	Caliche	0.51	125	39.81	39.81	-	-	31.85	Captured	VFS2	0.80	33.09		0.04
F	41	F-41	No	Pre 1997	Impervious	Roof	Onsite	386	0.009	Paved	0.90	170	10.11	-	-	10.11	-	Captured	VFS2	0.80	8.22		0.01
F	42	F-42	No	Pre 1997	Impervious	Asphalt/Concrete	Onsite	1334	0.031	Paved	0.90	170	34.82	-	-	34.82	-	Captured	VFS2	0.80	28.30		0.03
F	43	F-43	No	Post 1997	Pervious	Native	Onsite	32284	0.741	Undeveloped	0.03	80	-	-	-	-	-	Captured	VFS2	0.80	10.61		0.02
G	1	G-1	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	2522	0.058	Paved	0.90	170	65.14	65.14	-	-	52.11	Uncaptured	VFS3	-	-		0.05
G	2	G-2	No	Post 1997	Pervious	Native	Onsite	1916	0.044	Undeveloped	0.03	80	-	-	-	-	-	Uncaptured	VFS3	-	-		0.00
H	1	H-1	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	68947	1.583	Paved	0.90	170	1,777.99	1,777.99	-	-	1,422.39	Captured	VFS3	0.80	1,445.06		1.42
H	2	H-2	No	Pre 1997	Impervious	Asphalt/Concrete	Onsite	7085	0.163	Paved	0.90	170	183.08	-	-	183.08	-	Captured	VFS3	0.80	148.80		0.15
H	3	H-3	No	Post 1997	Pervious	Native	Onsite	44241	1.016	Undeveloped	0.03	80	-	-	-	-	-	Uncaptured	VFS3	-	-		0.03
H	4	H-4	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	541	0.012	Paved	0.90	170	13.48	13.48	-	-	10.78	Captured	VFS3	0.80	10.95		0.01
I	1	I-1	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	374	0.009	Paved	0.90	170	10.11	10.11	-	-	8.09	Uncaptured	VFS3	-	-		0.01
I	2	I-2	No	Post 1997	Impervious	Asphalt/Concrete	Offsite-Overtreat	656	0.015	Paved	0.90	170	16.85	16.85	-	-	13.48	Uncaptured	VFS3	-	-	Offsite area overtreated for	0.01
J	1	J-1	No	Post 1997	Impervious	Asphalt/Concrete	Onsite	192	0.004	Paved	0.90	170	4.49	4.49	-	-	3.59	Uncaptured	VFS3	-	-		0.00
J	2	J-2	No	Post 1997	Impervious	Asphalt/Concrete	Offsite-Overtreat	745	0.017	Paved	0.90	170	19.09	19.09	-	-	15.27	Uncaptured	VFS3	-	-	Offsite area overtreated for	0.02
K	1	K-1	No	Pre 1997	Impervious	Asphalt/Concrete	Onsite	198	0.005	Paved	0.90	170	5.62	-	-	5.62	-	Uncaptured	VFS3	-	-		0.00
K	2	K-2	No	Pre 1997	Impervious	Asphalt/Concrete	Offsite-Overtreat	455	0.010	Paved	0.90	170	11.23	-	-	11.23	-	Uncaptured	VFS3	-	-	Offsite area overtreated for	0.01

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Table 2 - Loading Summary by Watershed

Watershed Name	Watershed Area Summary									Watershed Loading Summary				
	Onsite Area	Offsite Area*	Total Project Area	Predevelopment Impervious Area	Captured Impervious Area	Uncaptured Impervious Area	Total Impervious Area	Total Pervious Area	Post Development Imerpvious Cover Fraction	Annual Load Pre-Existing Impervious Areas	Annual Load Captured Net Impervious Area	Annual Load Uncaptured Net Impervious Area	Total Annual Load Net Impervious Area	L_M - 80% Annual Load
	(ac.)	(ac.)	(ac.)	(ac.)	(ac.)	(ac.)	(ac.)	(ac.)	%	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
A	10.237	-	**10.237**	-	0.174	-	0.174	10.063	1.7%	-	92.26	-	92.26	73.81
B1	-	0.367	**0.367**	-	0.100	-	0.100	0.267	27.2%	-	-	-	-	-
B2	2.491	-	**2.491**	-	2.007	-	2.007	0.484	80.6%	-	2,254.21	-	2,254.21	1,803.37
C	3.416	-	**3.416**	0.085	1.167	0.128	1.295	2.121	37.9%	95.47	1,310.75	48.30	1,359.05	1,087.24
D	0.773	-	**0.773**	0.184	0.019	0.171	0.190	0.582	24.6%	206.66	-	6.74	6.74	5.39
E	1.120	-	**1.120**	-	0.527	0.320	0.847	0.273	75.6%	-	591.91	321.48	913.39	730.71
F	2.160	-	**2.160**	0.163	0.846	0.514	1.360	0.801	63.0%	183.09	754.55	358.26	1,112.81	890.25
G	0.102	-	**0.102**	-	-	0.058	0.058	0.044	56.9%	-	-	65.14	65.14	52.11
H	2.774	-	**2.774**	0.163	1.758	-	1.758	1.016	63.4%	183.08	1,791.47	-	1,791.47	1,433.18
I	0.009	0.015	**0.024**	-	-	0.024	0.024	-	100.0%	-	-	26.96	26.96	21.57
J	0.004	0.017	**0.021**	-	-	0.021	0.021	-	100.0%	-	-	23.58	23.58	18.86
K	0.005	0.010	**0.015**	0.015	-	0.015	0.015	-	100.0%	16.85	-	-	-	-
Totals	**23.091**	**0.409**	**23.500**	**0.610**	**6.598**	**1.251**	**7.849**	**15.651**	**33.4%**	**685.15**	**6,795.15**	**850.46**	**7,645.61**	**6,116.49**

Notes:

1. Offsite area in watershed "B1" is not treated, but is used to size Basin "A" while offsite area in watersheds "I", "J", and "K" are overtreated for. Loading from Watershed "B1" is omited per TGM §3.3.3
2. Impervious Cover Loading is composed of Caliche Loading which is less than that of fully "Paved" areas. See Tejas Tract Water Quality Data Summary for full detail of loading

Table 3 - Loading Summary by Treatement Facility

Treatment Facility Name	Facilty Type	Contributing Watershed Characteristics							BMP Loading Summary							
		Onsite Area	Offsite Area	Total Project Area	Predevelopment Impervious Area	Captured Impervious Area	Uncaptured Impervious Area	Total Impervious Area	Annual Load Pre-Existing Impervious Areas	Annual Load Captured Net Impervious Area	Annual Load Uncaptured Net Impervious Area	Total Annual Load Net Impervious Area	L_M - 80% Annual Load	Rated TSS Removal Efficiency %	Design TSS Treatment by BMP (lbs/yr) - L_R	Fraction of Annual Runoff - F
		(ac.)	(ac.)	(ac.)	(ac.)	(ac.)	(ac.)	(ac.)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)			
Basin "A"	Retention Irrigation	5.902	0.367	6.269	0.085	3.160	0.237	3.397	95.47	3,436.91	170.72	3,607.63	2,886.12	100%	3,538.31	0.816
RWC_C8	Rainwater Collection	0.059	-	0.059	-	0.047	0.012	0.059	-	52.79	13.48	66.27	53.01	100%	53.63	0.988
RWC_C9	Rainwater Collection	0.027	-	0.027	-	0.027	-	0.027	-	30.33	-	30.33	24.26	100%	30.81	0.787
RWC_E1	Rainwater Collection	0.842	-	0.842	-	0.450	0.119	0.569	-	505.43	133.66	639.09	511.27	100%	513.48	0.996
RWC_E2	Rainwater Collection	0.018	-	0.018	-	0.011	0.007	0.018	-	12.35	3.20	15.55	12.44	100%	12.55	0.991
RWC_E4	Rainwater Collection	0.131	-	0.131	-	0.082	0.049	0.131	-	92.10	24.42	116.52	93.22	100%	93.57	0.996
RWC_E5	Rainwater Collection	0.017	-	0.017	-	0.012	0.005	0.017	-	13.48	2.95	16.43	13.14	100%	13.69	0.960
RWC_F14	Rainwater Collection	0.577	-	0.577	0.003	0.418	0.159	0.577	3.37	469.49	124.62	594.11	475.30	100%	476.97	0.996
RWC_F4	Rainwater Collection	0.089	-	0.089	0.020	0.008	0.021	0.029	22.47	8.99	1.12	10.11	8.09	100%	9.13	0.886
RWC_F7	Rainwater Collection	0.015	-	0.015	-	0.015	-	0.015	-	16.85	-	16.85	13.48	100%	17.12	0.787
RWC_F10	Rainwater Collection	0.127	-	0.127	0.031	0.062	0.065	0.127	34.82	69.64	18.22	87.86	70.28	100%	70.75	0.993
RWC_F13	Rainwater Collection	0.067	-	0.067	0.013	0.043	0.024	0.067	14.60	48.30	12.35	60.65	48.52	100%	49.07	0.989
VFS1	Engineered Vegetated Filter Strip	10.237	-	10.237	-	0.174	-	0.174	-	92.26	-	92.26	73.81	80%	76.30	0.967
VFS2	Engineered Vegetated Filter Strip	1.925	-	1.925	0.280	0.319	0.283	0.602	314.49	141.28	132.53	273.81	219.06	80%	232.96	0.940
VFS3	Engineered Vegetated Filter Strip	3.046	0.042	3.088	0.178	1.758	0.270	2.028	199.93	1,791.47	213.19	2,004.66	1,603.71	80%	1,604.81	0.999
VFS4	Engineered Vegetated Filter Strip	0.012	-	0.012	-	0.012	-	0.012	-	13.48	-	13.48	10.78	80%	10.95	0.984
Totals		**23.091**	**0.409**	**23.500**	**0.610**	**6.598**	**1.251**	**7.849**	**685.15**	**6,795.15**	**850.46**	**7,645.61**	**6,116.49**		**6,804.10**	

STATE OF TEXAS
SHAUNA L WEAVER
89512
LICENSED PROFESSIONAL ENGINEER
5.20.15

File: P:\76\74\00\Excel\WPAP\Treatment Summary.xlsx
Tab: Treatment Summary

Basin A - Sizing Calculations

Summary of Basin A

Name	BMP Type	Efficiency	LM	LR	F	Sum of Area	∑RV*A	Weighted Rv
Basin A	Ret/Irrig.	100%	2886.12	3538.31	0.82	6.27	3.10	0.49

	Offsite Area (ac)	Onsite Area (ac)	Totals (ac)
Pervious	0.27	2.61	2.88
Impervious	0.1	3.29	3.39
Totals (ac)	0.37	5.90	6.27

Onsite Fraction of Impervious Cover = 0.5576
Onsite Runoff Coefficient (Eq. 3.11 - TGM pg 3-36) = 0.3915

Offsite Fraction of Impervious Cover = 0.2703
Offsite Runoff Coefficient (Eq. 3.11 - TGM pg 3-36) = 0.2425

Design Flowrate

(Calculated Per TGM Eq. 3.4 (TGM pg 3-30))

C = 0.49
i = 1.1 in/hr
A = 6.27 ac
Q = 3.38 cfs

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

Calculations from RG-348 Pages 3-34 to 3-36

Total Onsite Area = 5.90 acres
F = 0.82
Rainfall Depth = 1.16 inches
Post Development Runoff Coefficient = 0.3915
On-site Water Quality Volume = 9,726 cubic feet

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

Off-site area draining to BMP = 0.37 acres
Off-site Impervious cover draining to BMP = 0.1 acres
Impervious fraction of off-site area = 0.2703
Off-site Runoff Coefficient = 0.2425
Off-site Water Quality Volume = 378 cubic feet

Storage for Sediment (20% increase) = **2021**
Total Capture Volume (required water quality volume(s) x 1.20) = 12,125 cubic feet

7. Retention/Irrigation System

Designed as Required in RG-348 Pages 3-42 to 3-46

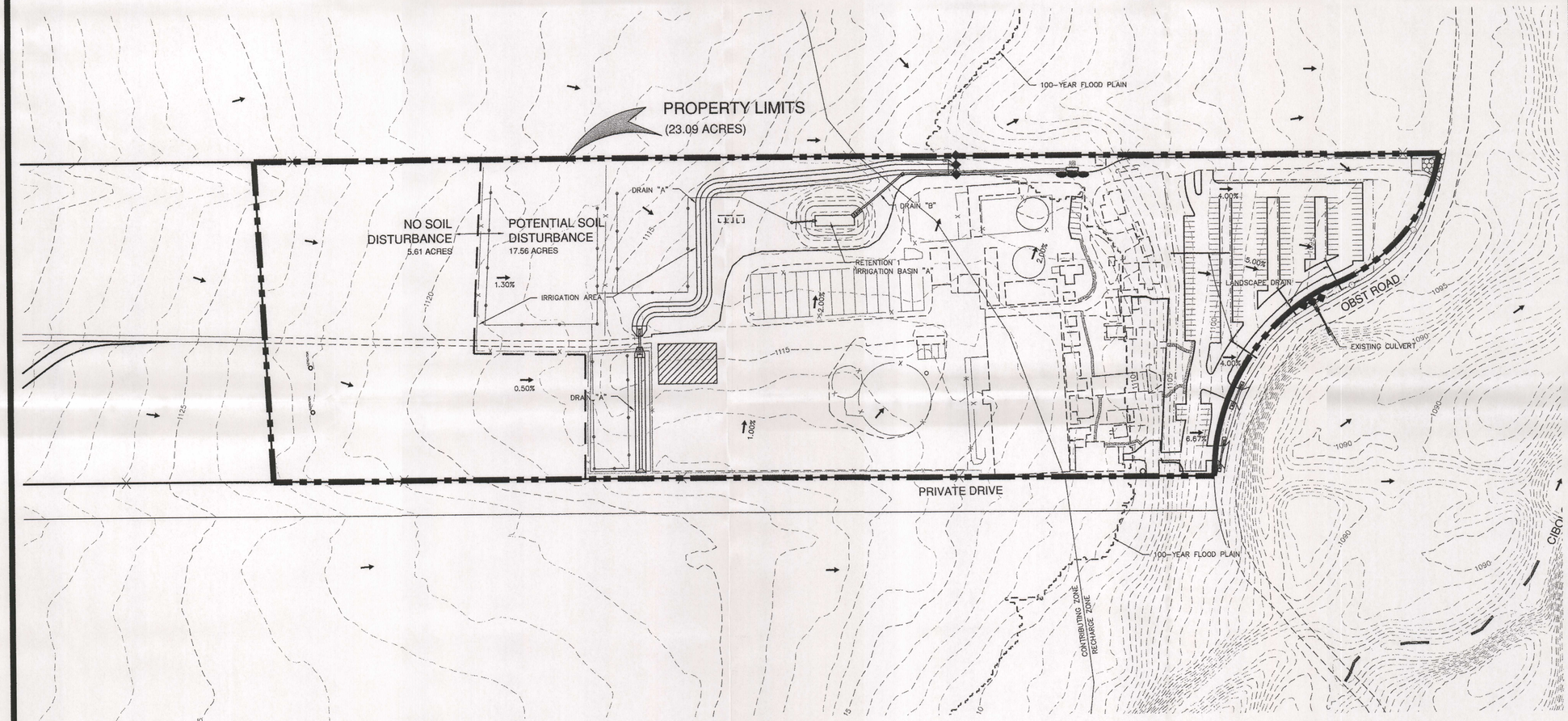
Required Water Quality Volume for retention basin = **12125** cubic feet

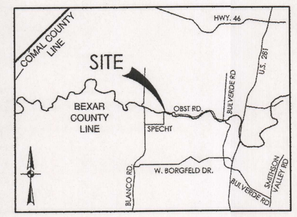
Irrigation Area Calculations:

Soil infiltration/permeability rate = 0.1 in/hr
Irrigation area = 48500 square feet
1.11 acres

Detention Calcs

Detention Time = 60 hr (72 hr Detention - 12 hr residence time = 60 hr)
Water Storage Volume = 90,701 gal
Minimum Rate to drain pond in 60 hours = 25 gpm





LOCATION MAP
MAPSCO MAP GRID: 416F8
NOT-TO-SCALE

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

LEGEND

- PROJECT LIMITS
- SOIL DISTURBANCE LIMITS
- 976 EXISTING GRADE
- 970 PROPOSED GRADE
- SILT FENCE
- FLOW ARROW (PROPOSED)
- ROCK BERM
- GRATE INLET PROTECTION
- GRAVEL FILTER BAGS
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)
- CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)
- 50' NATURAL VEGETATIVE BUFFER

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

EXHIBIT 1

TEMPORARY BMP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

NO.	REVISION	DATE

STATE OF TEXAS
SHAUNA L. WEAVER
89512
LICENSED
PROFESSIONAL ENGINEER
5-20-15

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TEXAS 78213 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

TEJAS RODEO
BULVERDE, TEXAS

TEMPORARY WATER POLLUTION ABATEMENT PLAN
SITE PLAN

PLAT NO.
JOB NO. 7674-00
DATE APRIL 2015
DESIGNER MBG
CHECKED CEL DRAWN JQ/PM
SHEET C1.00

Date: May 19, 2015, 3:47pm User ID: PMcKee
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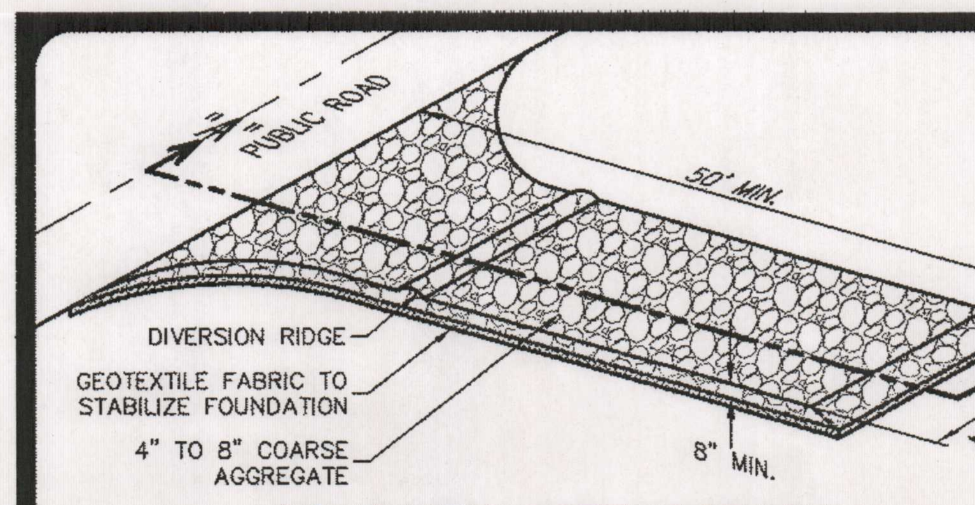
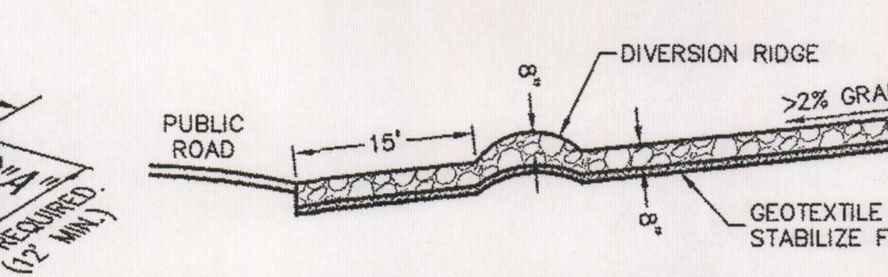


SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT



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

MATERIALS

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

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

3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD^2, A MULLEN BURST RATING OF 140 LB/IN^2, AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.

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

INSTALLATION

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

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

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

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

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

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

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

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

COMMON TROUBLE POINTS

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

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

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

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

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

INSPECTION AND MAINTENANCE GUIDELINES

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

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

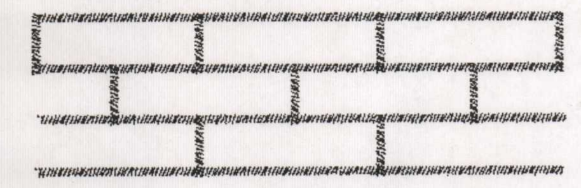
3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

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

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

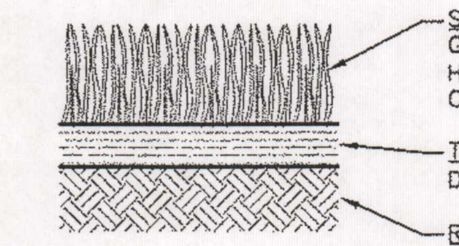
STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT-TO-SCALE



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

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

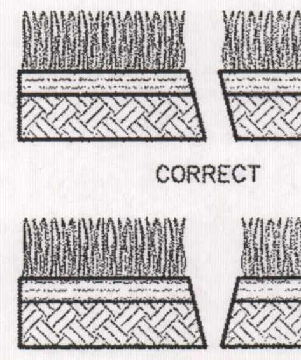


APPEARANCE OF GOOD SOD

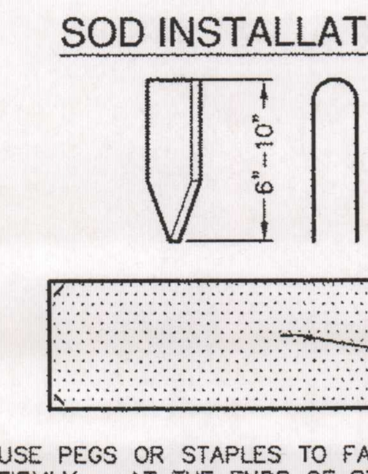
NOTES:
1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

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

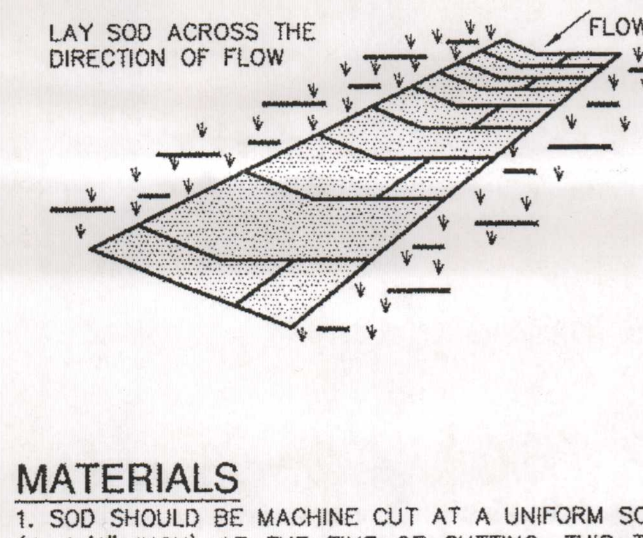
3. MOW WHEN THE SOD IS ESTABLISHED - IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").

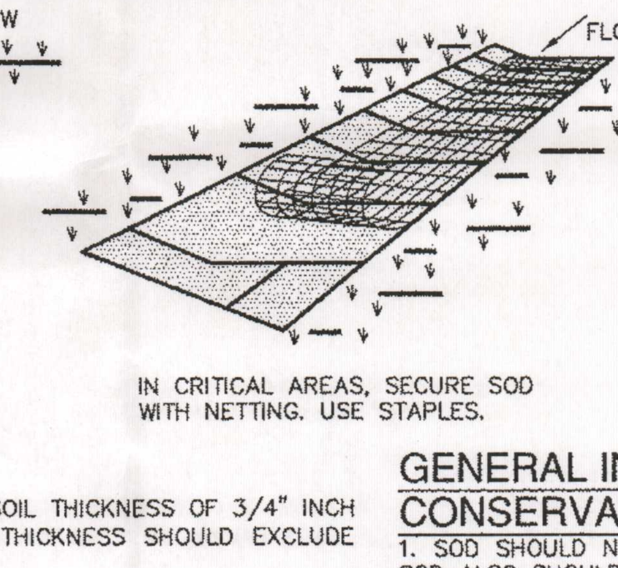


SOD INSTALLATION



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





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

MATERIALS

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

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

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

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

SITE PREPARATION

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

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

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

INSTALLATION IN CHANNELS

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

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

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

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

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

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

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

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

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

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

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

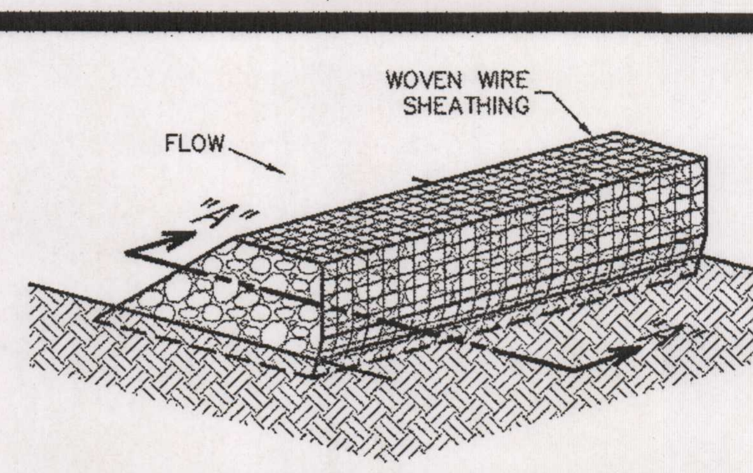
INSPECTION AND MAINTENANCE GUIDELINES

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

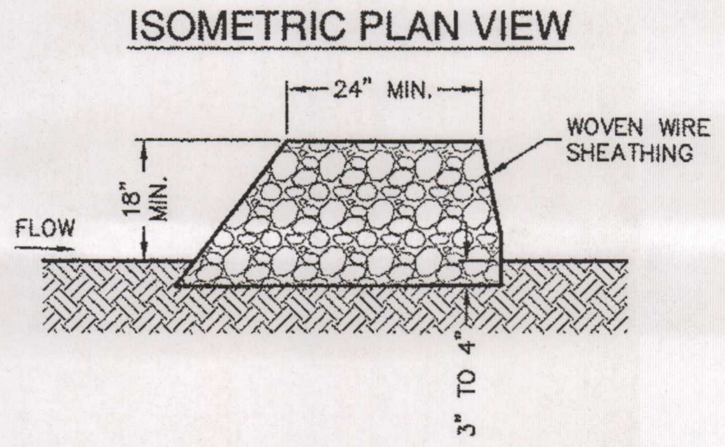
2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

SOD INSTALLATION DETAIL

NOT-TO-SCALE



ISOMETRIC PLAN VIEW



SECTION "A-A"

ROCK BERMS

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

MATERIALS

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

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

INSTALLATION

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

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

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

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

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

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

COMMON TROUBLE POINTS

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

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

INSPECTION AND MAINTENANCE GUIDELINES

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

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

3. REPAIR ANY LOOSE WIRE SHEATHING.

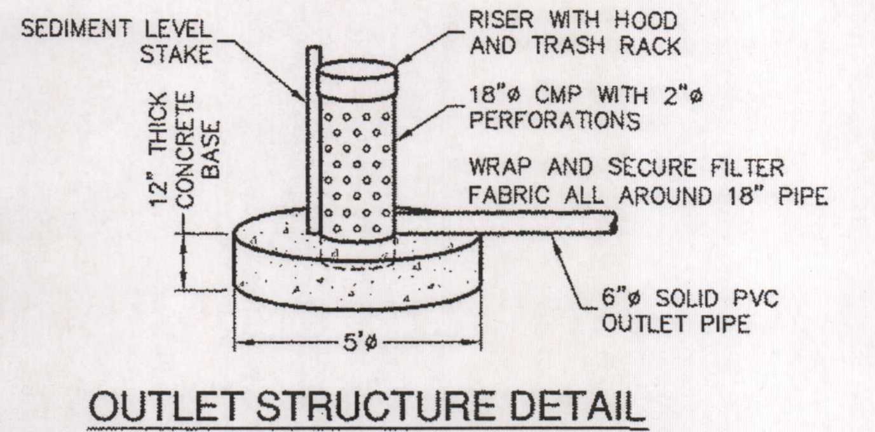
4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.

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

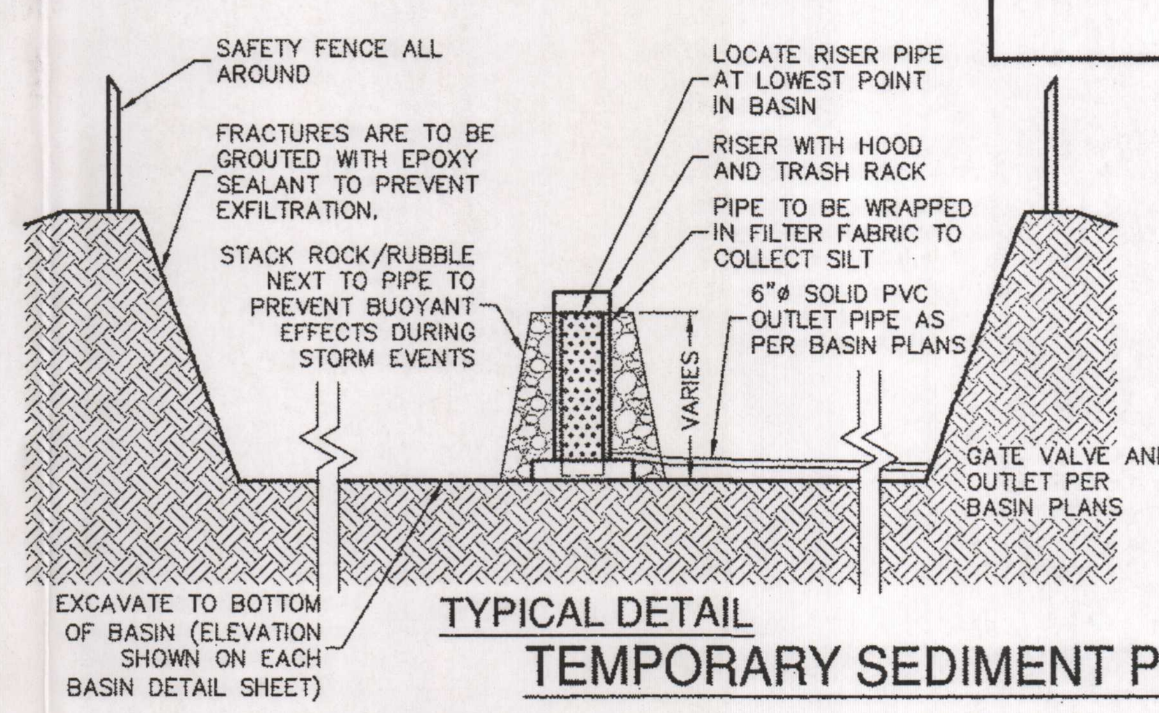
6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

ROCK BERM DETAIL

NOT-TO-SCALE



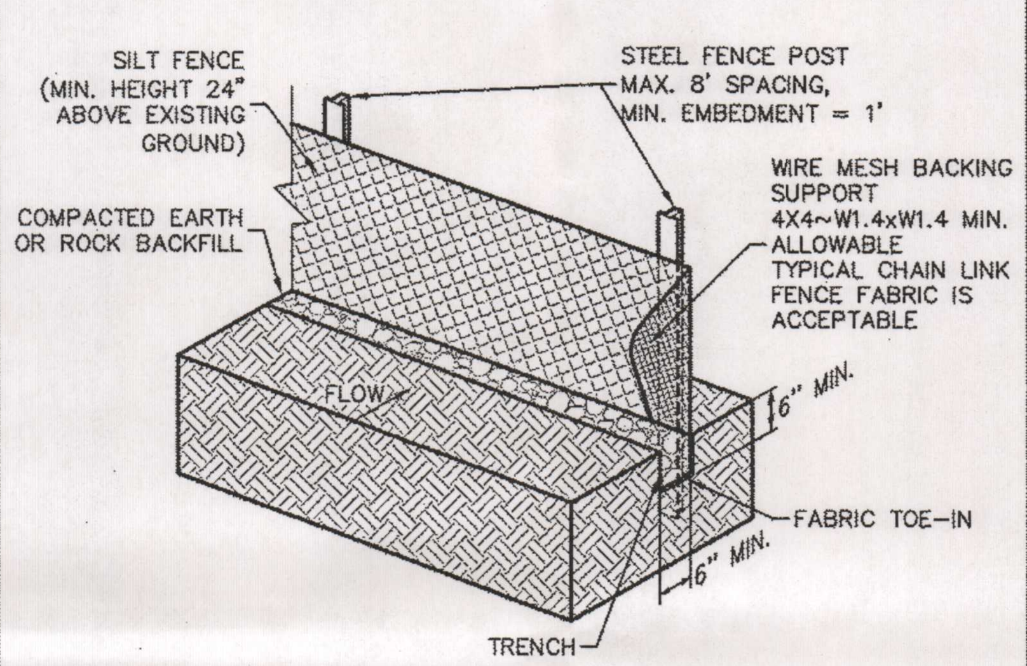
OUTLET STRUCTURE DETAIL



TYPICAL DETAIL

TEMPORARY SEDIMENT POND DETAIL

NOT-TO-SCALE



ISOMETRIC PLAN VIEW

SILT FENCE

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

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

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

MATERIALS

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

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

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

INSTALLATION

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

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

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

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

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

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

COMMON TROUBLE POINTS

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

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

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

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

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

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

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

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

SILT FENCE DETAIL

NOT-TO-SCALE

TEMPORARY SEDIMENTATION BASIN NOTES

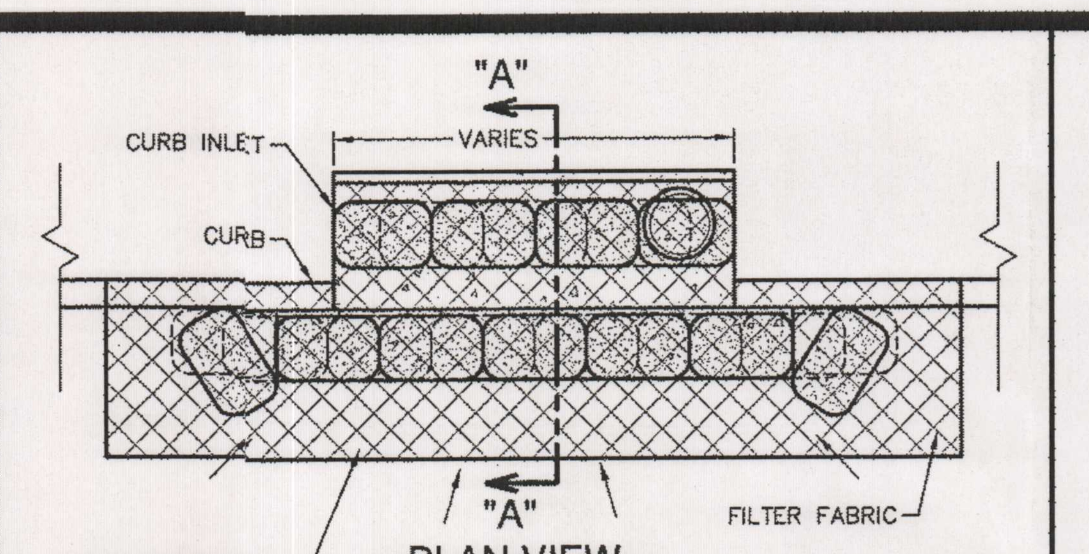
1. CONTRACTOR TO CONSTRUCT BASINS IN ACCORDANCE WITH CONSTRUCTION PLANS FOR PERMANENT SEDIMENTATION/ FILTRATION WITH THE EXCEPTION OF THE GRAVEL DRAIN LAYER AND SAND FILTER LAYERS.

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

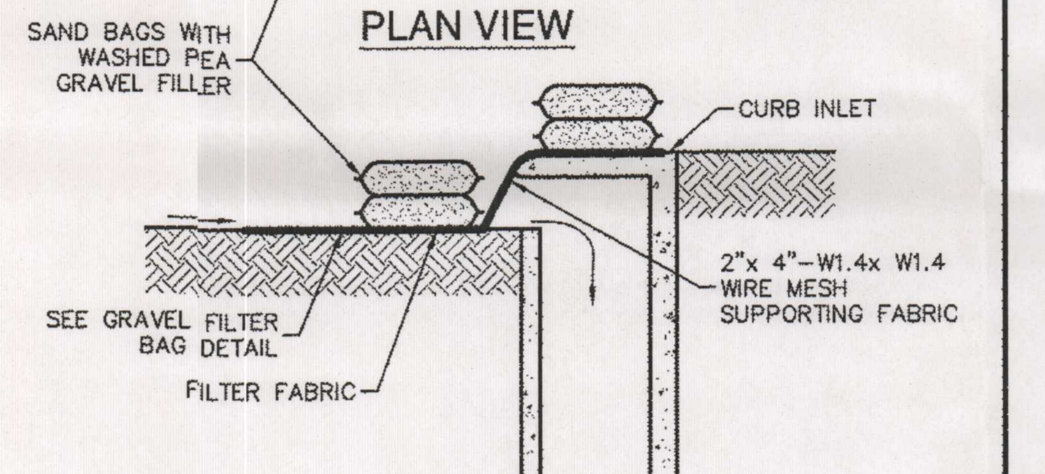
3. SEDIMENT WILL BE REMOVED WHEN MORE THAN 50% OF THE BASIN CAPACITY IS EXCEEDED.

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

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



PLAN VIEW



SECTION "A-A"

GENERAL NOTES

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

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

INSPECTION AND MAINTENANCE GUIDELINES

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

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

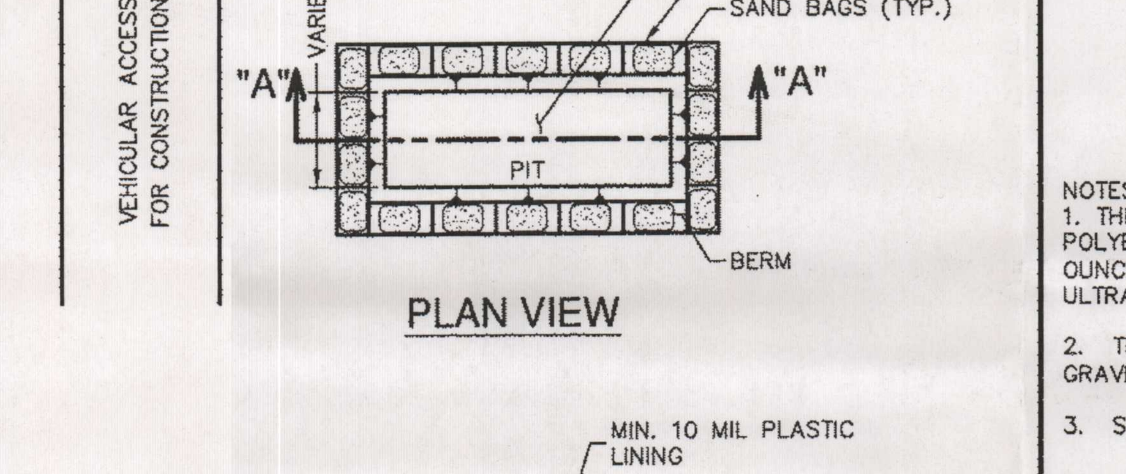
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.

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

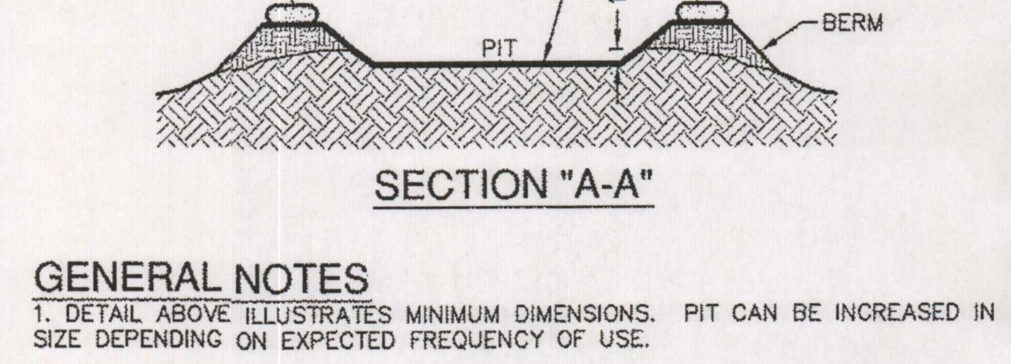
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT-TO-SCALE



PLAN VIEW



SECTION "A-A"

GENERAL NOTES

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

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

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

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

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

MATERIALS

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

MAINTENANCE

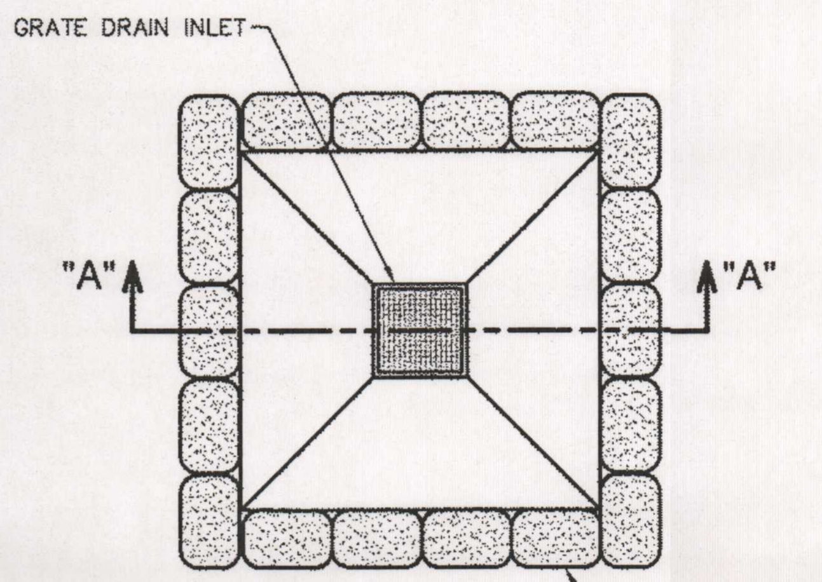
1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.

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

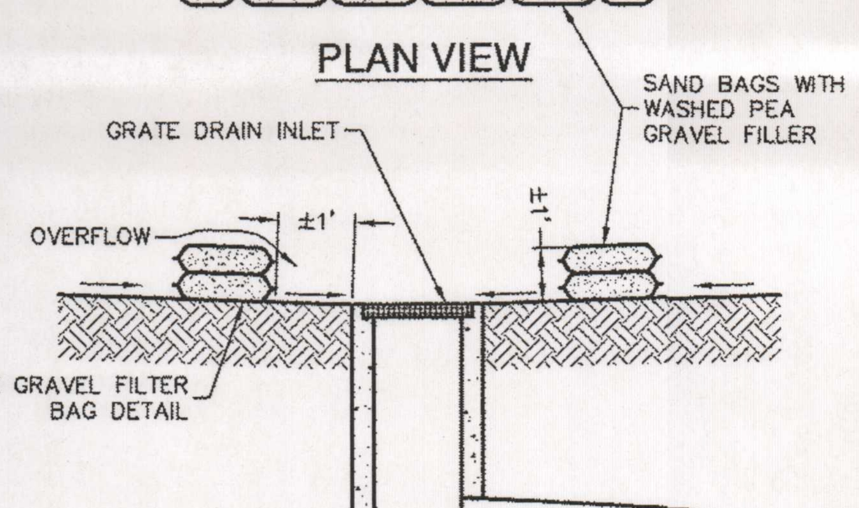
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT DETAIL

NOT-TO-SCALE



PLAN VIEW



SECTION "A-A"

GENERAL NOTES

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

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

INSPECTION AND MAINTENANCE GUIDELINES

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

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

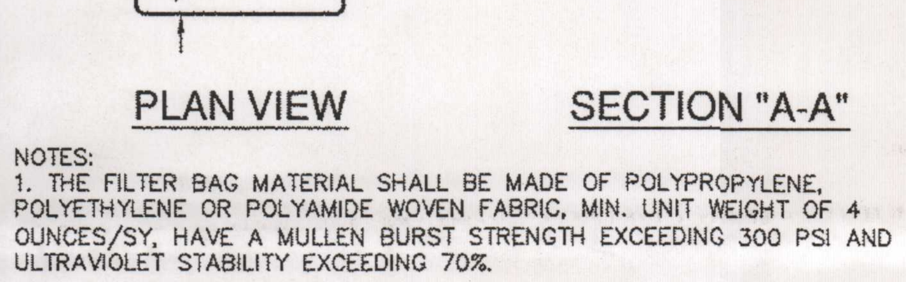
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.

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

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

BAGGED GRAVEL GRATE INLET PROTECTION DETAIL

NOT-TO-SCALE



PLAN VIEW SECTION "A-A"

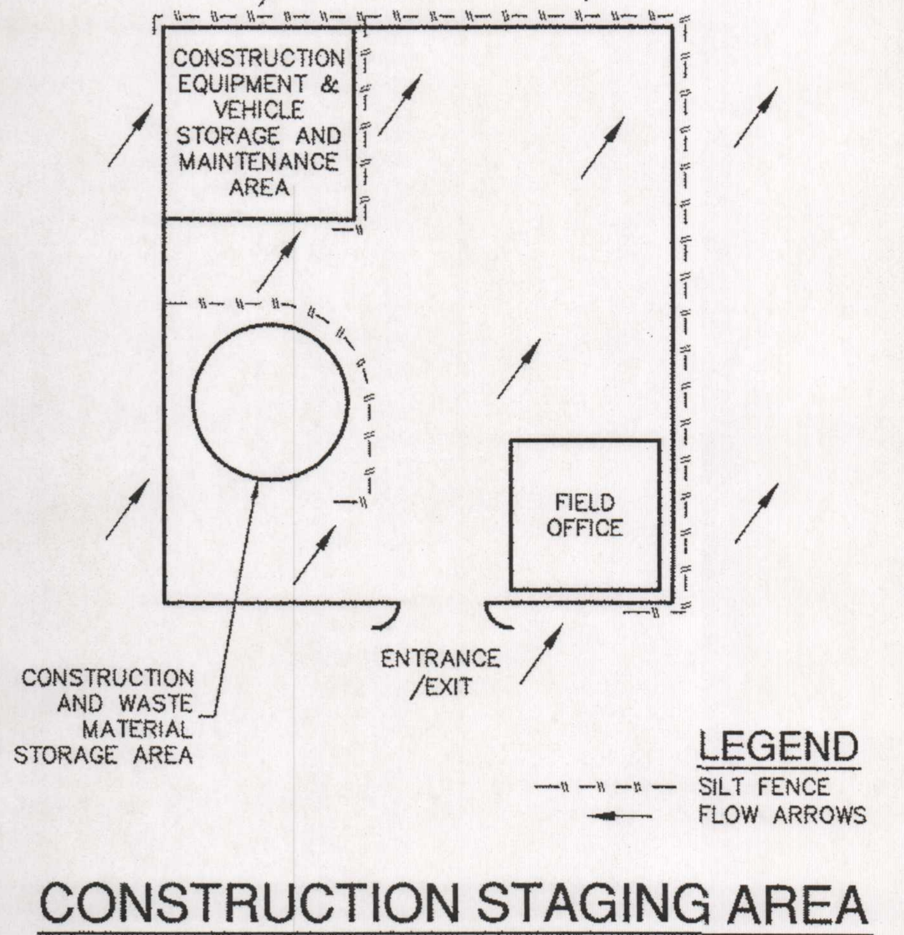
NOTES:
1. THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WEIGHT OF 4 OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.

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

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

GRAVEL FILTER BAG DETAIL

NOT-TO-SCALE



CONSTRUCTION STAGING AREA

NOT-TO-SCALE

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

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

EXHIBIT 2

NO.	REVISION	DATE

STATE OF TEXAS
SHAUNA L. WEAVER
89512
LICENSED
PROFESSIONAL ENGINEER
5-20-15
Shauna L. Weaver

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TEXAS 78213 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

TEJAS RODEO
BULVERDE, TEXAS

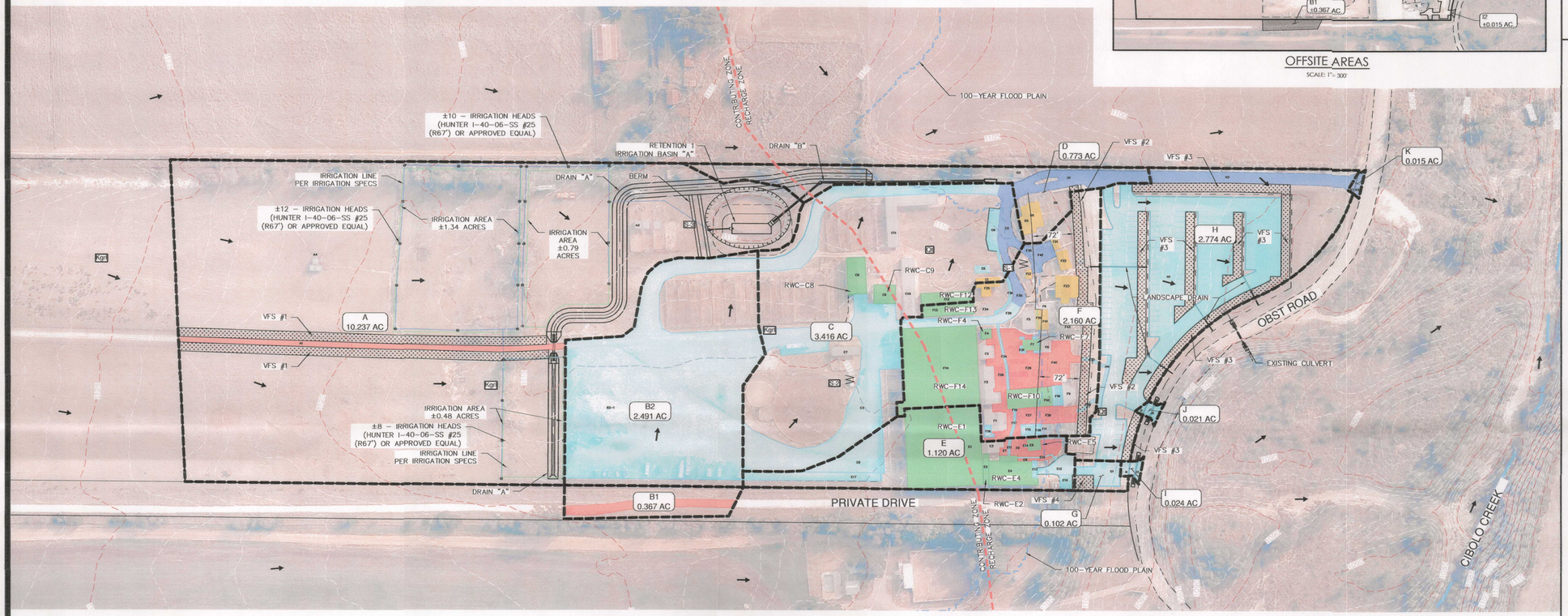
TEMPORARY WATER POLLUTION ABATEMENT PLAN
TYPICAL DETAILS

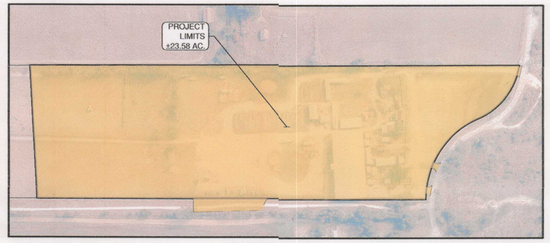
PLAT NO.	
JOB NO.	7674-00
DATE	APRIL 2015
DESIGNER	MBG
CHECKED	CEL
DRAWN	JQ/PM
SHEET	C1.01

Date: May 15, 2015, 12:39pm User ID: DPyles
File: P:\76\74\00\Design\Civil\TMDT767400.dwg

Table 3 - Loading Summary by Treatement Facility

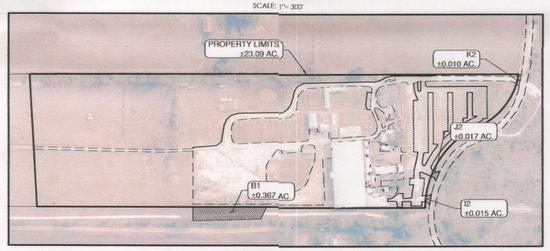
Treatment Facility Name	Facilty Type	Contributing Watershed Characteristics: Onsite Area (ac.)	Offsite Area (ac.)	Total Project Area (ac.)	Predevelopment Impervious Area (ac.)	Captured Impervious Area (ac.)	Uncaptured Impervious Area (ac.)	Total Impervious Area (ac.)	BMP Loading Summary: Annual Load Pre-Existing Impervious Areas (lbs)	Annual Load Captured Net Impervious Area (lbs)	Annual Load Uncaptured Net Impervious Area (lbs)	Total Annual Load Net Impervious Area (lbs)	L_M - 80% Annual Load (lbs)	Rated TSS Removal Efficiency %	Design TSS Treatment by BMP (lbs/yr) - L_R	Fraction of Annual Runoff - F
Basin "A"	Retention Irrigation	5.902	0.367	6.269	0.085	3.160	0.237	3.397	95.47	3,436.91	170.72	3,607.63	2,886.12	100%	3,538.31	0.816
RWC_C8	Rainwater Collection	0.059	-	0.059	-	0.047	0.012	0.059	-	52.79	13.48	66.27	53.01	100%	53.63	0.988
RWC_C9	Rainwater Collection	0.027	-	0.027	-	0.027	-	0.027	-	30.33	-	30.33	24.26	100%	30.81	0.787
RWC_E1	Rainwater Collection	0.842	-	0.842	-	0.450	0.119	0.569	-	505.43	133.66	639.09	511.27	100%	513.48	0.996
RWC_E2	Rainwater Collection	0.018	-	0.018	-	0.011	0.007	0.018	-	12.35	3.20	15.55	12.44	100%	12.55	0.991
RWC_E4	Rainwater Collection	0.131	-	0.131	-	0.082	0.049	0.131	-	92.10	24.42	116.52	93.22	100%	93.57	0.996
RWC_E5	Rainwater Collection	0.017	-	0.017	-	0.012	0.005	0.017	-	13.48	2.95	16.43	13.14	100%	13.69	0.960
RWC_F14	Rainwater Collection	0.577	-	0.577	0.003	0.418	0.159	0.577	3.37	469.49	124.62	594.11	475.30	100%	476.97	0.996
RWC_F4	Rainwater Collection	0.089	-	0.089	0.020	0.008	0.021	0.029	22.47	8.99	1.12	10.11	8.09	100%	9.13	0.886
RWC_F7	Rainwater Collection	0.015	-	0.015	-	0.015	-	0.015	-	16.85	-	16.85	13.48	100%	17.12	0.787
RWC_F10	Rainwater Collection	0.127	-	0.127	0.031	0.062	0.065	0.127	34.82	69.64	18.22	87.86	70.28	100%	70.75	0.993
RWC_F13	Rainwater Collection	0.067	-	0.067	0.013	0.043	0.024	0.067	14.60	48.30	12.35	60.65	48.52	100%	49.07	0.989
VFS1	Engineered Vegetated Filter Strip	10.237	-	10.237	-	0.174	-	0.174	-	92.26	-	92.26	73.81	80%	76.30	0.967
VFS2	Engineered Vegetated Filter Strip	1.925	-	1.925	0.280	0.319	0.283	0.602	314.49	141.28	132.53	273.81	219.06	80%	232.96	0.940
VFS3	Engineered Vegetated Filter Strip	3.046	0.042	3.088	0.178	1.758	0.270	2.028	199.93	1,791.47	213.19	2,004.66	1,603.71	80%	1,604.81	0.999
VFS4	Engineered Vegetated Filter Strip	0.012	-	0.012	-	0.012	-	0.012	-	13.48	-	13.48	10.78	80%	10.95	0.984
Totals		**23.091**	**0.409**	**23.500**	**0.610**	**6.598**	**1.251**	**7.849**	**685.15**	**6,795.15**	**850.46**	**7,645.61**	**6,116.49**		**6,804.10**	





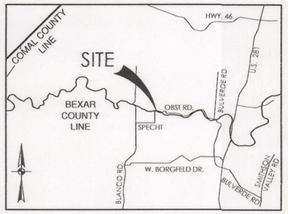
PROJECT LIMITS

SCALE: 1"= 300'



OFFSITE AREAS

SCALE: 1"= 300'



LOCATION MAP

MAPSCO MAP GRID: 416F8
NOT-TO-SCALE

SCALE: 1"= 100'

0' 100' 200' 300'

LEGEND

- DISTURBED LIMITS
- PROPERTY LINE
- PROPOSED 100 YEAR FLOODPLAIN PER PAPE–DAWSON ENGINEERS, INC.
- DRAINAGE AREA
- DRAINAGE FLOW
- PROPOSED CONTOURS (825)
- EXISTING CONTOURS
- A2 0.40 AC — WATERSHED DESIGNATION
- UNCAPTURED AREA
- EXISTING PAVEMENT (PRE–1997)
- PROPOSED ASPHALT PAVEMENT (POST 1997)
- EXISTING ROOF (PRE–1997)
- PROPOSED ROOF (POST 1997) WITH RAINWATER COLLECTION
- PROPOSED ROOF (POST 1997)
- EXISTING CALICHE
- Kgrl — GLEN ROSE FORMATION (LOWER)
- Qt — FLUVIATILE TERRACE DEPOSITS
- S-1 — POTENTIAL RECHARGE FEATURE
- FAULT, LOCATED APPROXIMATELY (D, downthrown side; U, upthrown side)
- STRIKE OF VERTICAL JOINTS
- NON–KARST CLOSED DEPRESSION
- SOLUTION CAVITY

Table 2 - Loading Summary by Watershed

Watershed Name	Watershed Area Summary: Onsite Area (ac.)	Offsite Area* (ac.)	Total Project Area (ac.)	Predevelopment Impervious Area (ac.)	Captured Impervious Area (ac.)	Uncaptured Impervious Area (ac.)	Total Impervious Area (ac.)	Total Pervious Area (ac.)	Post Development Imerpvious Cover Fraction %	Watershed Loading Summary: Annual Load Pre-Existing Impervious Areas (lbs)	Annual Load Captured Net Impervious Area (lbs)	Annual Load Uncaptured Net Impervious Area (lbs)	Total Annual Load Net Impervious Area (lbs)	L_M - 80% Annual Load (lbs)
A	10.237	-	**10.237**	-	0.174	-	0.174	10.063	1.7%	-	92.26	-	92.26	73.81
B1	-	0.367	**0.367**	-	0.100	-	0.100	0.267	27.2%	-	-	-	-	-
B2	2.491	-	**2.491**	-	2.007	-	2.007	0.484	80.6%	-	2,254.21	-	2,254.21	1,803.37
C	3.416	-	**3.416**	0.085	1.167	0.128	1.295	2.121	37.9%	95.47	1,310.75	48.30	1,359.05	1,087.24
D	0.773	-	**0.773**	0.184	0.019	0.171	0.190	0.582	24.6%	206.66	-	6.74	6.74	5.39
E	1.120	-	**1.120**	-	0.527	0.320	0.847	0.273	75.6%	-	591.91	321.48	913.39	730.71
F	2.160	-	**2.160**	0.163	0.846	0.514	1.360	0.801	63.0%	183.09	754.55	358.26	1,112.81	890.25
G	0.102	-	**0.102**	-	-	0.058	0.058	0.044	56.9%	-	-	65.14	65.14	52.11
H	2.774	-	**2.774**	0.163	1.758	-	1.758	1.016	63.4%	183.08	1,791.47	-	1,791.47	1,433.18
I	0.009	0.015	**0.024**	-	-	0.024	0.024	-	100.0%	-	-	26.96	26.96	21.57
J	0.004	0.017	**0.021**	-	-	0.021	0.021	-	100.0%	-	-	23.58	23.58	18.86
K	0.005	0.010	**0.015**	0.015	-	0.015	0.015	-	100.0%	16.85	-	-	-	-
Totals	**23.091**	**0.409**	**23.500**	**0.610**	**6.598**	**1.251**	**7.849**	**15.651**	**33.4%**	**685.15**	**6,795.15**	**850.46**	**7,645.61**	**6,116.49**

Notes:

1. Offsite area in watershed "B1" is not treated, but is used to size Basin "A" while offsite area in watersheds "I", "J", and "K" are overtreated for. Loading from Watershed "B1" is omitted per TGM §3.3.3
2. Impervious Cover Loading is composed of Caliche Loading which is less than that of fully "Paved" areas. See Tejas Tract Water Quality Data Summary for full detail of loading

SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

1.) STORMWATER RUNOFF WITHIN THE WATERSHEDS B & C OF THE DEVELOPMENT WILL BE DISCHARGED TO A RETENTION/IRRIGATION BASIN. THE RETENTION/IRRIGATION BASIN "A" HAS BEEN DESIGNED TO REMOVE 100% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) FROM THE THESE WATERSHEDS IN ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL RG–348 (2005).

2.) TEMPORARY BMP'S FOR EACH PHASE OF CONSTRUCTION WILL BE MAINTAINED UNTIL THE SITE IMPROVEMENTS IN THAT RESPECTIVE PHASE ARE COMPLETED AND THE SITE HAS BEEN STABILIZED, INCLUDING SUFFICIENT VEGETATION BEING ESTABLISHED IN DISTURBED AREAS.

3.) THE RETENTION/IRRIGATION BASIN WILL BE CONVERTED FROM A TEMPORARY SEDIMENT TRAP TO A PERMANENT BASIN AFTER 70% OF THE PAVEMENT AREA IN THE FIRST PHASE OF CONSTRUCTION HAS BEEN PAVED.

4.) AREAS OF DISTURBED SOIL SHALL BE REVEGETATED TO STABILIZE SOIL USING BLOCK SOD IN A CHECKERBOARD PATTERN. FOR AREAS OUTSIDE OF THE BASINS, THE CONTRACTOR MAY SUBSTITUTE SEED–IMPREGNATED EROSION CONTROL MATS OR PLACEMENT OF TOP SOIL, HYDRAULIC MULCHING, AND WATERING UNTIL VEGETATION IS ESTABLISHED. SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER. IRRIGATION MAY BE REQUIRED IN ORDER TO ESTABLISH SUFFICIENT VEGETATION.

5.) AFTER COMPLETION OF CONSTRUCTION ACTIVITY, THE CONTRACTOR WILL REMOVE TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE RETENTION/IRRIGATION BASIN AND REESTABLISH TO PROPER OPERATING CONDITION.

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

7.) SLOPES ON SITE VARY FROM APPROXIMATELY 1.0% TO 33.33%.

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

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

EXHIBIT 3

NO. REVISION | DATE

STATE OF TEXAS
SHAUNA L. WEAVER
89512
LICENSED
PROFESSIONAL ENGINEER
5-20-15

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TEXAS 78213 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

TEJAS RODEO
BULVERDE, TEXAS

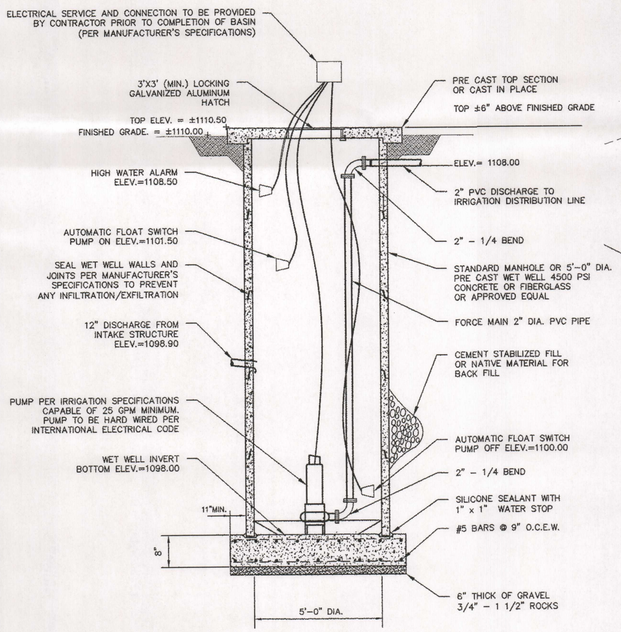
PERMANENT WATER POLLUTION ABATEMENT PLAN
SITE PLAN

PLAT NO.
JOB NO. 7674–00
DATE APRIL 2015
DESIGNER MBG
CHECKED CEL DRAWN JQ/PM
SHEET EX. 3

Date: May 19, 2015, 4:58pm User ID: McKee
File: P:\76\VA\00\Design\Civil\Plt\767400.dwg

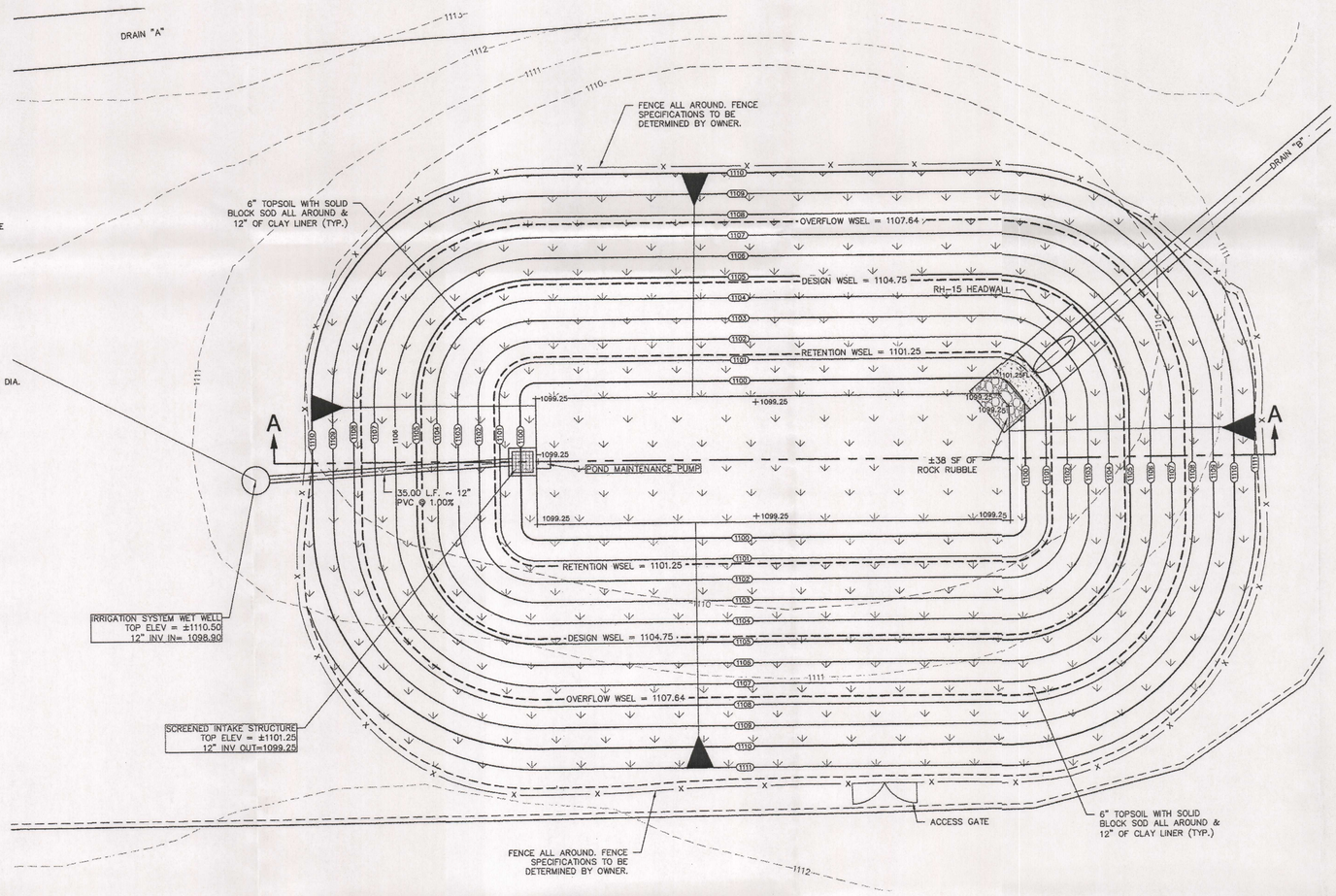
NOTE:

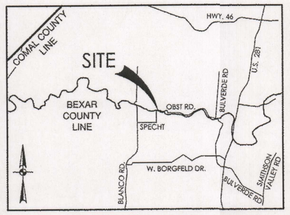
IRRIGATION CONTROLS SHALL BE DESIGNED TO HAVE A 12 HOUR DELAY AFTER A GIVEN RAIN EVENT AND HAVE MANUAL OVERRIDE.



BASIN "A" IRRIGATION WET WELL

(NOT TO SCALE)





LOCATION MAP

MAPSCO MAP GRID: 416F8

NOT-TO-SCALE

SCALE: 1"= 10'

0' 10' 20' 30'

LEGEND

- PROPERTY BOUNDARY
- 821 EXISTING 1' CONTOUR
- 825 EXISTING 5' CONTOUR
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- PW EXISTING POTABLE WATER
- PW PROPOSED POTABLE WATER
- SS EXISTING SANITARY SEWER
- SS PROPOSED SANITARY SEWER
- PROPOSED EASEMENT
- EXISTING EASEMENT

BASIN DESIGN DATA

WATERSHED AREA	= 273121 SF (6.27 ACRES)
RUN OFF DEPTH	= 1.16 IN
REQUIRED CAPTURE VOLUME	= 12,125 CF
TOTAL BASIN DEPTH	= 10.75 FT
TOTAL BASIN STORAGE DEPTH	= 8.39 FT
RETENTION STORAGE VOLUME	= 3,548 CF
DESIGN STORAGE VOLUME	= 12,508 CF
BUFFER STORAGE VOLUME	= 17,829 CF
Q25	= 39.0 CFS

NOTE: ACTUAL BASIN STORAGE VOLUME EXCEEDS CAPTURE REQUIRED VOLUME.

NOTES TO CONTRACTOR FOR EACH PHASE OF BASIN CONSTRUCTION

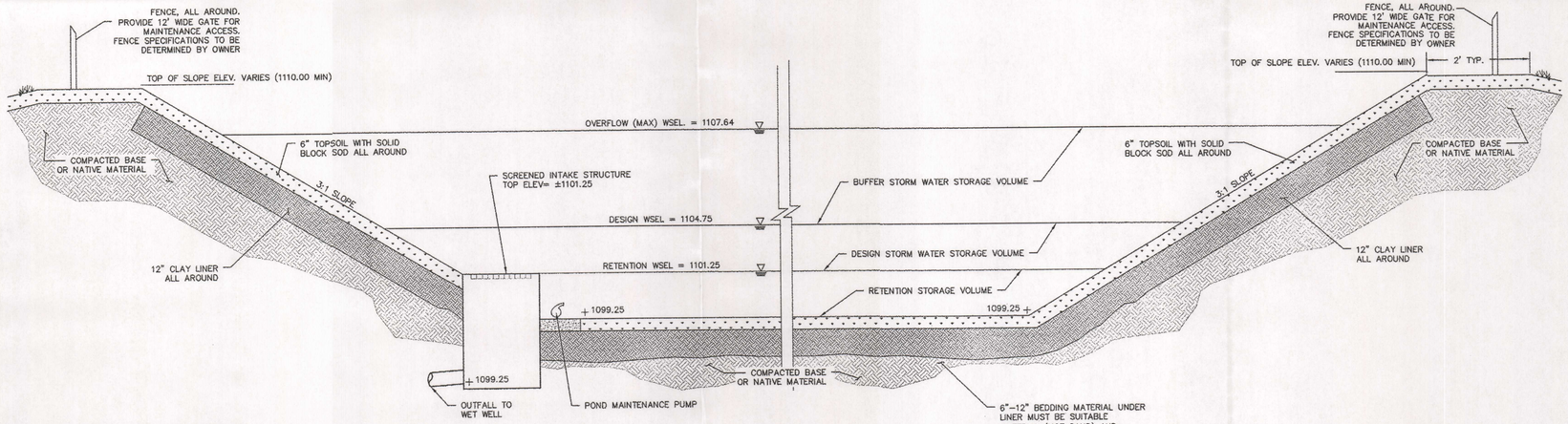
NOTE:

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

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

3. UPON SUBSTANTIAL COMPLETION, OR AS REQUESTED BY ENGINEER, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELD SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:
   - TOP OF BANK/WALL AT EACH CORNER OF BASIN
   - TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE)
   - SPLASH PAD/INLET PIPES
   - OVERFLOW WEIRS

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



CROSS-SECTION A-A

(NOT TO SCALE)

NOTES:

1. SEE BASIN CROSS–SECTION FOR RELEVANT ELEVATIONS

2. THE BASIN BOTTOM MUST BE SLOPED TO PROVIDE A MINIMUM 1% SLOPE FOR DRAINAGE. CONTRACTOR SHALL MAINTAIN THE BASIN INVERT AT THE PIPE DISCHARGE POINT AND SLOPE THE BASIN BOTTOM AT 1% FROM THAT POINT.

CLAY LINER SPECIFICATIONS

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

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

IF A GEOMEMBRANE LINER IS USED IT SHALL HAVE A MINIMUM THICKNESS OF FORTY (40) MILS. AND BE ULTRAVIOLET RESISTANT. A GEOTEXTILE FABRIC SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

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

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EXHIBIT 4

NO. REVISION | DATE

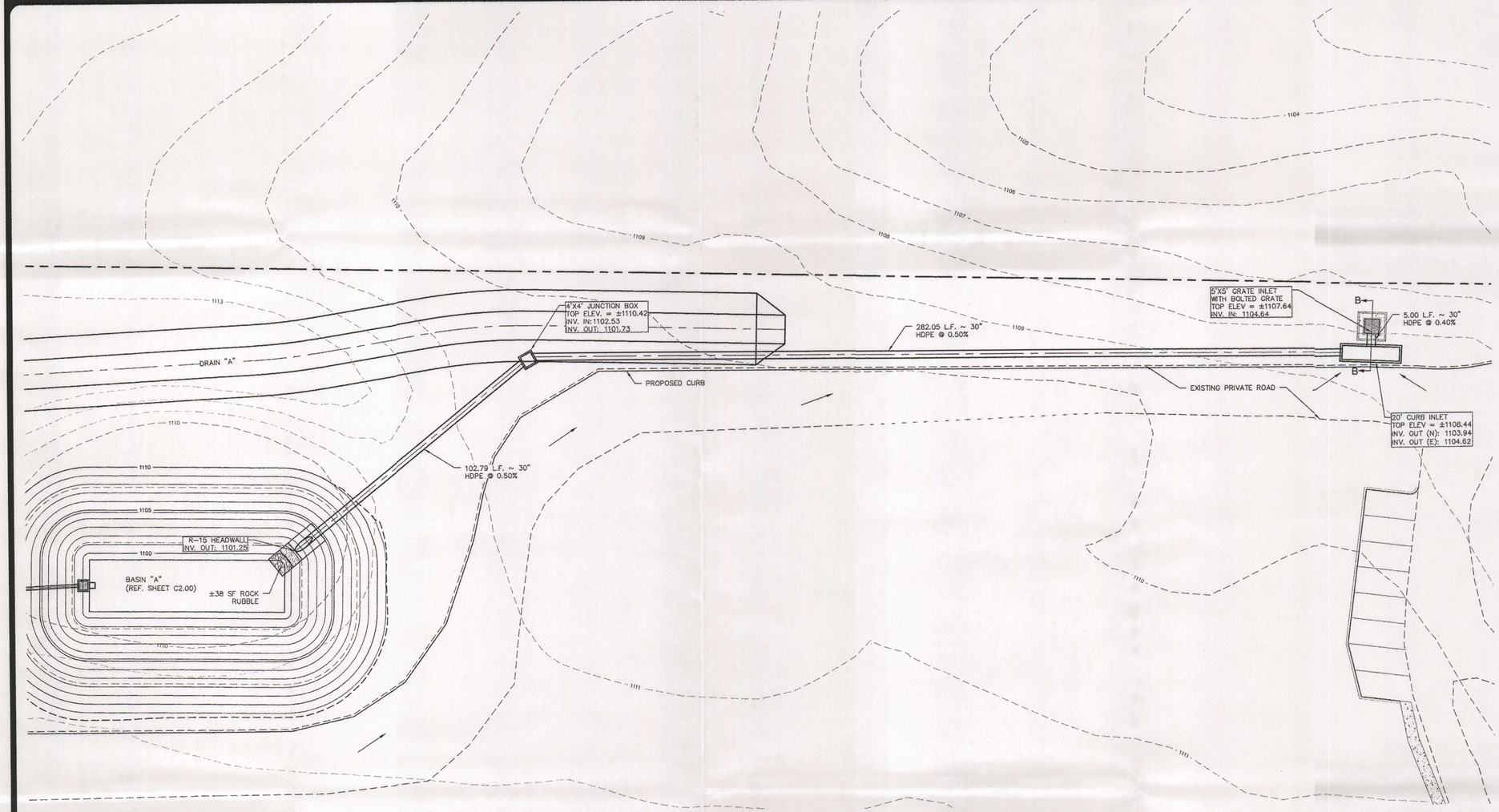
STATE OF TEXAS
SHAUNA L. WEAVER
89512
LICENSED
PROFESSIONAL ENGINEER
5-20-15

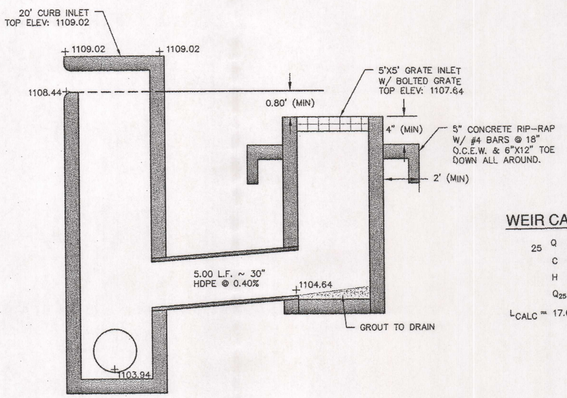
PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TEXAS 78213 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

TEJAS RODEO
BULVERDE, TEXAS

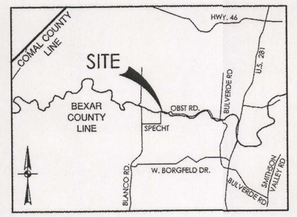
PERMANENT WATER POLLUTION ABATEMENT PLAN
BASIN A

PLAT NO.
JOB NO. 7674–00
DATE APRIL 2015
DESIGNER MBG
CHECKED CEL DRAWN JQ/PM
SHEET C3.00





CROSS-SECTION B-B
N.T.S.



LOCATION MAP
MAPSCO MAP GRID: 416F8
NOT-TO-SCALE

SCALE: 1"= 20'
0' 20' 40' 60'

LEGEND

- PROPERTY BOUNDARY
- 921 EXISTING 1' CONTOUR
- 925 EXISTING 5' CONTOUR
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- PROPOSED BASIN LIMITS
- EXISTING BUILDINGS

RECEIVED
JUN 01 2015
COUNTY ENGINEER

NOTES:

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
2. THE ENGINEER SHALL PROVIDE ONE SET OF CONSTRUCTION STAKES AND ONE SET OF CUT SHEETS AT 50' INTERVALS FOR EACH DRAIN. CONTRACTOR SHALL LOCATE AND PROTECT CONSTRUCTION STAKES IMMEDIATELY AFTER STAKING IS COMPLETE AND PRIOR TO STARTING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE ANY CONSTRUCTION STAKES THAT ARE LOST OR DESTROYED DURING CONSTRUCTION.
3. EACH DRAIN MUST BE INSPECTED AND ACCEPTED BY BEXAR COUNTY PUBLIC WORKS.
4. ALL CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
5. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
6. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE POSITIVE DRAINAGE.
7. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE OWNER WILL ACCEPT.
8. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

WEIR CALCULATIONS

$Q = LCH^{3/2}$

$C = 3.087$

$H = 0.80$ FT

$Q_{25} = 39.00$ CFS

$L_{CALC} = 17.65$ L.F. $< L_{DESIGN} = 20.00$ L.F.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND /OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!

EXISTING UTILITIES ARE WITHIN THE LIMITS OF THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL EXERCISE EXTRA CARE IN DIGGING ANY TRENCH FOR PROPOSED UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, VERIFYING THE EXACT LOCATION AND IDENTIFYING ANY AREAS OF CONFLICTS WITH EXISTING UTILITIES AND WILL NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS ARE FOUND.

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

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EXHIBIT 5

NO.	REVISION	DATE

STATE OF TEXAS
SHAUNA L. WEAVER
89512
LICENSED
PROFESSIONAL ENGINEER
5-20-15

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 | SAN ANTONIO, TEXAS 78213 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

TEJAS RODEO
BULVERDE, TEXAS
PERMANENT WATER POLLUTION ABATEMENT PLAN
DRAIN B

PLAT NO.
JOB NO. 7674-00
DATE APRIL 2015
DESIGNER MBG
CHECKED CEL DRAWN JG/PM
SHEET C3.01

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 16, 2012

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

Re: Edwards Aquifer, Comal County
PROJECT NAME: Tejas Rodeo, located at 401 Obst Road, Bulverde, Texas
PLAN TYPE: Application for Approval of a Water Pollution Abatement Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File No.: 2952.01

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.

Please forward your comments to this office by December 16, 2012.

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

Todd Jones
Water Section Work Leader
San Antonio Regional Office

TJ/eg

PAPE-DAWSON ENGINEERS

TEJAS RODEO

Water Pollution Abatement Plan

October 2012

TEJAS RODEO

Water Pollution Abatement Plan

October 2012

Texas Board of Professional Engineers, Firm Registration # 470

PAPE-DAWSON ENGINEERS

PAPE-DAWSON ENGINEERS

LAND DEVELOPMENT ENVIRONMENTAL TRANSPORTATION WATER RESOURCES SURVEYING

October 30, 2012

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

Re: Tejas Rodeo
Water Pollution Abatement Plan

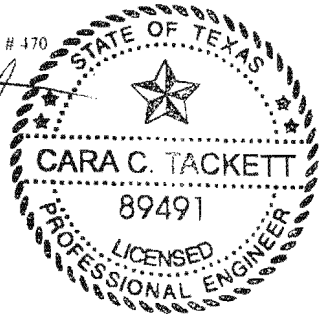
Dear Mr. Anderson:

Please find attached one (1) original and five (5) copies of the Tejas Rodeo Water Pollution Abatement Plan. This Water Pollution Abatement Plan has been prepared in accordance with the Texas Administrative Code (30 TAC 213) and current policies for development over the Edwards Aquifer Recharge Zone.

This Water Pollution Abatement Plan applies to an approximate 34.14-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 were submitted with a previous application that was subsequently withdrawn. The fee was retained by TCEQ and should be applied to this application (see attached letter). If you have questions or require additional information, please call our office.

Sincerely,
Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470



Cara C. Tackett, P.E.
Vice President

Attachments

P:\76\74\00\Word\Report\New WPAP\120612a1.docx

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 14, 2011

Mr. Trey Martin
Tejas Rodeo Company
401 Obst Road
Bulverde, Texas 78249-1646

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Tejas Rodeo; Located at 401 Obst Road; Bulverde, Texas

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

Edwards Aquifer Protection Program San Antonio File No. 2952.00; Investigation No. 878324; Regulated Entity No. RN106035074

Dear Mr. Martin:

The TCEQ received confirmation from your authorized agent, Pape-Dawson Engineers, Inc., to withdraw the above referenced water pollution abatement plan application from review on February 11, 2011. Because you have voluntarily withdrawn the plan, the application fee of $6,500 can be refunded. However, per your request, the review fee will be retained by the TCEQ and applied to the future submittal of the revised water pollution abatement plan application.

If you have any questions or require additional information, please contact Javier Anguiano of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 490-3096.

Sincerely,

Todd Jones
Water Section Team Leader
Texas Commission on Environmental Quality

TJ/JA/eg

cc: Mr. Cara C. Tackett, P.E., LEED® AP, Pape-Dawson Engineers, Inc.
The Honorable Bill Krawietz, City of Bulverde
Ms. Thomas H. Hornseth, P.E., Comal County
Mr. Karl J. Dreher, Edwards Aquifer Authority
Mr. Scott Halty, San Antonio Water System
TCEQ Central Records, Building F, MC 212

General Information Form
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

REGULATED ENTITY NAME: ***Tejas Rodeo***

COUNTY: ***Comal*** STREAM BASIN: ***Cibolo Creek***

EDWARDS AQUIFER: √ RECHARGE ZONE
__ TRANSITION ZONE

PLAN TYPE: √ WPAP __ AST __ EXCEPTION
__ SCS __ UST __ MODIFICATION

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: ***Troy "Trey" S. Martin, III***
Entity: ***Tejas Rodeo Company***
Mailing Address: ***401 Obst Road***
City, State: ***Bulverde, Texas*** Zip: ***78163-2094***
Telephone: ***(830) 980-2226*** FAX: ***(830) 438-3395***

Agent/Representative (If any):

Contact Person: ***Cara C. Tackett, P.E.***
Entity: ***Pape-Dawson Engineers, Inc.***
Mailing Address: ***555 E. Ramsey***
City, State: ***San Antonio, Texas*** Zip: ***78216***
Telephone: ***(210) 375-9000*** FAX: ***(210) 375-9010***

2. __ This project is inside the city limits of _____.
√ This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of ***Bulverde***.
__ This project is not located within any city's limits or ETJ.

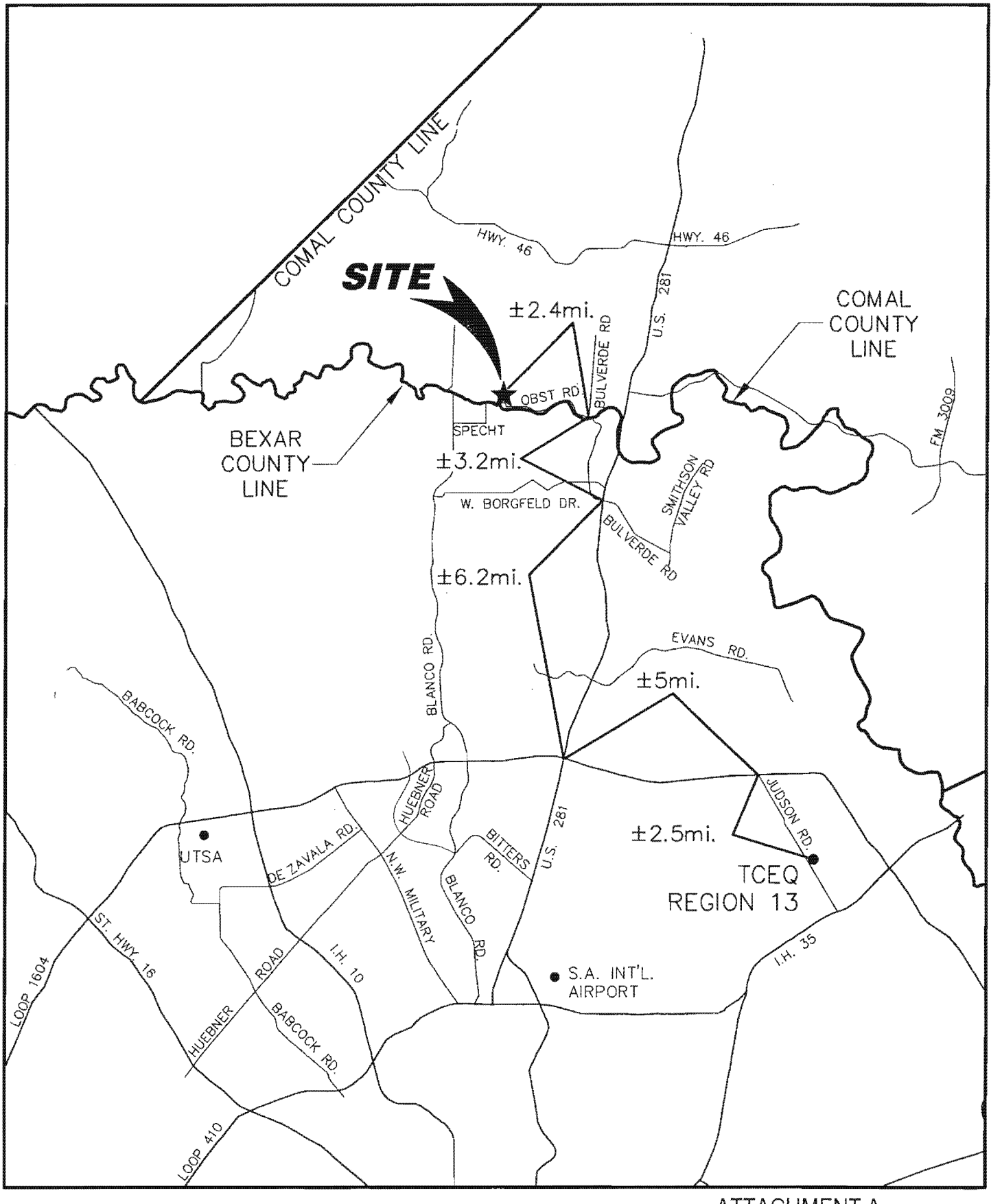
3. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

From TCEQ's regional office, travel 2.5 miles north on Judson Road to Loop 1604. Turn left onto Loop 1604 and proceed west approximately 5 miles to Hwy. 281 North. Exit 1604 and turn right onto U.S. Hwy. 281 North. Travel approximately 6.8 miles to Borgfeld Drive. Turn left onto E. Borgfeld Drive and proceed about 0.5 miles to Bulverde Road. Turn right onto Bulverde Road. Bulverde becomes Obst Road. The site is on the right at 401 Obst Road.

4. √ **ATTACHMENT A - ROAD MAP**. A road map showing directions to and the location of the project site is attached ~~at the end of this form~~ ***behind this sheet***.

TEJAS RODEO
Water Pollution Abatement Plan

N
NOT TO SCALE



Pape-Dawson Engineers, Inc.
Date: Oct 25, 2012, 11:10am User ID: JCadena
File: P:\76\74\00\Design\Environmental\WPAP\RM767400.dwg

ATTACHMENT A
Road Map

5. √ **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 behind this sheet. The map(s) should clearly show:
   - √ Project site.
   - √ USGS Quadrangle Name(s).
   - √ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
   - √ Drainage path from the project to the boundary of the Recharge Zone.

6. √ 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. **The TCEQ must be able to inspect the project site or the application will be returned.**

7. √ **ATTACHMENT C - PROJECT DESCRIPTION.** ~~Attached at the end of this form~~ ***Provided below*** is a detailed narrative description of the proposed project.

Tejas Rodeo is an existing commercial development on a 34.1357-acre site, as defined by the project limits, at 401 Obst Road, Bulverde, Texas 78163. It is located outside the city limits but inside the extra-territorial jurisdiction of the City of Bulverde in Comal County, Texas.

Tejas Rodeo is partially on the Edwards Aquifer Recharge Zone and primarily on the Contributing Zone; however, the site is treated as if it is entirely on the Recharge Zone for the purposes of this Water Pollution Abatement Plan (WPAP) in accordance with 30 TAC 213.3(31).

This WPAP is a resubmittal of a previous plan submitted and withdrawn due to additional issues brought up in technical review, which were to be addressed in order for plan approval. The original Tejas Rodeo WPAP was submitted to the Texas Commission on Environmental Quality (TCEQ) on November 5, 2010. It proposed construction of approximately 2.0 acres of impervious cover consisting of rooftops and parking area (caliche) within the area already developed as the Tejas Rodeo commercial site. Approximately 4.5 acres of impervious cover had been constructed prior to the WPAP submittal. A number of structures were "grandfathered" as they were constructed prior to the regulation of the Contributing Zone in 1999 (house, barns, well, buildings, fronting Obst Road, stables, original kitchen, original dance floor and original restrooms); however, some were constructed post 1999 such as the arena, walk-in cooler, cantina, fee store/office, new horse stalls, new round pen, base parking lot, cedar arbor, new restrooms and bleachers. Considering the existing and proposed impervious cover, the site would still be less than 20% impervious.

As a result, an exemption from permanent BMPs was requested.

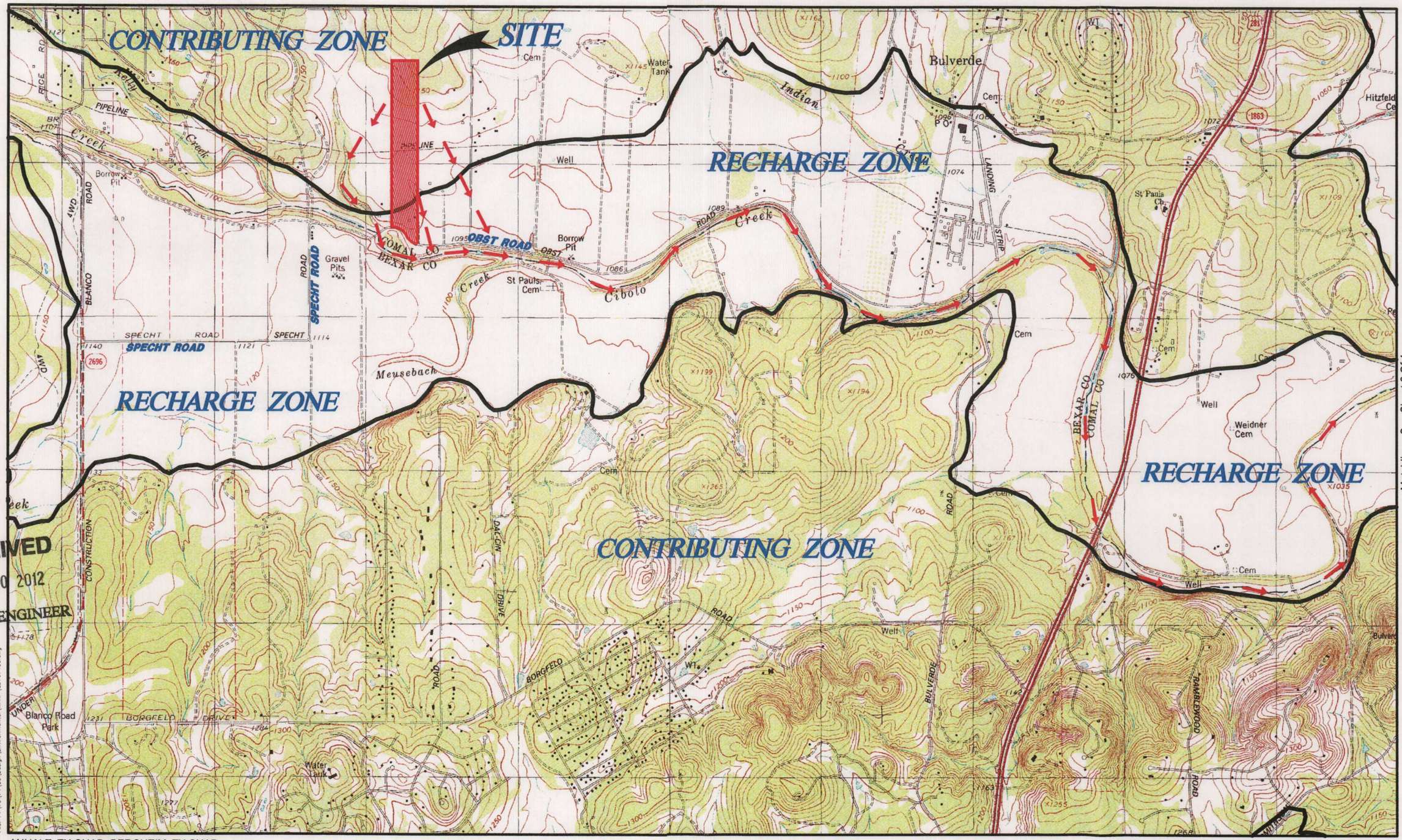
The Tejas Rodeo WPAP was withdrawn on February 11, 2011 via email (see Appendix A) due to the following issues:

- ***Management of animal waste***
- ***Water well setbacks***
- ***Discharge into surface streams***

The above-mentioned issues are explained in further detail in an email from

TEJAS RODEO
Water Pollution Abatement Plan

N
SCALE: 1" = 2000'



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Matchline - See Sheet 2 Of 4

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

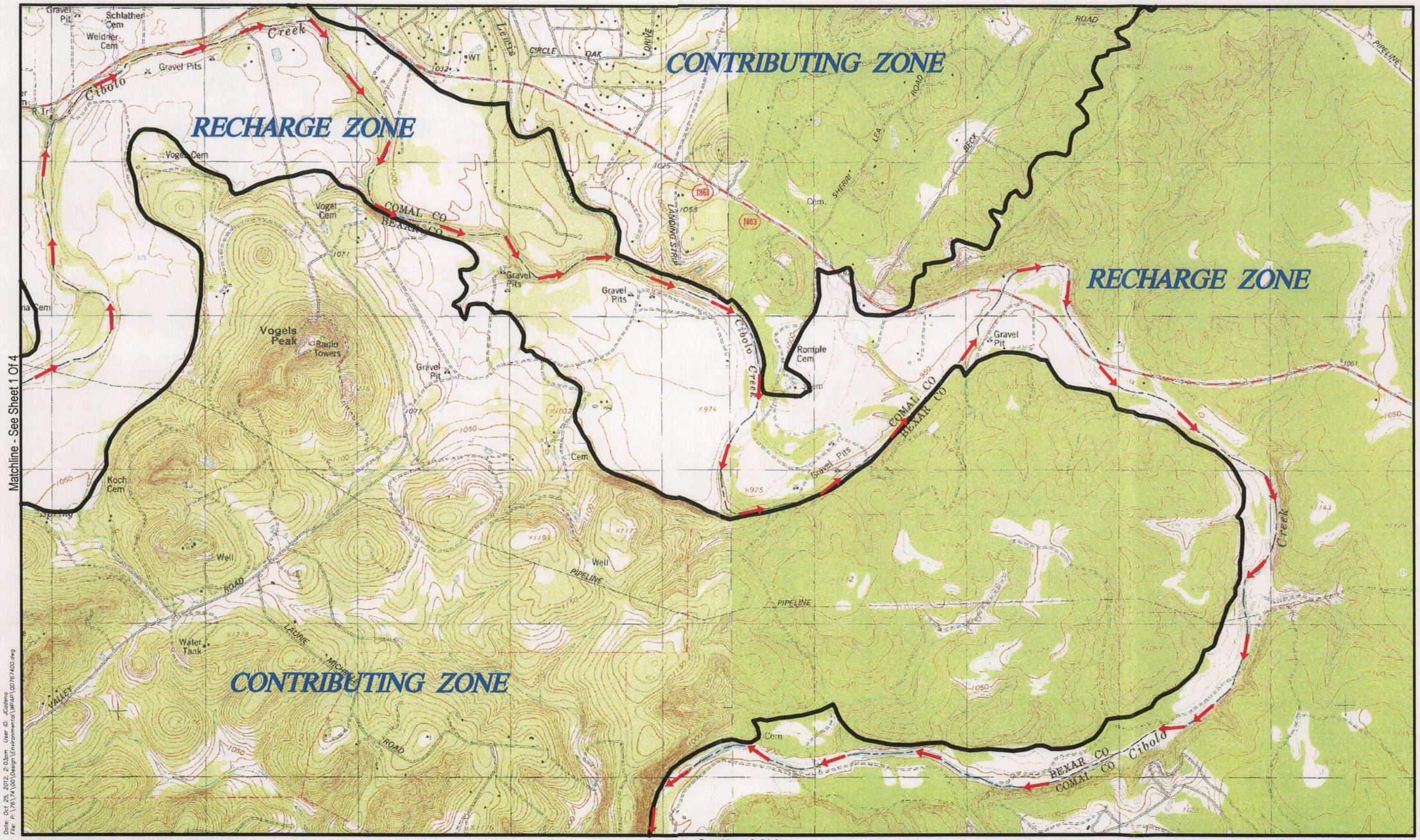
→ → Drainage Flow

Pape-Dawson Engineers, Inc.

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

TEJAS RODEO
Water Pollution Abatement Plan

N
SCALE: 1" = 2000'



Matchline - See Sheet 1 Of 4

Matchline - See Sheet 3 Of 4

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP
Sheet 2 Of 4
Attachment B

Date: Oct. 25, 2012, 2:03pm User ID: JCollins
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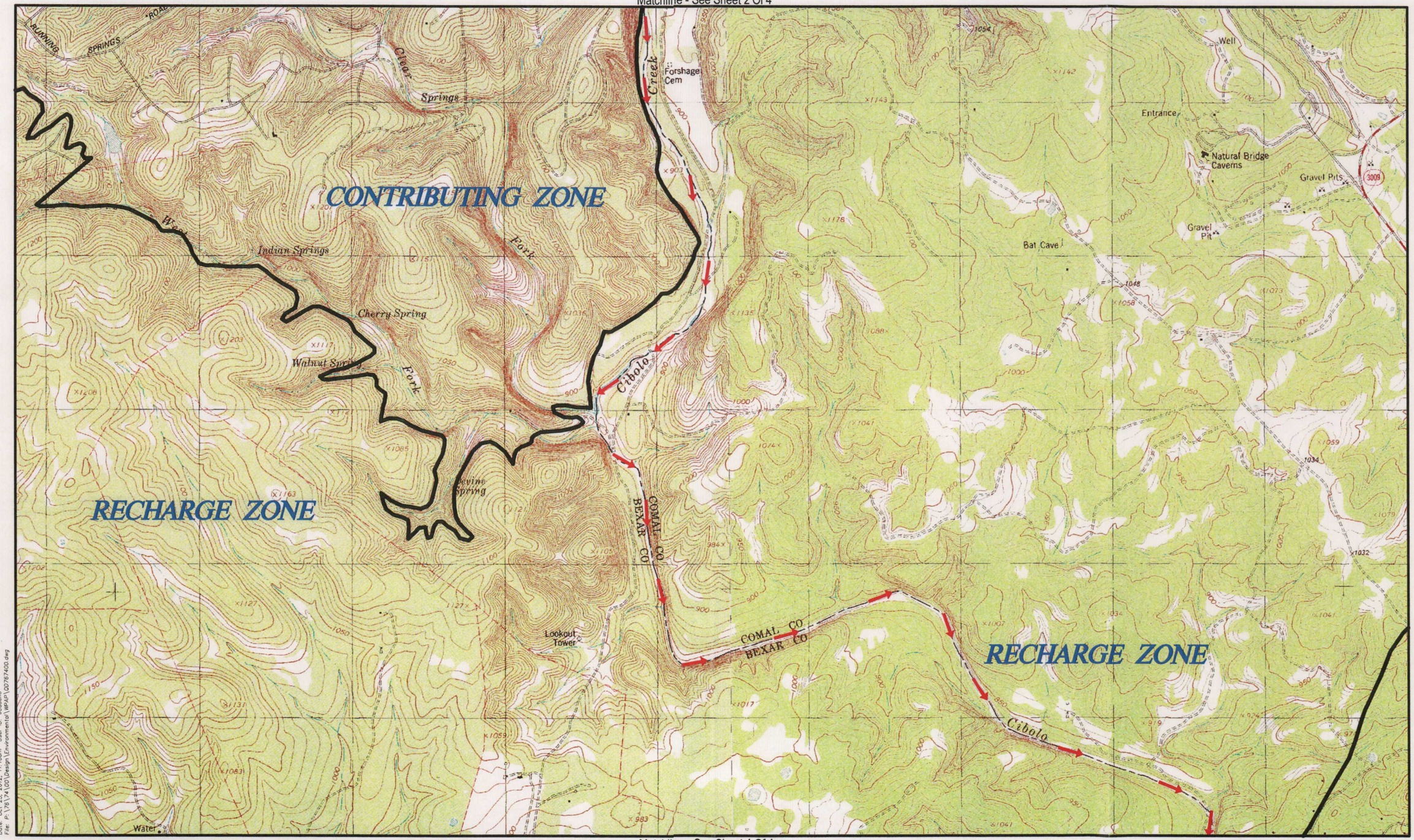
TEJAS RODEO
Water Pollution Abatement Plan

N
SCALE: 1" = 2000'

Matchline - See Sheet 2 Of 4



Matchline - See Sheet 4 Of 4

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

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

Date: Oct. 25, 2012, 11:10am User ID: JCabero
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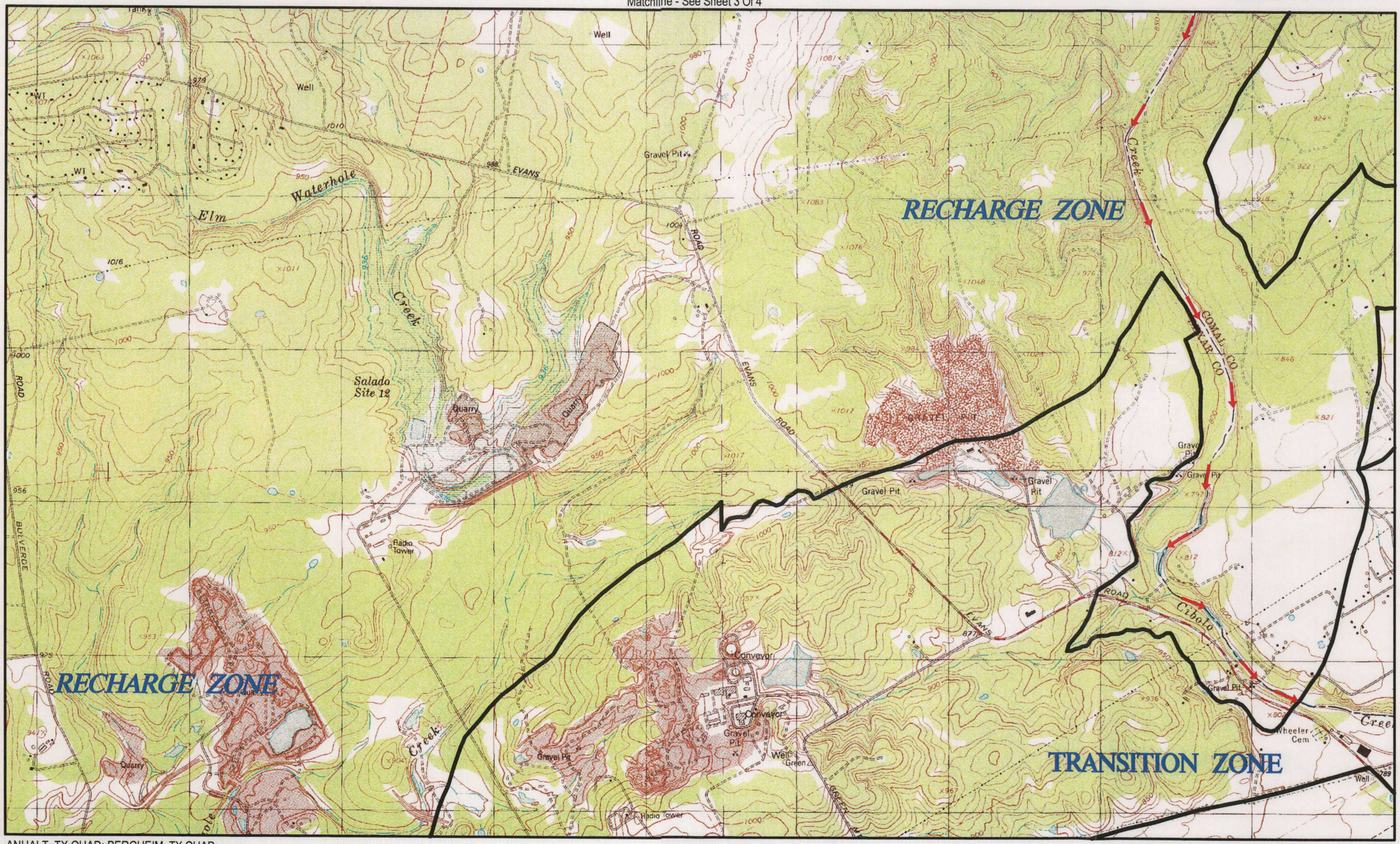
TEJAS RODEO
Water Pollution Abatement Plan

N
SCALE: 1" = 2000'

Matchline - See Sheet 3 Of 4



Date: Oct 25, 2012, 11:08am User ID: JCabrera
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ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX QUAD; BULVERDE, TX QUAD;
LONGHORN, TX QUAD; SCHERTZ, TX QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

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

Javier Anguiano of the TCEQ to Miranda G. Briones of Pape-Dawson issued February 7, 2011 (see Appendix B).

These issues have now been addressed as follows:

- *Animal waste is being collected in a large storage container and hauled off site. It is covered so rainwater does not enter the container and produce runoff contaminated with animal waste.*

- *The water well near the arena currently utilized for potable water supply now has a chlorinator installed. A variance request to utilize an existing well north of the pasture for public water supply was submitted to the TCEQ on August 8, 2011 and approved temporarily on November 28, 2011. A Public Supply well application was submitted on July 24, 2012, and is currently under review.*

Since the WPAP withdrawal, the impervious cover calculations have been recalculated as follows:

Existing impervious cover = 5.04 acres

Proposed impervious cover = 1.784 acres maximum

Total impervious cover = 5.04 + 1.784 = 6.824 acres

Percent impervious cover = 6.824 acres ÷ 34.1357 acres = 19.99%

As a result, an exemption from permanent BMPs is again requested.

The southern portion of the Tejas Rodeo site is within the 100-year floodplain including existing improvements such as four (4) buildings and existing caliche drives. The home structures in the floodplain, fronting Obst Road, have been in existence in excess of 100 years according to the property owner. These structures discharge to Cibolo Creek, as do other properties upgradient of the creek, including Obst Road. In order to provide water quality protection for existing and proposed improvements on this site, the following measure is proposed:

- *Limit on impervious cover of 20%*

This site has constraints which make stormwater treatment via structural measures difficult. For example, previous and historical development and adjacent roads for access are located in the floodplain. As a result, we believe the combination of measures above provide an adequate means of water quality protection on a site which currently does not have treatment.

Currently, there are 5.04 acres of impervious cover (14.76% of the project limits) consisting of buildings and parking area (caliche). Approximately 1.784 acres of new impervious cover are proposed. Total on-site impervious cover after the improvements are constructed will be 6.824 acres (19.99% of the project limits).

As this is a small business site with 20% or less impervious cover, an exemption from permanent BMPs is requested.

Potable water is provided by an onsite private well. Wastewater will be disposed of by conveyance to an onsite septic system.

8. Existing project site conditions are noted below:
   - √ Existing commercial site
   - ___ Existing industrial site
   - ___ Existing residential site
   - √ Existing ~~paved and/or~~ unpaved roads
   - ___ Undeveloped (Cleared)
   - ___ Undeveloped (Undisturbed/Uncleared)
   - ___ Other: _____

PROHIBITED ACTIVITIES

9. √ 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).

10. ***N/A*** 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

11. The fee for the plan(s) is based on:
    - √ For a Water Pollution Abatement Plan and Modifications, the total acreage of the site where regulated activities will occur.
    - ___ For an Organized Sewage Collection System Plans and Modifications, the total linear footage of all collection system lines.
    - ___ For a UST Facility Plan or an AST Facility Plan, 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.

12. 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)

13. √ 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.

14. √ 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.

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:

Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Cara C. Tackett, P.E.
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

10/30/12
Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

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

REGULATED ENTITY NAME: ***Tejas Rodeo***

TYPE OF PROJECT: √ WPAP __ AST __ SCS __ UST

LOCATION OF PROJECT: √ Recharge Zone __ Transition Zone __ Contributing Zone within the Transition Zone

PROJECT INFORMATION

1. √ Geologic or manmade features are described and evaluated using the attached **GEOLOGIC ASSESSMENT TABLE**.

2. 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.

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Brackett-Rock Outcrop-Comfort Complex, undulating (BtD)	***B***	***0-2***
Purves Clay, 1 to 5 percent slopes (PuC)	***B***	***0-2***
Anhalt Clay, 1 to 3 percent slopes (AnB)	***D***	***0-3***
Denton Silty Clay, 1 to 3 percent slopes (DeB)	***B***	***0-4***

*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.

3. √ A **STRATIGRAPHIC COLUMN** is attached at the end of this form that shows formations, members, and thicknesses. The outcropping unit should be at the top of the stratigraphic column.

4. √ A **NARRATIVE DESCRIPTION OF SITE SPECIFIC GEOLOGY** is attached at the end of this form. The description must include a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure, and karst characteristics of the site.

5. √ Appropriate **SITE GEOLOGIC MAP(S)** are attached:

The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1" : 400'

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

6. Method of collecting positional data:
   - √ Global Positioning System (GPS) technology.
   - __ Other method(s).

7. √ The project site is shown and labeled on the Site Geologic Map.

8. √ Surface geologic units are shown and labeled on the Site Geologic Map.

9. √ 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.

10. √ The Recharge Zone boundary is shown and labeled, if appropriate.

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

   √ There are ***two (2)*** wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
   - __ The wells are not in use and have been properly abandoned.
   - __ The wells are not in use and will be properly abandoned.
   - __ The wells are in use and comply with 16 TAC Chapter 76.

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

ADMINISTRATIVE INFORMATION

12. √ 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.

Date(s) Geologic Assessment was performed: ***October 6, 2010***
Date(s)

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.

Philip C. Pearce, P.G.
Print Name of Geologist

210-375-9000
Telephone

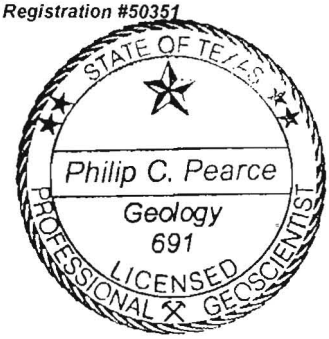
210-375-9010
Fax

Signature of Geologist

11-2-12
Date

Representing: ***Pape-Dawson Engineers, Inc.***
(Name of Company)

Texas Board of Professional Engineers, Firm Registration # 470
Texas Board of Professional Geoscientists, Firm Registration #50351



The following attachments are included and complete this submittal.

* ***Attachment A - Geologic Assessment Table***
* ***Attachment B - Site Geologic Map***
* ***Attachment C - Stratigraphic Column***
* ***Attachment D - Narrative Description***
* ***Attachment E - Site Soils Map***
* ***Attachment F - References***

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

GEOLOGIC ASSESSMENT TABLE | PROJECT NAME: TEJAS RODEO

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILLING	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)	TOPOGRAPHY
						X	Y	Z		10						<40	≥40	<1.6	≥1.6	
S-1	29°44'16.6"	98°29'25.9"	MB	30	Qt				--	0			--	5	35	35		X		Hillside
S-2	29°44'19.6"	98°29'28.2"	MB	30	Kgrl				--	0			--	5	35	35		X		Hillside
S-3	29°49'21.3"	98°29'24.9"	CD	5	Kgrl	95	147	6	N-S	0			F	5	10	10		X		Hillside

* DATUM: NAD 83

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

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

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

STATE OF TEXAS
Philip C. Pearce
Geology
691
LICENSED
PROFESSIONAL GEOSCIENTIST

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

Date 11-2-12

TEJAS RODEO

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, rept., 273, 12 pp.]

System	Series	Group		Stratigraphic Unit	Hydrology Unit	Approximate Maximum Thickness (feet)	Character of Rocks	Water Bearing Properties
Cretaceous	Comanche	Trinity	Glen Rose Limestone	Upper member	Upper Trinity	500	Alternating and 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	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	
				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	Not known to yield water
				Sligo Limestone Member	Lower Trinity	120	Sandy dolomitic limestone	Yields small to large quantities of fresh to slightly saline water
				Hosston Sand Member		350	Red and white conglomerate, sandstone, clay stone, shale, dolomite, and limestone	
Pre-Cretaceous rocks							Black, red, and green folded shale, hard massive dolomite limestone, sandstone, and slate	Yield moderate quantities of fresh water in the northern portion of the study area.

Attachment C

TEJAS RODEO

Narrative Description

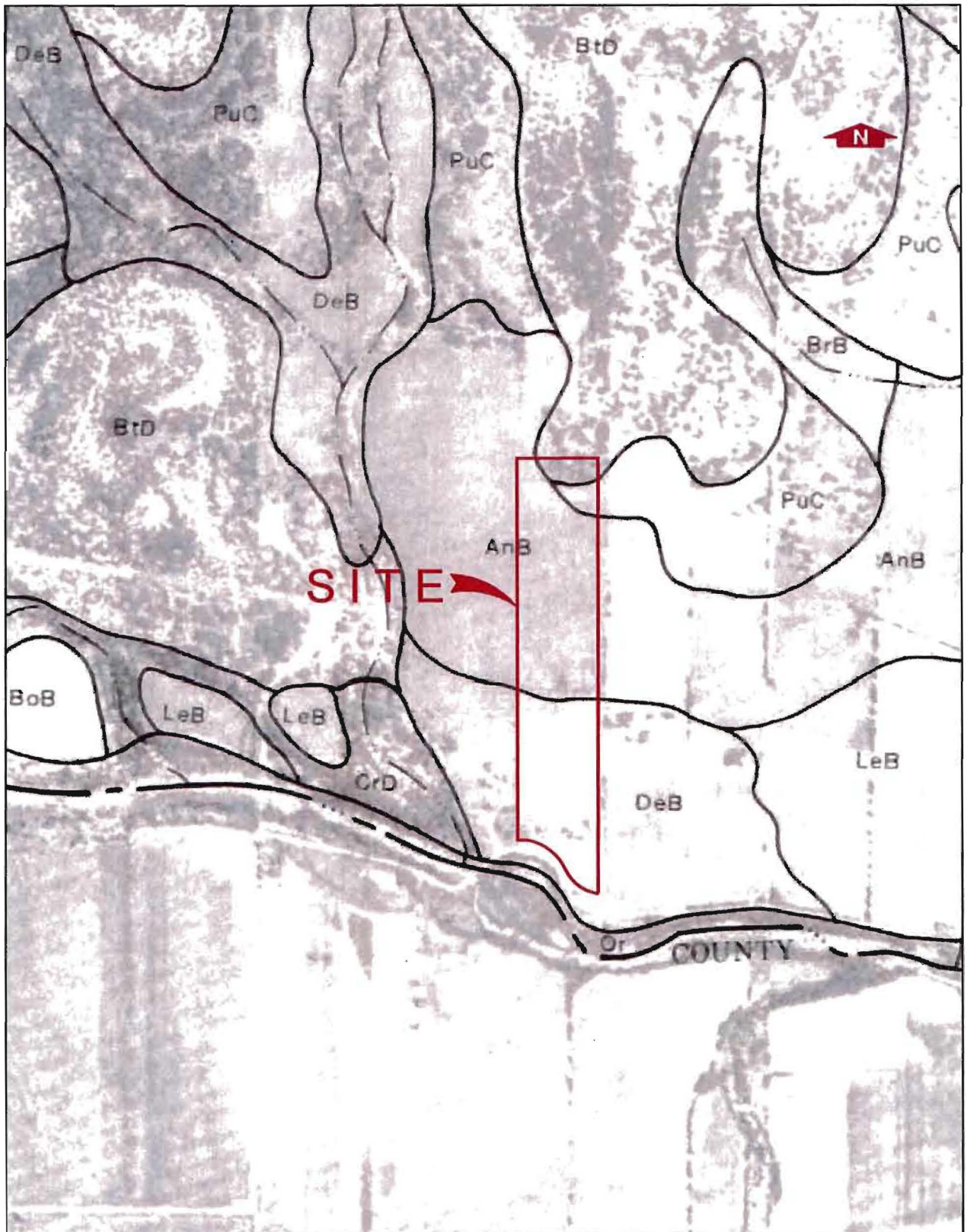
The overall potential for fluid migration to the Edwards Aquifer for the site is low. The site is located within the lower member of the Glen Rose Limestone (Kgrl). Fluviatile terrace deposits (Qt) overlie the Kgrl in the southern portion of the site, The Kgrl is characterized as yellowish-tan massively bedded fossilferous limestone grading upward into thin beds of limestone, dolomite, marl and shale. Karst development in the Kgrl is generally characterized by numerous caves and reefs in the lower portion of the member. No caves or sinkholes were identified onsite.

Features S-1 and S-2

Features S-1 and S-2 are water wells. The wells are equipped with submersible pumps and are in operation. Because the wells have casing above the ground surface and concrete slabs around the casing, the potential for rapid infiltration is low.

Feature S-3

Feature S-3 is a manmade closed depression that serves as a stock tank for livestock on site. Due to ponded water, fine infilling and lack of karst origin, the probability for rapid infiltration is low.



TEJAS RODEO PROPERTY
COMAL COUNTY, TX
SOILS MAP

COMAL COUNTY SOIL SURVEY
SCALE: 1" = 1000'

PAPE-DAWSON ENGINEERS

555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010

TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

Attachment E

Date: Nov 02, 2012, 8:19am User ID: PPearce
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TEJAS RODEO

References

Arnow, Ted, 1959, Groundwater Geology of Bexar County, Texas: Texas Board of Water Engineers, Bulletin 5911, 62 pp., 18 figs.

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, rept., 273, 12 pp.

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Clark, C.S., Pritchett, J.W., & Spence, E.V., Feb 1947, Geology and Ground-Water Resources of Comal County, Texas, Texas Board of Water Engineers - United States Department of the Interior, Geological Survey, 17-22 pp.

Federal Emergency Management Agency (FEMA), July 17, 1995, Comal County, Texas and Incorporated areas, Flood Insurance Rate Map (FIRM), Panel 4854630055 D, FEMA, Washington, D.C.

Maclay, R.W., and Small, T.A., 1976, Progress Report on the Geology of the Edwards Aquifer, San Antonio Area, Texas and Preliminary Interpretation of Borehole Geophysical and Laboratory Data on Carbonate Rocks: U.S. Geol. Survey open file rept., 76-627, 62 pp., 20 figs.

Stein, W.G., and Ozuna, G.B., 1995, Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas: U.S. Geol. Survey, Water - Resources Investigations 95-4030, 8 pp., 2 figs.

Texas Natural Resource Conservation Commission, 1999, Edwards Aquifer Recharge Zone Map, Bulverde Quadrangle, TNRCC, San Antonio, Texas.

United States Department of Agriculture, 1984, Soil Survey - Comal County, Texas, USDA.

United States Geologic Survey, 1988, (USGS), Bulverde Quadrangle, USGS, Denver, Colorado.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution
November 28, 2011

Ms. Cara C. Tackett, P.E., LEED AP
Pape-Dawson Engineers
555 East Ramsey
San Antonio, Texas 78216

SUBJECT: Tejas Rodeo – Proposed System
Request for an Exception to the Pressure Cementing Rule
Proposed Well
Comal County, Texas

Dear Ms. Tackett:

On August 11, 2011, the Texas Commission on Environmental Quality (TCEQ) received your letter dated August 8, 2011, requesting an exception to the TCEQ's requirement that all public supply wells be pressure cemented from the top of the shallowest formation to be developed to the ground surface as specified in Title 30 of the Texas Administrative Code (TAC) §290.41(c)(3)(C). This request is to allow an existing well, not constructed to public water standards, to be used as a public water supply well. The existing well, 460-feet in depth, is cemented from 0 to 360 feet. Based on our review of the information you have submitted, we are **temporarily granting** your request for an exception to the pressure cementing requirements **with the following conditions:**

In accordance with 30 TAC §290.46(b) and §290.109(c)(4)(E) and upon receiving interim approval from the Utilities Technical Review Team to use the well, being assigned a public water system identification number and a TCEQ Source Code, the public water system (PWS) is required to collect one raw water sample per month from the well and submit the sample for bacteriological analysis at a TCEQ-approved laboratory. Please ensure that the sample is delivered to the laboratory clearly labeled with the well's TCEQ Source Code and marked "raw."

These samples are in addition to the normally required monthly distribution bacteriological samples and must be collected at a point prior to the disinfectant injection point. The sample results should be submitted in the same manner as the results of the monthly distribution bacteriological samples.

Once twelve (12) consecutive monthly sample results have been received and reviewed, the TCEQ will evaluate the granting of a final exception. If any of the samples come back positive, please follow the instructions in Enclosure 1: Instructions for Positive Bacteriological Samples.

Please note that use of a well before receiving interim approval is a violation of 30 TAC §290.39(h)(1) and may result in an enforcement action against the public water system.

All exceptions are subject to periodic review and may be revoked or amended if warranted. A copy of this letter and all related monitoring data must be maintained with your records for as long as this exception is in effect. These records must be made available to TCEQ staff upon request. If contamination of a well occurs which is not remediated through treatment, a new properly constructed well may be required at another location and abandonment, proper plugging, and sealing of the abandoned well will be required.

Please note that this exception is not intended to waive compliance with any other TCEQ requirement in 30 TAC Chapter 290. This exception cannot be used as a defense in any enforcement action resulting from noncompliance with any other requirement of 30 TAC Chapter 290.

If you have questions concerning this letter, or if we can be of additional assistance, please contact Rian McMorris at Rian.McMorris@tceq.texas.gov, by telephone at (512) 239-4487, or by correspondence at the following address:

Technical Review & Oversight Team (MC 159)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Sincerely,

Ada Lichaa

Ada Lichaa, P.G., Manager
Plan and Technical Review Section
Water Supply Division
Texas Commission on Environmental Quality

AL/RM/CRM

Enclosure: Instructions for Positive Bacteriological Samples

cc: TCEQ San Antonio Regional Office – R13
Ms. Vera Poe, P.E., TCEQ Utilities Technical Review Team (MC 159)
Mr. John Schildwachter, TCEQ Drinking Water Protection Team (MC 155)

Enclosure 1: Instructions for Positive Bacteriological Samples

If multiple raw water samples are found to be **positive** for total coliform and **negative** for *E. coli* and other fecal indicators, additional treatment may be required and the conditions established in the exception letter may be revised. TCEQ personnel recommend reviewing the sample collection protocol to ensure proper sample collection methods are in place. Personnel also recommend well disinfection according to American Water Works Association (AWWA) well disinfection standards.

If a raw water sample is found to be **positive** for total coliform and **positive** for *E. coli* or other fecal indicators, Ground Water Rule requirements include:

A. Issuance of a Public Notice to water system customers in accordance with 30 TAC §290.122(a) within 24 hours of being notified of the positive result.
B. Notification to all consecutive systems served by the well within 24 hours of being notified of the positive result.
C. Notification to TCEQ Drinking Water Protection Team personnel at 512-239-4691 or GWRdata@tceq.texas.gov within 24 hours of being notified of the positive result.
D. Implementation of one or more of the Corrective Actions described in 30 TAC §290.116 as indicated by TCEQ Drinking Water Protection Team personnel.

Additionally, the exception may be revoked or the conditions established in the exception letter may be revised.

Information on the Ground Water Rule can be found by calling 512-239-4691 and asking to speak to a member of the Drinking Water Protection Team or at the following website:

http://www.tceq.texas.gov/drinkingwater/microbial/gwr_main.html

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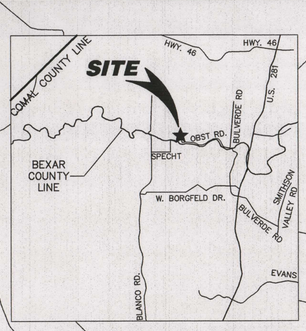


LOCATION MAP
N.T.S.

Kgrl

PROJECT LIMITS

Kgrl

RECHARGE ZONE

Kgrl

OUT

IN

S-3

Kgrl

S-2

Ot

S-1

Ot

Ot

OBST ROAD

CIBOLO CREEK

100 YEAR FLOODPLAIN

LEGEND

Qt	FLUVIATILE TERRACE DEPOSITS
Kbu	BUDA LIMESTONE
Kdr	DEL RIO CLAY
Kgt	GEORGETOWN FORMATION
Kep	PERSON FORMATION
Kek	KAINER FORMATION
Kgru	GLEN ROSE FORMATION (UPPER)
Kgrl	GLEN ROSE FORMATION (LOWER)
S-1	POTENTIAL 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)
	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
MB	MAN-MADE FEATURE IN BEDROCK
W	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.

STATE OF TEXAS
Philip C. Pearce
Geology
691
LICENSED
PROFESSIONAL GEOSCIENTIST

11-2-12

SCALE : 1"=200'

0' 200' 600'
400'

ATTACHMENT B

CHECKED: PCP DRAWN: RGP
GEOLOGIST: RGP
DATE: OCTOBER 2010
JOB NO. 7674-00

TEJAS RODEO
WATER POLLUTION ABATEMENT PLAN
SITE GEOLOGIC MAP

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

REVISIONS:

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

REGULATED ENTITY NAME: ***Tejas Rodeo***

REGULATED ENTITY INFORMATION

1. The type of project is:
   - ___ Residential: # of Lots: _____
   - ___ Residential: # of Living Unit Equivalents: _____
   - √ Commercial
   - ___ Industrial
   - ___ Other: _____

2. Total site acreage (size of property): ***34.1357***

3. Projected population: ***0***

There is no permanent population associated with this development.

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

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	***82,598.9***	÷ 43,560 =	***1.896***
Parking ***& Roads (caliche)***	***214,642.6***	÷ 43,560 =	***4.928****
Other paved surfaces	***0***	÷ 43,560 =	***0***
Total Impervious Cover	***297,274.5***	÷ 43,560 =	***6.824***
Total Impervious Cover ÷ Total Acreage x 100 =			***19.99%****

****3.415 acres of existing impervious cover included.***
*****6.824 ÷ 34.1357 = 0.1999 → 0.1999 x 100 = 19.99%***

5. √ **ATTACHMENT A - Factors Affecting Water Quality.** A description of any factors that could affect surface water and groundwater quality is provided ~~at the end of this form~~ ***below***.

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;***
- ***Animal waste***
- ***Dirt and dust which may fall off vehicles and equipment; and***
- ***Miscellaneous trash and litter.***

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.

This application is not exclusively for a road project; therefore, questions 7-12 do not apply.

7. Type of project:
   __ TXDOT road project.
   __ County road or roads built to county specifications.
   __ City thoroughfare or roads to be dedicated to a municipality.
   __ Street or road providing access to private driveways.

8. Type of pavement or road surface to be used:
   __ Concrete
   __ Asphaltic concrete pavement
   __ Other: _____

9. Length of Right of Way (R.O.W.): ____ feet.
   Width of R.O.W.: ____ feet.
   L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = ____ acres.

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

11. __ A rest stop will be included in this project.
    __ A rest stop will **not** be included in this project.

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

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

13. √ **ATTACHMENT B - Volume and Character of Stormwater.** A description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is provided ~~at the end of this form~~ ***below***. The estimates of stormwater runoff quality and quantity should be based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Stormwater runoff will increase as a result of this development. For a 25-year storm event, the overall project will generate approximately 183 cfs. The runoff coefficient for the site changes from approximately 0.50 before development to 0.60 after development. Values are based on the Rational Method using runoff coefficients per the City of San Antonio Unified Development Code. The character of runoff can be described as overland flow from a developed commercial area.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

100% Domestic	***3,000*** gallons/day
__% Industrial	_____ gallons/day
__% Commingled	_____ gallons/day

TOTAL ***3,000*** gallons/day

15. Wastewater will be disposed of by:

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

- √ **ATTACHMENT C - Suitability Letter from Authorized Agent.** An on-site sewage facility will be used to treat and dispose of the wastewater. The appropriate licensing authority's (authorized agent) written approval is provided at the end of this form. It states that the land is suitable for the use of an on-site sewage facility or identifies areas that are not suitable.
- √ 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 through 27 must be included on the Site Plan.

Please see Exhibit 1 for site plan requirements.

17. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = ***100***'.

18. 100-year floodplain boundaries

√ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

___ No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):

FEMA FIRM (Federal Insurance Rate Map) Number 48091C0380F, effective 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. Show lots, recreation centers, buildings, roads, etc.

√ The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.

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

√ There are ***two*** (2) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

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

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

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

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

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

___ All **sensitive** geologic or manmade features identified in the Geologic Assessment are shown and labeled.

√ No **sensitive** geologic or manmade features were identified in the Geologic Assessment.

N/A **ATTACHMENT D - Exception to the Required Geologic Assessment**. An exception to the Geologic Assessment requirement is requested and explained at the end of this form.

22. √ The drainage patterns and approximate slopes anticipated after major grading activities.

Drainage patterns are illustrated by arrows. Slopes vary throughout the site. Typical slopes in this project will range from 1% to 5%.

23. √ Areas of soil disturbance and areas which will not be disturbed.

The nature of construction is such that it is difficult to predict areas that will be disturbed and revegetated. The construction plans include a note on Exhibit 1, which will require the contractor to revegetate disturbed areas with seeding, hydromulch or sod and sprinkling. All impervious cover areas will be disturbed. Approximately 1.784 acres may be disturbed. See the Impervious Cover Workmap attached.

24. √ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

Temporary BMPs are shown on Exhibit 1 and permanent BMPs on Exhibit 2.

25. √ Locations where soil stabilization practices are expected to occur.

The nature of construction is such that it is difficult to predict areas that will be disturbed and revegetated. The construction plans include a note on Exhibit 1, which will require the contractor to revegetate disturbed areas with seeding, hydromulch or sod and sprinkling. All impervious cover areas will be disturbed. Approximately 1.784 acres may be disturbed.

26. √ Surface waters (including wetlands).

27. √ Locations where stormwater discharges to surface water or sensitive features.
__ There will be no discharges to surface water or sensitive features.

ADMINISTRATIVE INFORMATION

28. √ One (1) original and three (3) copies of the completed application have been provided.

29. √ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

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:

Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Cara C. Tackett, P.E.
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

10/30/12
Date

Temporary Stormwater Section
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

REGULATED ENTITY NAME: ***Tejas Rodeo***

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:

   √ Aboveground storage tanks with a cumulative storage capacity of less that 250 gallons ~~will~~ ***may*** be stored on the site for less than one (1) year.
   __ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
   __ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An **Aboveground Storage Tank Facility Plan** application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
   __ Fuels and hazardous substances will not be stored on-site.

   Temporary aboveground storage tank(s) may be located within the construction staging area in compliance with 30 TAC §213.

2. √ **ATTACHMENT A - Spill Response Actions**. A description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is provided at the end of this form.

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.** Describe ***below*** ~~in an attachment at the end of this form~~ any other activities or processes which may be a potential source of contamination.
   __ There are no other potential sources of contamination.

   Other potential sources of contamination during construction include:

   Potential Source • ***Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.***
   Preventative Measure ■ ***Vehicle maintenance when possible will be performed within the construction staging area.***
   ■ ***Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.***

   Potential Source • ***Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.***

Preventative Measure
- ***Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.***
- ***Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.***
- ***Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.***
- ***A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.***

Potential Source
- ***Miscellaneous trash and litter from construction workers and material wrappings.***

Preventive Measure
- ***Trash containers will be placed throughout the site to encourage proper trash disposal.***

Potential Source
- ***Construction debris.***

Preventive Measure
- ***Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.***

Potential Source
- ***Spills/Overflow of waste from portable toilets***

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

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 provided ~~at the end of this form~~ ***below***. For each activity described, an estimate of the total area of the site to be disturbed by each activity is given.

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. This will disturb approximately 1.784 acres. The second is construction that will include construction of buildings and new parking area, landscaping and site cleanup. This will disturb approximately 1.784 acres.

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: ***Cibolo Creek***

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the

Technical Guidance Manual for guidelines and specifications. **All structural BMPs must be shown on the site plan.**

7. √ **ATTACHMENT D - Temporary Best Management Practices and Measures.** A description of the TBMPs and measures that will be used during and after construction are provided ~~at the end of this form~~ ***below***. For each activity listed in the sequence of construction, include appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

Please see Exhibit 1 for TBMP layout and the response to "a" through "d" below for more details.

√ 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 has been provided ~~in the attachment at the end of this form~~ ***below***.

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 from a residential area will cross the site. As this area is undisturbed, no TBMPs for it are necessary. Onsite TBMPs are adequate for the drainage areas served.

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 method for pollution prevention of on-site stormwater will include: (1) erection of silt fences along the downgradient boundary of construction activities for temporary erosion and sedimentation controls and (2) 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 that may exist downstream.

No naturally-occurring sensitive features were identified in the Geologic Assessment.

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 the aquifer or surface streams and/or sensitive features that may exist downstream.

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

No naturally-occurring sensitive features were identified in the Geologic Assessment. 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. Features discovered during construction will be reported and assessed in accordance with applicable regulations.

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.

N/A **ATTACHMENT E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is provided at the end of this form. 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.** Describe 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. Placement of structural practices in floodplains has been avoided.

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

- ***Erection of silt fences along the downgradient boundary of construction activities, as located on Exhibit 1 and illustrated in Exhibit 2.***
- ***Installation of stabilized construction entrance/exit(s) and construction staging area(s), as located on Exhibit 1, and illustrated on Exhibit 2.***
- ***Installation of concrete truck washout pit(s), as required, and located on Exhibit 1 and illustrated on Exhibit 2.***

10. √ **ATTACHMENT G - Drainage Area Map**. A drainage area map is provided ~~at the end of this form~~ ***as Exhibit 1*** to support the following requirements.

— 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 ***will be used***.

All TMBPs utilized are adequate for the drainage area served.

11. ***N/A*** **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 has 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 provided as at the end of this form.

12. √ **ATTACHMENT I - Inspection and Maintenance for BMPs.** A plan for the inspection of temporary BMPs and measures and for their timely maintenance, repair, and, if necessary, retrofit is provided at the end of this form. A description of documentation procedures and recordkeeping practices is included in the plan.

13. √ All control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicates 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. ***N/A*** Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

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

SOIL STABILIZATION PRACTICES

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

17. √ **ATTACHMENT J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is ~~attached at the end of this form~~ ***below***.

Interim on-site stabilization measures, which are continuous during construction, 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.

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.

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:

Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Cara C. Tackett, P.E
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

10/30/12
Date

Spill Response Actions

In the event of an accidental leak or spill:

- 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.

- Sand or material used to contain the spill should be collected and stored in such a way so as not to continue to affect additional ground. Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. In the event of potential rainfall the material should be covered with poly or plastic sheeting to prevent contaminating runoff.

- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill:

- The contractor will be required to report significant or hazardous spills in reportable quantities to:
  - 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)

- 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.

INSPECTIONS

Designated and qualified person(s) shall inspect Pollution Control Measures weekly and within 24 hours after a storm event. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of Storm Water TPDES data for a period of three years after the date of the inspection. 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.

Pollution Prevention Measure	Inspected	Corrective Action	
		Description	Date Completed
General			
Revegetation			
Erosion/sediment controls			
Vehicle exits			
Material areas			
Equipment areas			
Concrete rinse			
Construction debris			
Trash receptacles			
Infrastructure			
Roadway clearing			
Utility clearing			
Roadway grading			
Utility construction			
Drainage construction			
Roadway base			
Roadway surfaces			
Site cleanups			
Building			
Clearing for building			
Foundation grading			
Utility construction			
Foundation construction			
Building construction			
Site grading			
Site cleanup			

**Indicate N/A where measure does not apply.*

By my signature below, I certify that all items are acceptable and the project site is in compliance with SWPPP.

Inspector's Name _____ Inspector's Signature _____

Name of Owner/Operator (Firm) _____ Date _____

Note: Inspector is to attach a brief statement of his qualifications to this report.

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date

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

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date

Permanent Stormwater Section
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

REGULATED ENTITY NAME: ***Tejas Rodeo***

Permanent best management practices (BMPs) 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.

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 provided below

   _____

   _____

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.

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.

   ___ This site will be used for low density single-family residential development and has 20% or less impervious cover.

   ___ This site will be used for low density single-family residential development but has more than 20% impervious cover.

   √ This 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.** This 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 found ~~at the end of this form~~ ***below***.

__ This site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

__ This site will not be used for multi-family residential developments, schools, or small business sites.

The Tejas Rodeo WPAP proposes the construction of 6.824 acres of impervious cover, or 19.99% of the 34.1357-acre site. As this site will have less than 20% impervious cover, an exemption from Permanent Best Management Practices (BMPs) is being requested in accordance with 30 TAC 213.5(b)(4)(D)(ii)(IV). This exemption from Permanent BMPs will be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or the proposed 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.

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 identified as **ATTACHMENT B** at the end of this form.

__ If no surface water, groundwater or stormwater originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form.

√ If 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, an explanation is provided ~~as **ATTACHMENT B** at the end of this form~~ ***below***.

Runoff from a developed residential area flows across the site. No permanent structural BMPs are proposed for this upgradient area as both have less than 20% impervious cover and a vegetative pasture separates the home from the commercial Tejas Rodeo area.

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 identified as **ATTACHMENT C** at the end of this form.

√ If 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, an explanation is provided ~~as **ATTACHMENT C** at the end of this form~~ ***below***.

As this is a small business site, with 20% or less impervious cover, an exemption from permanent BMPs is requested.

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 provided ~~at the end of this form~~ ***below***. Each feature identified in the Geologic Assessment as "sensitive" or "possibly sensitive" has been addressed.

As this is a small business site, with 20% or less impervious cover, an exemption from permanent BMPs is requested.

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" or "possibly sensitive" feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed for any naturally-occurring "sensitive" or "possibly sensitive" features on this site.

N/A **ATTACHMENT E - Request to Seal Features.** A request to seal a naturally-occurring "sensitive" or "possibly sensitive" feature, that includes a justification as to why no reasonable and practicable alternative exists, is found at the end of this form. A request and justification has been provided for each feature.

10. √ **ATTACHMENT F - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided ~~at the end of this form~~ ***in the Exhibits section of this application***. Design Calculations, TCEQ Construction Notes, all man-made or naturally occurring geologic features, all proposed structural measures, and appropriate details must be shown on the construction plans.

11. √ **ATTACHMENT G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is provided at the end of this form. The plan has been prepared and certified by the engineer designing the permanent BMPs and measures. The plan has been signed by the owner or responsible party. The plan includes procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofits as well as a discussion of record keeping procedures.

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

— Pilot-scale field testing (including water quality monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.

N/A **ATTACHMENT H - Pilot-Scale Field Testing Plan.** A plan for pilot-scale field testing is provided at the end of this form.

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 provided ~~at the end of this form~~ ***below***. 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.

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.

Responsibility for maintenance of permanent BMPs and measures after construction is complete.

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

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.

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:

Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Cara C. Tackett, P.E.
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

11/6/12
Date

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I ***Troy "Trey" S. Martin, III***,
Print Name

Individual Owner,
Title - Owner/President/Other

of _____,
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 Cornmission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

10/30/12
Date

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Trey Martin 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 30 day of Oct, 2012.

NOTARY PUBLIC

Mary Ramirez
Typed or Printed Name of Notary

MARY RAMIREZ NOTARY PUBLIC STATE OF TEXAS EXPIRES 4-23-2016

MY COMMISSION EXPIRES: 04/23/2016

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Application Fee Form

NAME OF PROPOSED REGULATED ENTITY: ***Tejas Rodeo***
REGULATED ENTITY LOCATION: ***401 Obst Road***
NAME OF CUSTOMER: ***Tejas Rodeo Company***
CONTACT PERSON: ***Trey Martin*** PHONE: ***(830) 980-2226***
(Please Print)

Customer Reference Number (if issued): CN ***603776451*** (nine digits)

Regulated Entity Reference Number (if issued): RN **106035074** (nine digits)

Austin Regional Office (3373) ☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362) ☐ Bexar ☒ Comal ☐ Medina ☐ Kinney ☐ Uvalde

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 (Check One):

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

☐ **Overnight Delivery to TCEQ**:
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-0347

Site Location (Check All That Apply): ☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	***34.1357*** 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

10/30/12
Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

PROJECT	PROJECT AREA IN ACRES	FEE
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

PROJECT	COST PER LINEAR FOOT	MINIMUM FEE MAXIMUM FEE
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

PROJECT	COST PER TANK OR PIPING SYSTEM	MINIMUM FEE MAXIMUM FEE
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

EXHIBITS

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided)*

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Attachments **Describe Any Attachments:** *(ex. Title V Application, Waste Transporter Application, etc.)*

☒ Yes ☐ No — Water Pollution Abatement Plan and Exhibits

3. Customer Reference Number *(if issued)*: CN 603776451

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

4. Regulated Entity Reference Number *(if issued)*: RN 106035074

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)

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

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other: _____

7. General Customer Information

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State) ☒ No Change**

If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.

8. Type of Customer:	☐ Corporation	☐ Individual	☐ Sole Proprietorship- D.B.A
☐ City Government	☐ County Government	☐ Federal Government	☐ State Government
☐ Other Government	☐ General Partnership	☐ Limited Partnership	☐ Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)* — *If new Customer, enter previous Customer below* — *End Date:*

10. Mailing Address:

City | State | ZIP | ZIP + 4

11. Country Mailing Information *(if outside USA)*

12. E-Mail Address *(if applicable)*

13. Telephone Number ( ) -

14. Extension or Code

15. Fax Number *(if applicable)* ( ) -

16. Federal Tax ID *(9 digits)* | **17. TX State Franchise Tax ID** *(11 digits)* | **18. DUNS Number** *(if applicable)* | **19. TX SOS Filing Number** *(if applicable)*

20. Number of Employees

☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated?

☐ Yes ☐ No

SECTION III: Regulated Entity Information

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

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information ☐ No Change** *(See below)*

**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

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

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*								
	City		State		ZIP		ZIP + 4	
25. Mailing Address:								
	City		State		ZIP		ZIP + 4	
26. E-Mail Address:								
27. Telephone Number		28. Extension or Code		29. Fax Number *(if applicable)*				
( ) -				( ) -				
30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)		33. Secondary NAICS Code (5 or 6 digits)				
34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*								

Questions 34 – 37 address geographic location. Please refer to the instructions for applicability.

35. Description to Physical Location:					
36. Nearest City		County		State	Nearest ZIP Code
37. Latitude (N) In Decimal:			38. Longitude (W) In Decimal:		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

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 or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

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

SECTION IV: Preparer Information

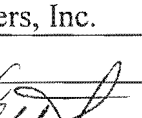
40. Name:	Jacob J. Powell, P.E.	41. Title:	Project Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 375-9000		(210) 375-9010	jpowell@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 9 and/or as required for the updates to the ID numbers identified in field 39.

(See the Core Data Form instructions for more information on who should sign this form.)

Company:	Pape-Dawson Engineers, Inc.	Job Title:	Vice President
Name *(In Print)*:	Cara C. Tackett, P.E.	Phone:	(210) 375-9000
Signature:		Date:	10/31/12

Comal County

OFFICE OF COMAL COUNTY ENGINEER

October 29, 2010

Ms. Miranda Briones, E.I.T.
Pape-Dawson Engineers, Inc.
555 East Ramsey
San Antonio, TX 78216

Re: Tejas Rodeo On-Site Sewage Facility Suitability Letter, within Comal County, Texas

Dear Ms. Briones:

In accordance with TAC §213.5(b)(4)(F)(ii), Comal County has found that the entire referenced site (except for areas listed below) 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 October 29, 2010:

- The Geologic Assessment, prepared by Pape-Dawson Engineers, Inc.
- The Water Pollution Abatement Plan, prepared by Pape-Dawson Engineers, Inc.

Areas that are not Suitable

Feature	Latitude	Longitude	Description
S-1	29°44'16.6"	98°29'25.9"	Water Well
S-2	29°44'19.6"	98°29'28.2"	Water Well

In accordance with TAC §285.91, Table X, sewer pipe with water tight joints and tanks must maintain a 50' separation distance from the wells identified above. Soil absorption systems, unlined ET beds, lined ET beds, surface application areas (edge of spray area), and drip irrigation must maintain a 150' separation distance from these wells.

Moreover, according to TAC §285.41(b), Tejas Rodeo Company, the owner of the referenced site, must inform, in writing, each prospective purchaser, lessee, or renter of the following:

- A Permit to Construct is required from Comal County before an OSSF can be constructed on the Tejas Rodeo Company land;
- A License to Operate is required from Comal County before an OSSF can be operated in on the Tejas Rodeo Company land;
- 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
- Minimum separation distances, as outlined in Table 10 of TAC §285.91

Furthermore, according to TAC §285.42(a), if any recharge feature, not listed above, 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 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: Jay Millikin, Comal County Commissioner, Precinct No. 2

201206039903 11/13/2012 08:50:23 AM 1/6

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

6/C

WARRANTY DEED

Date: November 8, 2012

Grantor: TROY "TREY" S. MARTIN, III

Grantor's Mailing Address: 401 Obst Road
Bulverde, Comal County, Texas 78163

Grantee: TROY "TREY" S. MARTIN, III

Grantee's Mailing Address: 401 Obst Road
Bulverde, Comal County, Texas 78163

Consideration: Ten dollars ($10) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged.

Property (including any improvements):

BEING 34.1357 Acres out of a 46.757 Acres of land outof the J. M. RIVAS SURVEY No. 191, Abstract 973, Comal County, Texas and being the same 46.757 Acre Tract of land as described in Quitclaim Deed recorded in Document No.. 200706013787 of the Official Records of Comal County, Texas and this 34.1357 Acre Tract of land being more particularly described as follows:

BEGINNING at a ½" dia. iron pin found on the north right of way line of Obst Road being the southwest corner of said 46.757 Acre Tract and the herein describes tract and the Point of Beginning also being the southeast corner of Lot 1, Lindsey Acres Subdivision, recorded in Volume 11, Page 108 of the Plat Records of Comal County, Texas;

THENCE: N.00° 30'00" E., 2,517.96 feet along the west line of said 46.757 Acre Tract also being the east line of said Lot 1, Lindsey Acres Subdivision, to a ½" dia. iron pin set, for the northwest comer of the herein described tract;

THENCE: S. 88° 34'25" E., 551.06 feet leaving the west line of said 46.757 Acre and across said 46.757 Acre Tract with fence line, to a ½" iron pin set on the east line of said 46.757 Acre Tract for the northeast corner of the herein described tract said point also being the west line of a 58.35 Acre Tract conveyed to Anwar & Mary J. Gerges by General Warranty Deed recorded in Document No. 200506005780 of the Deed Records of Comal County, Texas;

THENCE: S. 00° 22'04" W., 2,901.76 feet along the east line of said 46.757 Acre Tract, also being the west line of said Anwar & Mary J. Gerges 58.35 Acre Tract. To a 58.35 Acre Tract., to a ½" dia. iron pin set at the north right of way line of Obst Road, being the southeast corner of said 46.757 Acre Tract and of the herein described tract, said point also being the southwest corner of said Anwar & Mary J. Gerges 58.35 Acre Tract and being the point of curvature of a curve to the right;

THENCE: 299.01 feet along the arc of said curve to the right and along the north right of way line of Obst Road, the curve has a central angle of 59° 04'35", a radius of 290.00 feet a tangent distance of 164.33 feet and the chord bears N. 50° 43'24" W., 285.94 feet to a ½" dia. iron pin set for a point of tangent;

THENCE: N. 25° 32.28" W., 27.00 feet continuing with the north right of way line of Obst Road to a ½" dia. iron pin set for a point of curvature of a curve to the left;

THENCE: 392.49 feet along the arc of said curve to the left and along the north right of way line of Obst Road, the curve has a central angle of 60° 46'41" a radius of 370.00 feet a tangent distance of 216.98 feet and the chord bears N. 59° 06'39" W., 374.34 feet, to the Point of Beginning and containing 34.1357 Acres of land more or less.

Note: Iron pin set with yellow cap stamped RAS#3976.

Please aslo see Exhibit "A" attached hereto and incorporated by reference.

Reservations from and Exceptions to Conveyance and Warranty:

Grantor, for the consideration and subject to the reservations from and exceptions to conveyance and warranty, grants, sells, and conveys to Grantee the property, together with all and singular the rights and appurtenances thereto in any wise belonging, to have and hold it to Grantee, Grantee's heirs, executors, administrators, successors, or assigns forever. Grantor binds Grantor and Grantor's heirs, executors, administrators, and successors to warrant and forever defend all and singular the property to Grantee and Grantee's heirs, executors, administrators, successors, and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the reservations from and exceptions to conveyance and warranty.

When the context requires, singular nouns and pronouns include the plural.

In witness whereof, the parties hereto have executed this instrument the 8th day of November, 2012.

TROY "TREY" S. MARTIN, III

STATE OF TEXAS §
§
COUNTY OF BEXAR §

SUBSCRIBED AND ACKNOWLEDGED before me by the said TROY "TREY" S. MARTIN, III, this 9th day of November, 2012.

Notary Public, State of Texas

FIELD NOTE DESCRIPTION
FOR A
34.1357 ACRE TRACT

BEING 34.1357 Acres out of a 46.757 Acres of land out of the J.M. RIVAS SURVEY No. 191, Abstract 973, Comal County, Texas and being the same 46.757 Acre Tract of land as described in Quitclaim Deed recorded in Document No. 200706013787 of the Official Records of Comal County, Texas and this 34.1357 Acre Tract of land being more particularly described as follows:

BEGINNING at a ½" dia. iron pin found on the north right of way line of Obst Road, being the southwest corner of said 46.757 Acre Tract and of the herein described tract and the Point of Beginning also being the southeast corner of Lot 1, Lindsey Acres Subdivision, recorded in Volume 11, Page 108 of the Plat Records of Comal County, Texas;

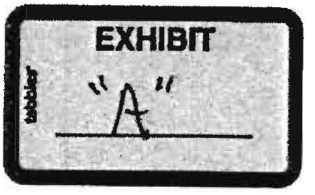
THENCE: N. 00° 30'00" E., 2,517.96 feet along the west line of said 46.757 Acre Tract also being the east line of said Lot 1, Lindsey Acres Subdivision, to a ½" dia. iron pin set, for the northwest corner of the herein described tract;

THENCE: S. 88° 34'25" E., 551.06 feet leaving the west line of said 46.757 Acre Tract and across said 46.757 Acre Tract with fence line, to a ½" iron pin set on the east line of said 46.757 Acre Tract, for the northeast corner of the herein described tract, said point also being on the west line of a 58.35 Acre Tract conveyed to Anwar & Mary J. Gerges by General Warranty Deed recorded in Document No. 200506005780 of the Deed Records of Comal County, Texas;

THENCE: S. 00° 22'04" W., 2,901.76 feet along the east line of said 46.757 Acre Tract, also being the west line of said Anwar & Mary J. Gerges 58.35 Acre Tract, to a ½" dia. iron pin set at the north right of way line of Obst Road, being the southeast corner of said 46.757 Acre Tract and of the herein described tract, said point also being the southwest corner of said Anwar & Mary J. Gerges 58.35 Acre Tract and being the point of curvature of a curve to the right;

THENCE: 299.01 feet along the arc of said curve to the right and along the north right of way line of Obst Road, the curve has a central angle of 59° 04'35", a radius of 290.00 feet a tangent distance of 164.33 feet and the chord bears N. 50° 43'24" W., 285.94 feet to a ½" dia. iron pin set for a point of tangent;

THENCE: N. 25° 32'28" W., 27.00 feet continuing with the north right of way line of Obst Road, to a ½" dia. iron pin set for a point of curvature of a curve to the left;



THENCE: 392.49 feet along the arc of said curve to the left and along the north right of way line of Obst Road, the curve has a central angle of 60° 46'41", a radius of 370.00 feet a tangent distance of 216.98 feet and the chord bears N. 59° 06'39" W., 374.34 feet, to the Point of Beginning and containing 34.1357 Acres of land more or less.

Note: Iron pin set with yellow cap stamped RAS#3976

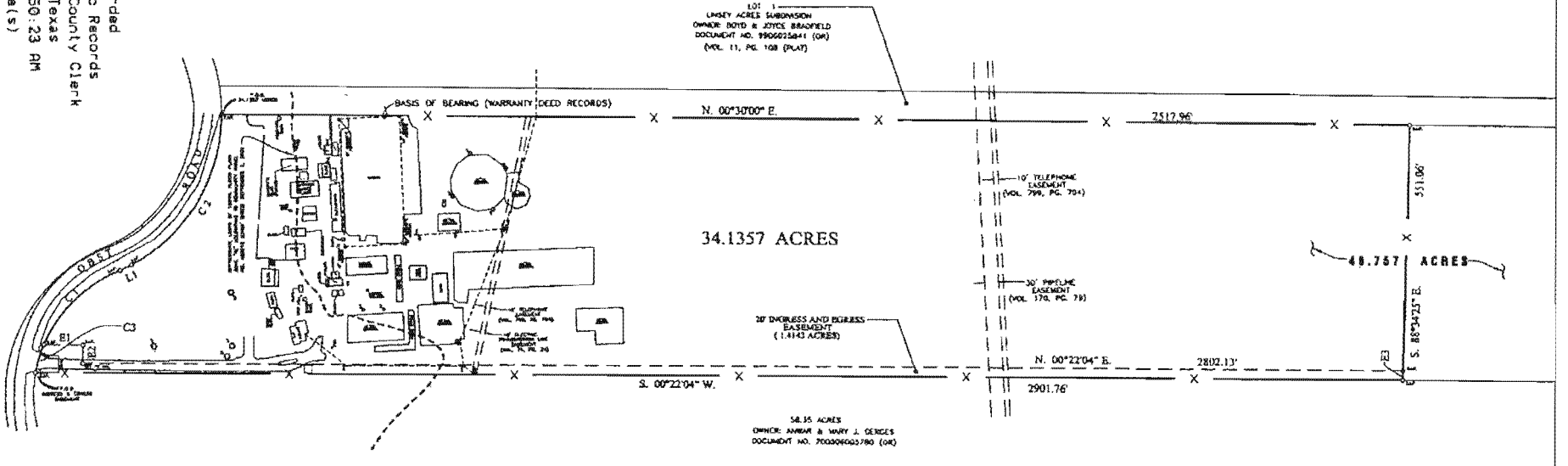
Surveyed on the ground under my supervision
On this the 23rd. of December, 2010 A.D.

Ramon M. Ruiz, RPLS #3976

Job No.: 2010-064

Filed and Recorded
Official Public Records
Joy Streater, County Clerk
Comal County, Texas
11/13/2012 08:50:23 AM
CASHONE 6 Page(s)
201206039903

Joy Streater



CURVE DATA						
NO.	DELTA	RADIUS	LENGTH	TANGENT	CHORD DISTANCE	CHORD BEARING
C1	58°04'35"	290.00'	294.01'	164.33'	285.94'	N. 50°43'26" W.
C2	80°46'49"	370.00'	382.19'	218.88'	374.34'	N. 59°05'38" W.
C3	12°19'38"	290.00'	62.40'	31.32'	62.27'	N. 74°05'52" W.

EASEMENT		
LINE NO.	BEARING	DISTANCE
E1	N. 00°22'04" E.	83.32'
E2	S. 89°37'56" E.	40.00'
E3	S. 89°34'25" E.	20.00'

LINE DATA		
LINE NO.	BEARING	DISTANCE
1	N. 25°32'28" W.	27.00'

LEGEND

- BARBED WIRE FENCE
- OVERHEAD ELECTRIC
- S.I.P. SET 1/2" IRON ROD WITH YELLOW CAP STAMPED: RAS#3976
- F.I.P. FOUND I. PIN
- PP POWER POLE
- EDGE OF PAVEMENT
- CONCRETE AREA
- TELEPHONE PEDESTAL
- LIGHT POLE

EASEMENTS:
DOCUMENT # 9906018863 (OR) - ELECTRIC EASEMENT
VOL. 161, PG. 883 (OR) - ELECTRIC EASEMENT
VOL. 799, PG. 704 (OR) - 10' TELEPHONE EASEMENT
VOL. 170, PG. 78 (OR) - 30' PIPELINE EASEMENT
VOL. 71, PG. 24 (OR) - ELECTRIC TRANSMISSION LINE EASEMENT

SCALE: 1" = 100'

STATE OF TEXAS
COUNTY OF BEXAR:

I HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT ACCORDING TO AN ACTUAL SURVEY MADE ON THE GROUND UNDER MY SUPERVISION, AND THAT THERE ARE NO VISIBLE EASEMENTS OR ENCROACHMENTS OF BUILDINGS ON ADJOINING PROPERTY AND THAT ALL BUILDINGS ARE WHOLLY LOCATED ON THIS PROPERTY EXCEPT AS SHOWN ABOVE.

SURVEYED ON THIS THE 23TH DAY OF DECEMBER, 2010 A.D.

Ramiro M. Ruiz, RPLS #3976

DATE	REVISIONS

JOB NUMBER:	2010-064
DATE:	12/23/10
DRAWN BY:	J.S.
APPROVED BY:	R.M.R.

RUIZ & ASSOCIATES SURVEYING, INC.
4414 CENTERVIEW, SUITE 211
SAN ANTONIO, TEXAS 78228
PHONE: (210) 732-6314 FAX: (210) 736-2435
Email: ruizandassociates@sbcglobal.net
Web: www.ruizandassociatessurveying.com

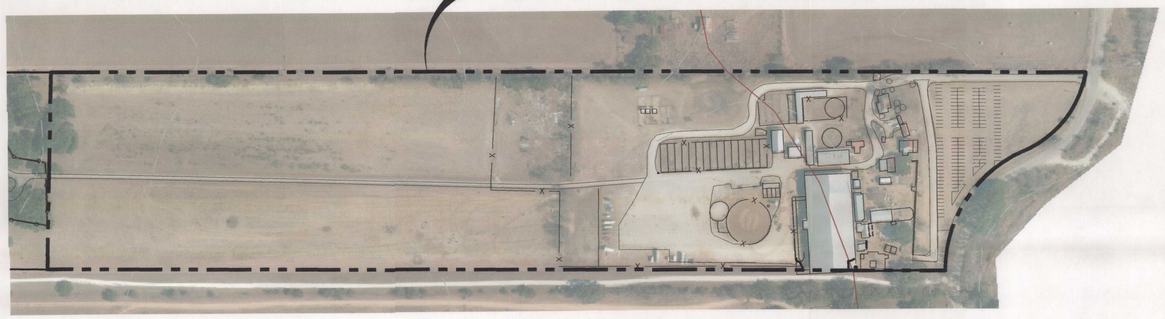
PLAT SHOWING

BEING 34.1357 ACRES OUT OF A 48.757 ACRES OF LAND OUT OF THE J.M. RIVAS SURVEY NO. 191, ABSTRACT 973, COMAL COUNTY, TEXAS AND BEING SAME 48.757 ACRE TRACT OF LAND AS DESCRIBED IN QUITCLAIM DEED RECORDED IN DOCUMENT NO. 200706013787 OF THE OFFICIAL RECORDS OF COMAL COUNTY, TEXAS.

Sheet 1 of 1

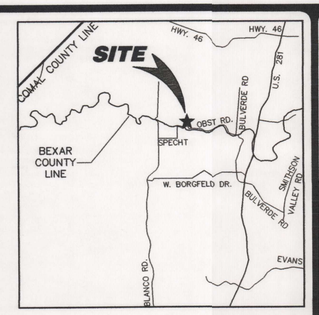
SCALE: 1"= 200'

0' 200' 400' 600'



IMPERVIOUS COVER TABLE							
GRANDFATHERED		EXISTING AREA				PROPOSED AREA	
UNIT	SQ. FT.	UNIT	SQ. FT.	UNIT	SQ. FT.	UNIT	SQ. FT.
G1	1681.36	E1	36472.08	E13	3102.15	P1	399.99
G2	268.76	E2	7527.94	E14	353.18	P2	799.99
G3	647.76	E3	3583.98	E15	714.87	P3	256.67
G4	1418.93	E4	2083.49	E16	651.20	P1	341.90
G5	844.32	E5	1150.82	E17	2024.19	P2	1015.74
G6	873.93	E6	2158.50	E18	1936.00	P3	746.72
G7	145.67	E7	2874.13	E19	348.49	P4	1706.04
		E8	400.91	E20	684.93	P5	7048.1
		E9	476.00	E21	145.70	P6	8553
		E10	2104.14	E22	153.50	P7	57324
		E11	1167.71	E23	158.84		
		E12	584.21	E24	148765.60		
		TOTAL SQUARE FEET(ACRES)					
5880.73 (.14)		219,622.56 (5.04)				77,146.71 (1.77)	

EXISTING IMPERVIOUS COVER = 5.04 AC.
PROPOSED IMPERVIOUS COVER = 1.784 AC.
TOTAL (NOT GRANDFATHERED) = 6.824 AC.



LOCATION MAP
N.T.S.

SCALE: 1"= 50'

0' 50' 100' 150'

LEGEND

- LIMITS OF CONSTRUCTION
- 1090 EXISTING CONTOURS
- FLOW ARROW (EXISTING)
- EXISTING IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- (W) WATER WELL

REVISIONS:

STATE OF TEXAS
CARA C. TACKETT
89491
LICENSED PROFESSIONAL ENGINEER
10/31/12

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

TEJAS RODEO
IMPERVIOUS COVER WORKMAP

JOB NO. 7674-00
DATE OCT. 29, 2012
DESIGNER JP
CHECKED RW DRAWN RO
SHEET 1 OF 1

Date: Oct 31, 2012, 12:06pm User ID: BKoether
File: P:\76\74\00\Design\Environmental\121025-767400-PIWSW.dwg

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. 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 (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, 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 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 TEMPORARY OR PERMANENTLY CEASE 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) 490-3096
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 UPGRADIENT 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.

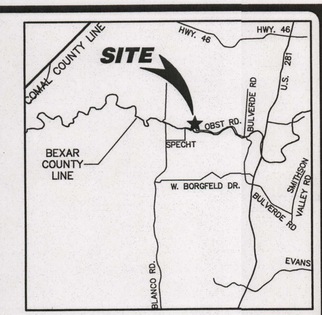
13. TEMPORARY POLLUTION ABATEMENT MEASURES SHOWN ON THE PLAN ARE FOR THE OVERALL DEVELOPMENT. TEMPORARY BMP's MAY REQUIRE ADJUSTMENT BASED ON PHASING OF CONSTRUCTION OF THE DEVELOPMENT. RECORDS OF ADJUSTMENTS AND REVISIONS SHALL BE MAINTAINED ON THIS SHEET AS APPROPRIATE.

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.

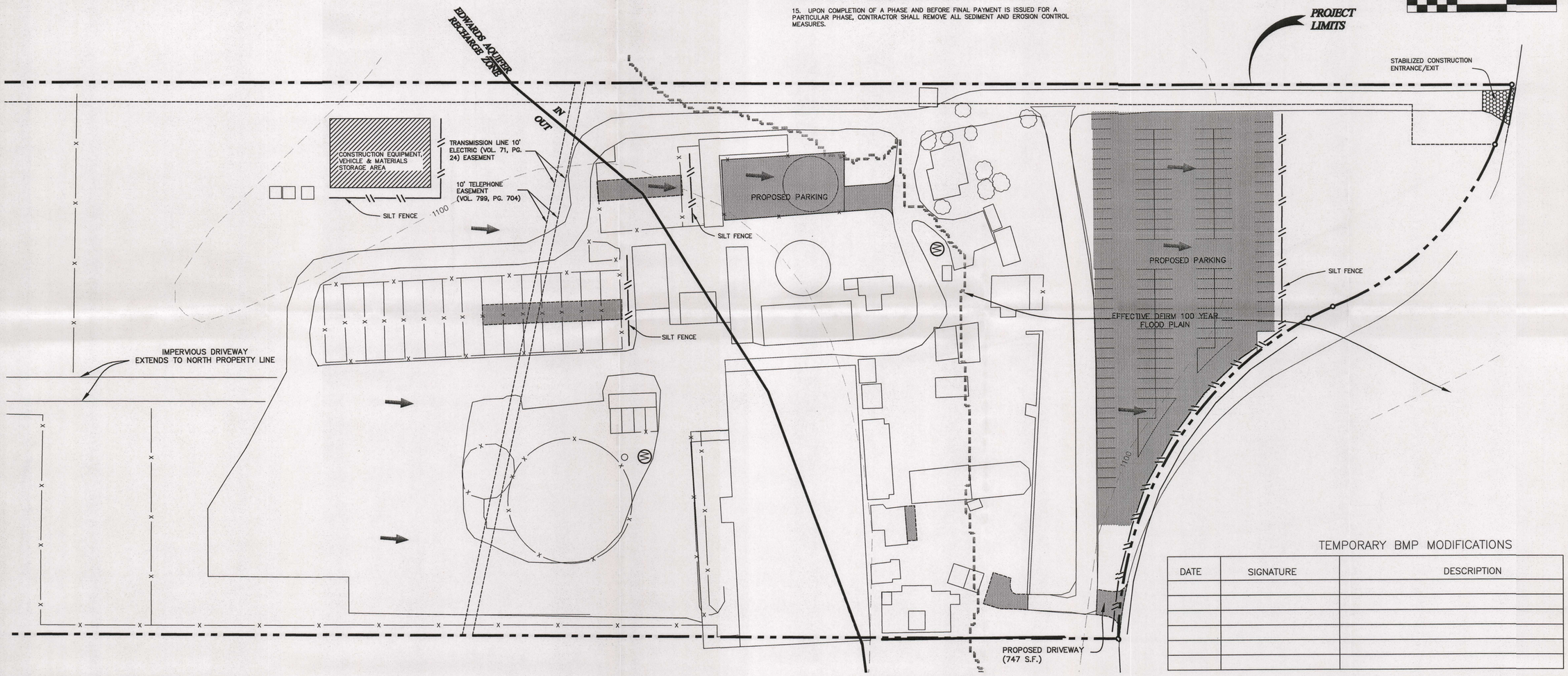
LEGEND

- PROJECT LIMITS
- 1100 EXISTING CONTOURS
- 1100 PROPOSED CONTOURS
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (TO BE FIELD LOCATED)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (TO BE FIELD LOCATED)
- SILT FENCE



LOCATION MAP
N.T.S.

SCALE: 1"= 50'
0' 50' 100' 150'



TEMPORARY BMP MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

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

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

EXHIBIT 1

REVISIONS:

STATE OF TEXAS
CARA C. TACKETT
89491
LICENSED
PROFESSIONAL ENGINEER
10/31/12

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

TEJAS RODEO
TEMPORARY WATER POLLUTION ABATEMENT PLAN

JOB NO. 7674-00
DATE OCT. 29, 2012
DESIGNER JP
CHECKED RW DRAWN JLC
SHEET 1 OF 1

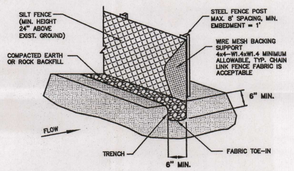
Date: Oct. 31, 2012, 11:55am User ID: JCodena
File: P:\76\74\00\Design\Environmental\WPAP\TM767400.dwg

SILT FENCE

A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out. If not properly installed, silt fences are not likely to be effective.

The purpose of a silt fence is to intercept and detain water-born sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.



ISOMETRIC PLAN VIEW

N.T.S.

Schematic of a Silt Fence Installation (NCTCOG, 1993b)

MATERIALS:

(1) Silt fence material should be polypropylene, polyethylene, or polyamide woven or nonwoven fabric. The fabric should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. sieve No.30

(2) Fence posts should be made of hot rolled steel, at least 4 feet long with tee or Y-bar cross section, surface painted or galvanized, minimum weight 1.25 lb/ft, and brindell hardness exceeding 140.

(3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum

INSTALLATION:

(1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Posts must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.

(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.

(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.

(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.

(5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.

(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

COMMON TROUBLE POINTS:

(1) Fence not installed along the contour causing water to concentrate and flow over the fence.

(2) Fabric not seated securely to ground (runoff passing under fence).

(3) Fence not installed perpendicular to flow line (runoff escaping around sides).

(4) Fence treating too large an area, or excessive channel flow (runoff overtops or collapses fence).

INSPECTION AND MAINTENANCE GUIDELINES:

(1) Inspect all fencing weekly, and after rainfall.

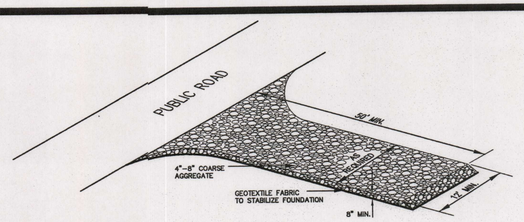
(2) Remove sediment when buildup reaches 6 inches.

(3) Replace torn fabric or install a second line of fencing parallel to the torn section.

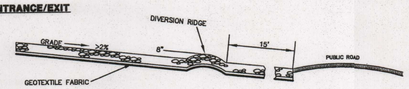
(4) Replace or repair sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.

(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

SILT FENCE



SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT



CROSS-SECTION OF A CONSTRUCTION ENTRANCE/EXIT

MATERIALS:

(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.

(2) The aggregate should be placed with a minimum thickness of 8 inches.

(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd², a mullen burst rating of 140 lb/in², and an equivalent opening size greater than a number 50 sieve.

(4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rock should be included in the plans. Divert wastewater to a sediment trap or basin.

INSTALLATION:

(1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.

(2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.

(3) The construction entrance should be at least 50 feet long.

(4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.

(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.

(6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.

(7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.

(8) Install pipe under pad as needed to maintain proper public road drainage.

COMMON TROUBLE POINTS:

(1) Inadequate runoff control-sediment washes onto public road.

(2) Stone too small or geotextile fabric absent, results in muddy condition as stone is pressed into soil.

(3) Pad too short for heavy construction traffic-extend pad beyond the minimum 50 foot length as necessary.

(4) Pad not flared sufficiently at road surface, results in mud being tracked on to road and possible damage to road.

(5) Unstable foundation – use geotextile fabric under pad and/or improve foundation drainage.

INSPECTION AND MAINTENANCE GUIDELINES:

(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.

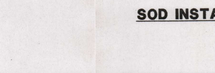
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.

(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.

(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

STABILIZED CONSTRUCTION ENTRANCE/EXIT

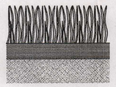


LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

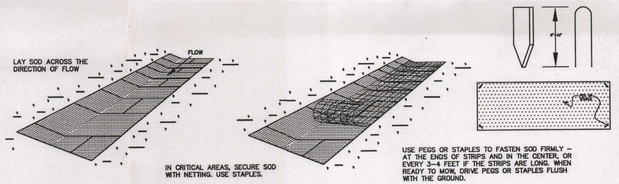
BUTTING – ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

NOTES:

- ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.
- WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.
- MOW WHEN THE SOD IS ESTABLISHED – IN 2–3 WEEKS. SET THE MOWER HIGH (2"–3").



APPEARANCE OF GOOD SOD



MATERIALS:

(1) Sod should be machine cut at a uniform soil thickness of 3/4 inch (± 1/4 inch) at the time of cutting. This thickness should exclude shoot growth and thatch.

(2) Pieces of sod should be cut to the supplier's standard width and length, with a maximum allowable deviation in any dimension of 5%. Torn or uneven pads should not be acceptable.

(3) Standard size sections of sod should be strong enough to support their own weight and retain their size and shape when suspended from a firm grasp on one end of the section.

(4) Sod should be harvested, delivered, and installed within a period of 36 hours.

SITE PREPARATION:

(1) Prior to soil preparation, areas to be sodded should be brought to final grade in accordance with the approved plan.

(2) The surface should be cleared of all trash, debris and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.

(3) Fertilize according to soil tests. Fertilizer needs can be determined by a soil testing laboratory or regional recommendations can be made by county agricultural extension agents. Fertilizer should be worked into the soil to a depth of 3 inches with a disc, springtooth harrow or other suitable equipment. On sloping land, the final harrowing or discing operation should be on the contour.

INSTALLATION IN CHANNELS:

(1) Sod strips in waterways should be laid perpendicular to the direction of flow. Care should be taken to butt ends of strips tightly (see Figure above).

(2) After rolling or tamping, sod should be pegged or stapled to resist washout during the establishment period. Mesh or other netting may be pegged over the sod for extra protection in critical areas.

GENERAL INSTALLATION IVA 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 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 staples 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 as a good root system becomes developed, in the absence of adequate rainfall, watering should be performed as often as necessary to maintain moist soil to a depth of at least 4 inches.

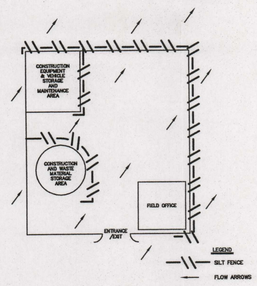
(8) The first mowing should not be attempted until the sod is firmly rooted, usually 2–3 weeks. Not more than one third of the grass leaf should be removed at any one cutting.

INSPECTION AND MAINTENANCE GUIDELINES:

(1) Sod should be inspected weekly and after each rain event to locate and repair any damage.

(2) Damage from storms or normal construction activities such as tire ruts or disturbance of swale stabilization should be repaired as soon as practical.

SOD INSTALLATION



TYP. CONSTRUCTION STAGING AREA

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

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

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

EXHIBIT 2

REVISIONS:

STATE OF TEXAS
CARA C. TACKETT
89491
LICENSED PROFESSIONAL ENGINEER
10/31/12

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

TEJAS RODEO
TEMPORARY POLLUTION ABATEMENT PLAN
DETAIL SHEET

JOB NO. 7674-00
DATE OCT. 29, 2012
DESIGNER MGB
CHECKED CCT DRAWN JLC
SHEET 1 of 1

Date: Oct 31, 2012, 11:46am User ID: JCadena
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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 14, 2011

Mr. Trey Martin
Tejas Rodeo Company
401 Obst Road
Bulverde, Texas 78249-1646

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Tejas Rodeo; Located at 401 Obst Road; Bulverde, Texas

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

Edwards Aquifer Protection Program San Antonio File No. 2952.00; Investigation No. 878324; Regulated Entity No. RN106035074

Dear Mr. Martin:

The TCEQ received confirmation from your authorized agent, Pape-Dawson Engineers, Inc., to withdraw the above referenced water pollution abatement plan application from review on February 11, 2011. Because you have voluntarily withdrawn the plan, the application fee of $6,500 can be refunded. However, per your request, the review fee will be retained by the TCEQ and applied to the future submittal of the revised water pollution abatement plan application.

If you have any questions or require additional information, please contact Javier Anguiano of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 490-3096.

Sincerely,

Todd Jones
Water Section Team Leader
Texas Commission on Environmental Quality

TJ/JA/eg

cc: Mr. Cara C. Tackett, P.E., LEED® AP, Pape-Dawson Engineers, Inc.
The Honorable Bill Krawietz, City of Bulverde
Ms. Thomas H. Hornseth, P.E., Comal County
Mr. Karl J. Dreher, Edwards Aquifer Authority
Mr. Scott Halty, San Antonio Water System
TCEQ Central Records, Building F, MC 212

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 9, 2010

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

Re: Edwards Aquifer, Comal County
PROJECT NAME: Tejas Rodeo, located at 401 Obst Road, Bulverde, Texas WPAP
PLAN TYPE: Application for Approval of a ~~Contributing Zone Plan (CZP)~~ 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File No.: 2952.00

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.

Please forward your comments to this office by December 8, 2010.

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

Todd Jones
Water Section Work Leader
San Antonio Regional Office

TJ/eg

TEJAS RODEO

Water Pollution Abatement Plan

November 2010

Texas Board of Professional Engineers, Firm Registration # 470

PAPE-DAWSON ENGINEERS

PAPE-DAWSON ENGINEERS

LAND DEVELOPMENT ENVIRONMENTAL TRANSPORTATION WATER RESOURCES SURVEYING

November 4, 2010

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

Re: Tejas Rodeo
Water Pollution Abatement Plan

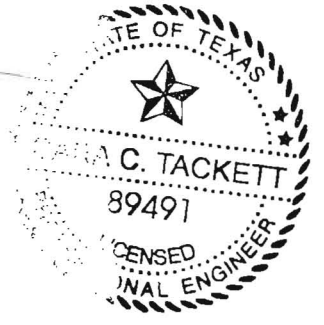
Dear Mr. Garcia:

Please find attached one (1) original and three (3) copies of the Tejas Rodeo Water Pollution Abatement Plan. This Water Pollution Abatement Plan has been prepared in accordance with the Texas Administrative Code (30 TAC 213) and current policies for development over the Edwards Aquifer Recharge Zone.

This Water Pollution Abatement Plan applies to an approximate 34.8-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 any questions or require additional information, please do not hesitate to contact me at your earliest convenience.

Sincerely,
Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470



Cara C. Tackett, P.E., LEED® AP
Vice President, Land Development

Attachments

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General Information Form
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

REGULATED ENTITY NAME: ***Tejas Rodeo***

COUNTY: ***Comal*** STREAM BASIN: ***Cibolo Creek***

EDWARDS AQUIFER: √ RECHARGE ZONE
__ TRANSITION ZONE

PLAN TYPE: √ WPAP __ AST __ EXCEPTION
__ SCS __ UST __ MODIFICATION

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: ***Trey Martin***
Entity: ***Tejas Rodeo Company***
Mailing Address: ***401 Obst Road***
City, State: ***Bulverde, Texas*** Zip: ***78163-2094***
Telephone: ***(830) 980-2226*** FAX: ***(830) 438-3395***

Agent/Representative (If any):

Contact Person: ***Cara C. Tackett, P.E., LEED® AP***
Entity: ***Pape-Dawson Engineers, Inc.***
Mailing Address: ***555 E. Ramsey***
City, State: ***San Antonio, Texas*** Zip: ***78216***
Telephone: ***(210) 375-9000*** FAX: ***(210) 375-9010***

2. __ This project is inside the city limits of _____.
√ This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of ***Bulverde***.
__ This project is not located within any city's limits or ETJ.

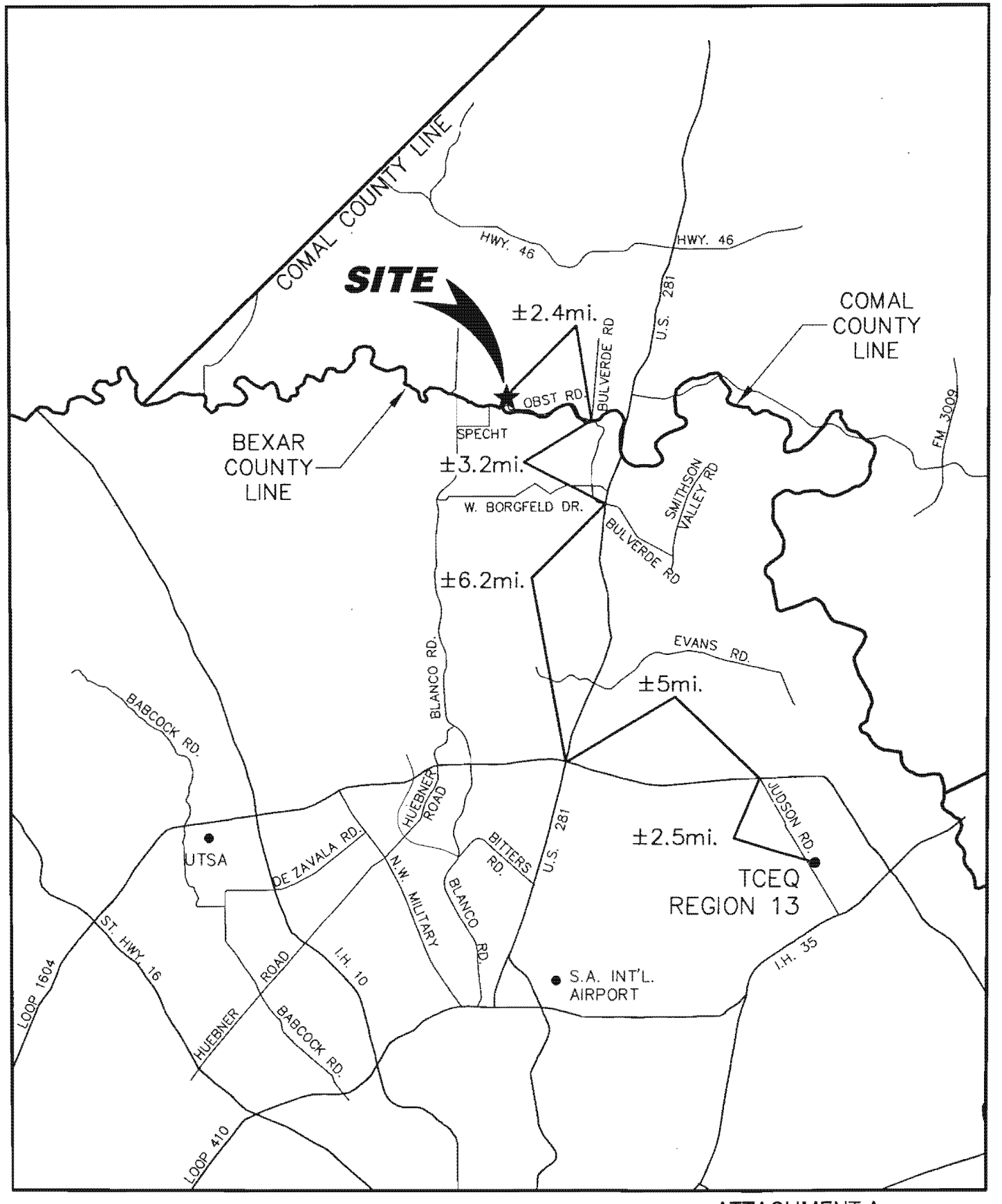
3. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

From TCEQ's regional office, travel 2.5 miles north on Judson Road to Loop 1604. Turn left onto Loop 1604 and proceed west approximately 5 miles to Hwy. 281 North. Exit 1604 and turn right onto U.S. Hwy. 281 North. Travel approximately 6.8 miles to Borgfeld Drive. Turn left onto E. Borgfeld Drive and proceed about 0.5 miles to Bulverde Road. Turn right onto Bulverde Road. Bulverde becomes Obst Road. The site is on the right at 401 Obst Road.

4. √ **ATTACHMENT A - ROAD MAP**. A road map showing directions to and the location of the project site is attached ~~at the end of this form~~ ***directly behind this sheet.***

TEJAS RODEO
Water Pollution Abatement Plan

N
NOT TO SCALE



Pape-Dawson Engineers, Inc.
Date: Oct 26, 2010, 2:34pm User ID: ROlivarez
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ATTACHMENT A
Road Map

5. √ **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 behind this sheet. The map(s) should clearly show:
   - √ Project site.
   - √ USGS Quadrangle Name(s).
   - √ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
   - √ Drainage path from the project to the boundary of the Recharge Zone.

6. √ 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. **The TCEQ must be able to inspect the project site or the application will be returned.**

7. √ **ATTACHMENT C - PROJECT DESCRIPTION.** ~~Attached at the end of this form~~ ***Provided below*** is a detailed narrative description of the proposed project.

Tejas Rodeo is an existing commercial development on a 34.8-acre site, as defined by the project limits, at 401 Obst Road, Bulverde, Texas 78163. It is located outside the city limits but inside the extra-territorial jurisdiction of Bulverde in Comal County, Texas.

Tejas Rodeo is partially on the Edwards Aquifer Recharge Zone and partially on the Contributing Zone; however, the site is treated as if it is entirely on the Recharge Zone for the purposes of this Water Pollution Abatement Plan (WPAP) in accordance with 30 TAC 213.3(31).

Currently, there is 4.5 acres of impervious cover (12.9% of the project limits) consisting of buildings and parking area (caliche). Approximately 2.1 acres of new impervious cover is proposed. Total on-site impervious cover after the improvements are constructed will be 6.6 acres (19% of the project limits).

As this is a small business site, with 20% or less impervious cover, an exemption from permanent BMPs is requested.

Potable water is provided by an onsite private well. Wastewater will be disposed of by conveyance to an onsite septic system.

8. Existing project site conditions are noted below:
   - √ Existing commercial site
   - ___ Existing industrial site
   - ___ Existing residential site
   - √ Existing ~~paved and/or~~ unpaved roads
   - ___ Undeveloped (Cleared)
   - ___ Undeveloped (Undisturbed/Uncleared)
   - ___ Other: _____

PROHIBITED ACTIVITIES

9. √ 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);

TEJAS RODEO
Water Pollution Abatement Plan

N
SCALE: 1" = 2000'

CONTRIBUTING ZONE

SITE

RECHARGE ZONE

RECHARGE ZONE

CONTRIBUTING ZONE

RECHARGE ZONE

Matchline - See Sheet 2 Of 4

Date: Oct. 25, 2010, 2:36pm User ID: ROliverez
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ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

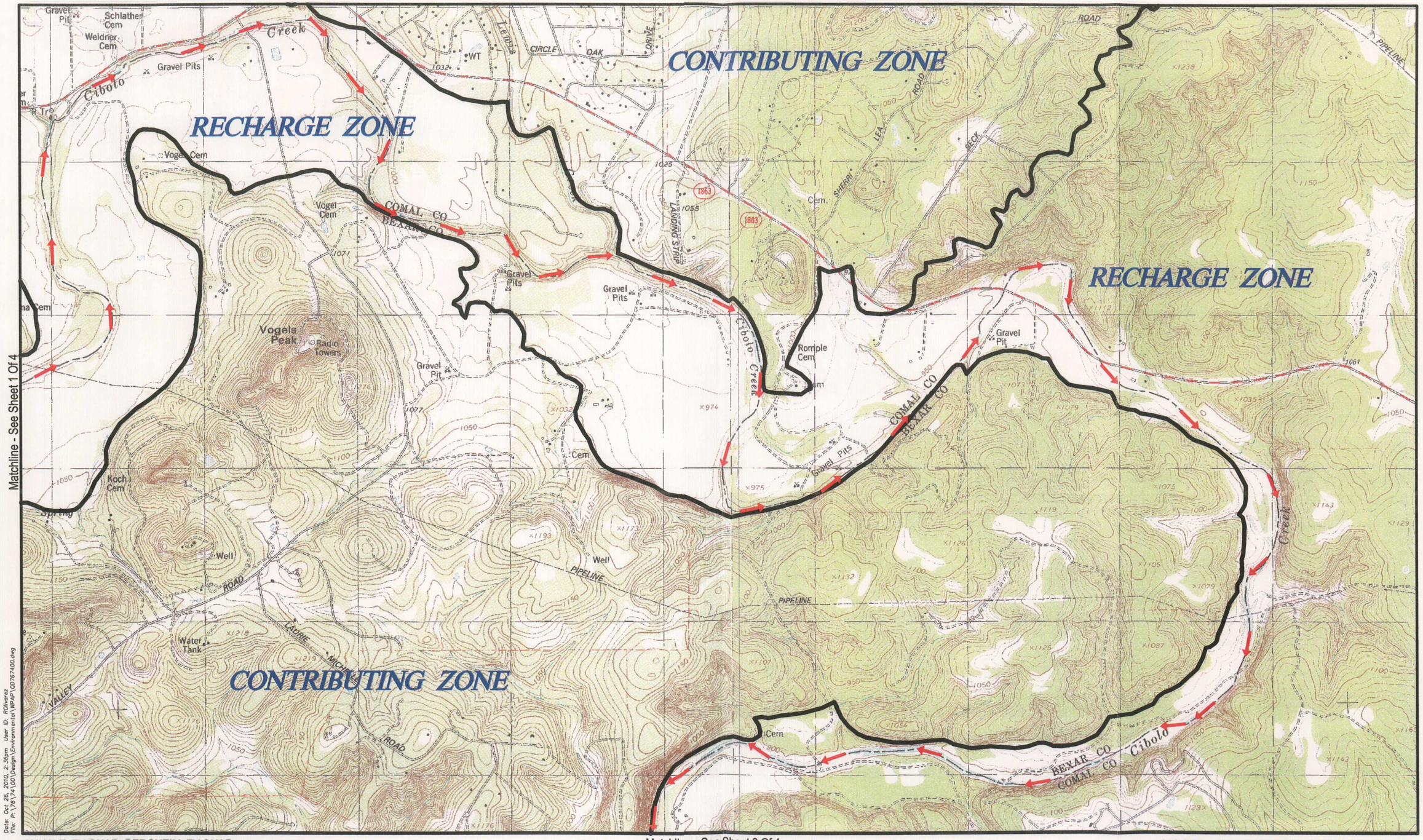
→ → Drainage Flow

Pape-Dawson Engineers, Inc.

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

TEJAS RODEO
Water Pollution Abatement Plan

N
SCALE: 1" = 2000'



Matchline - See Sheet 1 Of 4

Matchline - See Sheet 3 Of 4

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP
Sheet 2 Of 4
Attachment B

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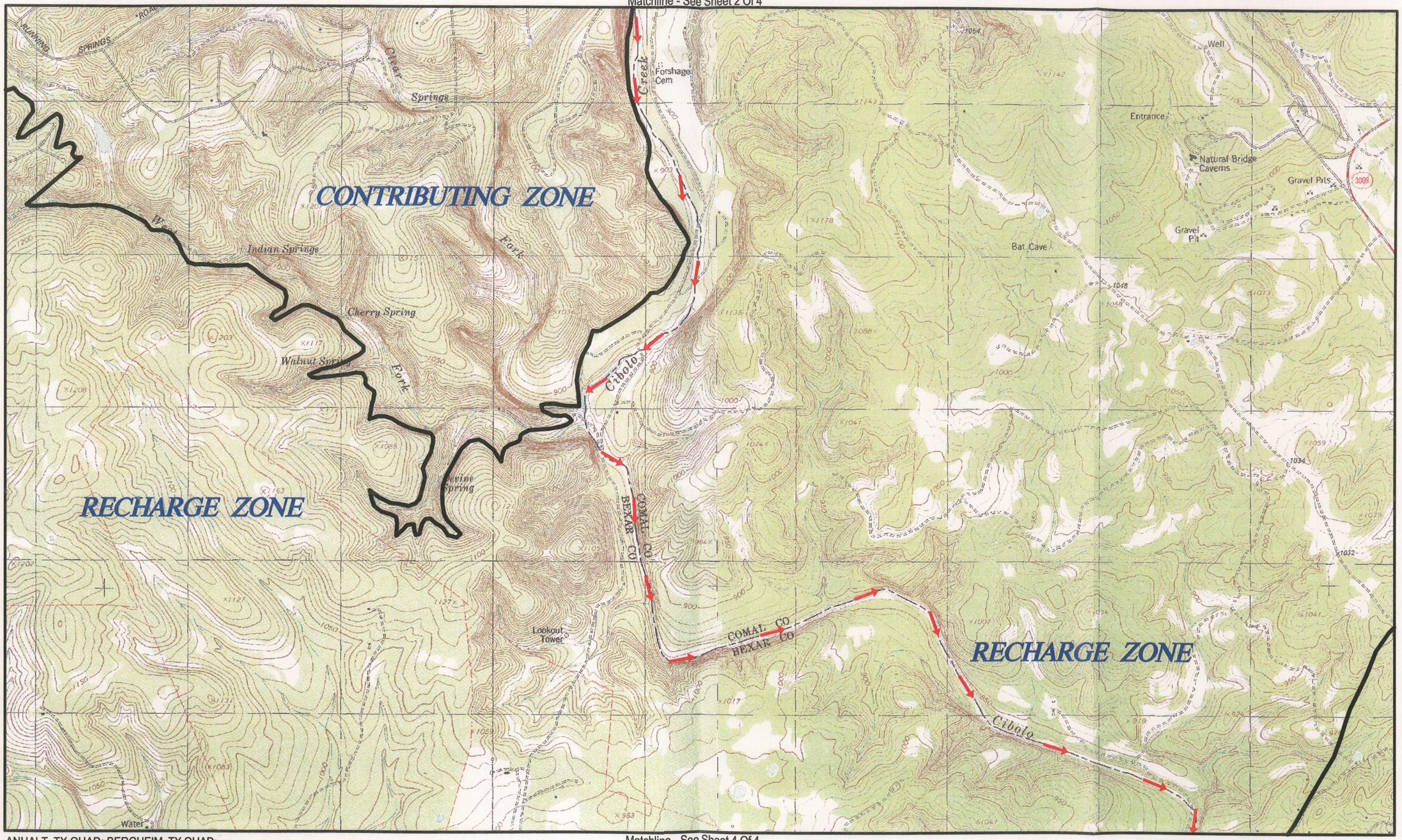
TEJAS RODEO
Water Pollution Abatement Plan

N
SCALE: 1" = 2000'

Matchline - See Sheet 2 Of 4



Matchline - See Sheet 4 Of 4

ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX, QUAD; BULVERDE TX, QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

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

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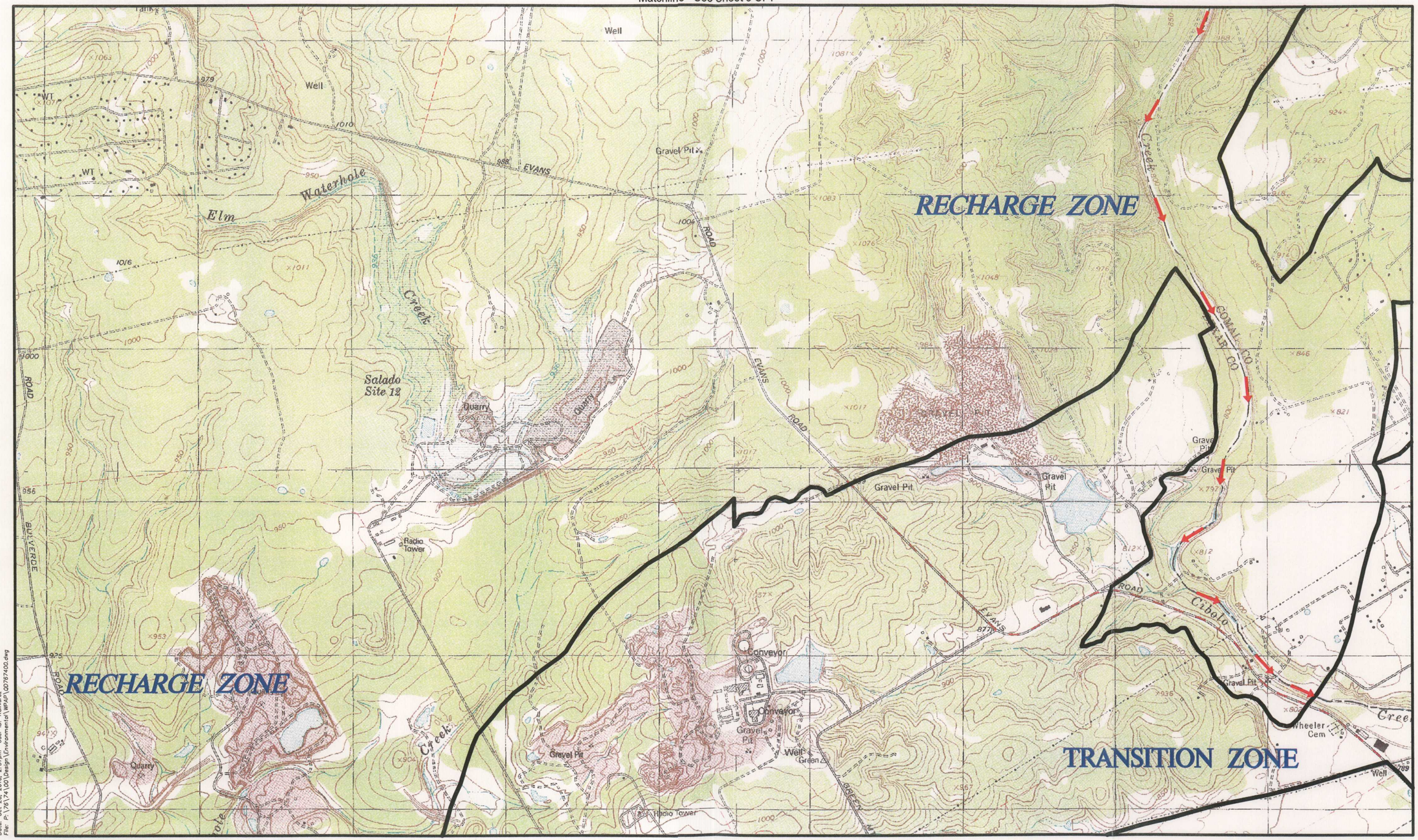
TEJAS RODEO
Water Pollution Abatement Plan

Matchline - See Sheet 3 Of 4

N

SCALE: 1" = 2000'



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ANHALT, TX QUAD; BERGHEIM, TX QUAD;
CAMP BULLIS TX QUAD; BULVERDE, TX QUAD;
LONGHORN, TX QUAD; SCHERTZ, TX QUAD

→ → Drainage Flow

Pape-Dawson Engineers, Inc.

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

(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).

10. ***N/A*** 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

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

√ For a Water Pollution Abatement Plan and Modifications, the total acreage of the site where regulated activities will occur.
__ For an Organized Sewage Collection System Plans and Modifications, the total linear footage of all collection system lines.
__ For a UST Facility Plan or an AST Facility Plan, 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.

12. 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)

13. √ Submit one (1) original and three (3) copies of the completed application to the appropriate regional office for distribution by the TCEQ to the local municipality or county, groundwater conservation districts, and the TCEQ's Central Office.

14. √ 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.

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:

Pape-Dawson Engineers, Inc.

Texas Board of Professional Engineers, Firm Registration # 470

Cara C. Tackett, P.E., LEED® AP

Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

11/04/10

Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

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

REGULATED ENTITY NAME: ***Tejas Rodeo***

REGULATED ENTITY INFORMATION

1. The type of project is:
   ___ Residential: # of Lots: _____
   ___ Residential: # of Living Unit Equivalents: _____
   √ Commercial
   ___ Industrial
   ___ Other: _____

2. Total site acreage (size of property): ***34.8***

3. Projected population: ***0***

There is no permanent population associated with this development.

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

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	***91,476***	÷ 43,560 =	***2.1***
Parking ***& Roads (caliche)***	***196,020***	÷ 43,560 =	***4.5***
Other paved surfaces	***0***	÷ 43,560 =	***0***
Total Impervious Cover	***287,496***	÷ 43,560 =	***6.6****
Total Impervious Cover ÷ Total Acreage x 100 =			***19%***

****4.5 acres of existing impervious cover included.***

5. √ **ATTACHMENT A - Factors Affecting Water Quality.** A description of any factors that could affect surface water and groundwater quality is provided ~~at the end of this form~~ ***below***.

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;***
- ***Animal waste***
- ***Dirt and dust which may fall off vehicles; and***
- ***Miscellaneous trash and litter.***

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.

This application is not exclusively for a road project; therefore, questions 7-12 do not apply.

7. Type of project:
   __ TXDOT road project.
   __ County road or roads built to county specifications.
   __ City thoroughfare or roads to be dedicated to a municipality.
   __ Street or road providing access to private driveways.

8. Type of pavement or road surface to be used:
   __ Concrete
   __ Asphaltic concrete pavement
   __ Other: _____

9. Length of Right of Way (R.O.W.): ____ feet.
   Width of R.O.W.: ____ feet.
   L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = ____ acres.

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

11. __ A rest stop will be included in this project.
    __ A rest stop will **not** be included in this project.

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

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

13. √ **ATTACHMENT B - Volume and Character of Stormwater.** A description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is provided ~~at the end of this form~~ ***below***. The estimates of stormwater runoff quality and quantity should be based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Stormwater runoff will increase as a result of this development. For a 25-year

storm event, the overall project will generate approximately 183 cfs. The runoff coefficient for the site changes from approximately 0.50 before development to 0.60 after development. Values are based on the Rational Method using runoff coefficients per the City of San Antonio Unified Development Code. The character of runoff can be described as overland flow from a developed commercial area.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

100% Domestic	***30,000*** gallons/day
__% Industrial	_____ gallons/day
__% Commingled	_____ gallons/day

TOTAL ***30,000*** gallons/day

15. Wastewater will be disposed of by:

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

- √ **ATTACHMENT C - Suitability Letter from Authorized Agent.** An on-site sewage facility will be used to treat and dispose of the wastewater. The appropriate licensing authority's (authorized agent) written approval is provided at the end of this form. It states that the land is suitable for the use of an on-site sewage facility or identifies areas that are not suitable.
- √ 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 through 27 must be included on the Site Plan.

Please see Exhibit 1 for site plan requirements.

17. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = ***100'***.

18. 100-year floodplain boundaries

____ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

__√__ No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):

_____

_____

19. __—__ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Show lots, recreation centers, buildings, roads, etc.

__√__ The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.

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

__√__ There are ***two*** (2) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

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

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

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

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

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

__√__ All **sensitive** geologic or manmade features identified in the Geologic Assessment are shown and labeled.

__—__ No **sensitive** geologic or manmade features were identified in the Geologic Assessment.

__*N/A*__ **ATTACHMENT D - Exception to the Required Geologic Assessment.** An exception to the Geologic Assessment requirement is requested and explained at the end of this form.

22. __√__ The drainage patterns and approximate slopes anticipated after major grading activities.

Drainage patterns are illustrated by arrows. Slopes vary throughout the site. Typical slopes in this project will range from 1% to 5%.

23. __√__ Areas of soil disturbance and areas which will not be disturbed.

The nature of construction is such that it is difficult to predict areas that will be disturbed and revegetated. The construction plans include a note on Exhibit 1, which will require the contractor to revegetate disturbed areas with seeding, hydromulch or sod and sprinkling. All impervious cover areas will be disturbed. Approximately 2.1 acres may be disturbed. See the Impervious Cover Workmap attached.

24. __√__ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

Temporary BMPs are shown on Exhibit 1. No permanent BMPs are proposed as this is a small business site with 20% or less impervious cover.

25. √ Locations where soil stabilization practices are expected to occur.

The nature of construction is such that it is difficult to predict areas that will be disturbed and revegetated. The construction plans include a note on Exhibit 1, which will require the contractor to revegetate disturbed areas with seeding, hydromulch or sod and sprinkling. All impervious cover areas will be disturbed. Approximately 2.1 acres may be disturbed.

26. √ Surface waters (including wetlands).

27. √ Locations where stormwater discharges to surface water or sensitive features.
__ There will be no discharges to surface water or sensitive features.

ADMINISTRATIVE INFORMATION

28. √ One (1) original and three (3) copies of the completed application have been provided.

29. √ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

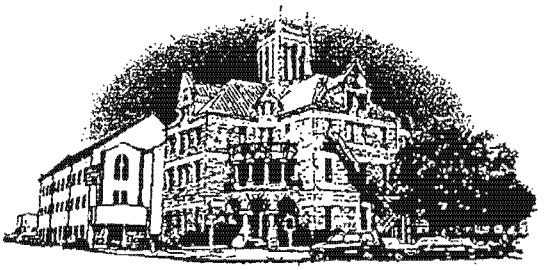
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **WATER POLLUTION ABATEMENT PLAN APPLICATION FORM** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Cara C. Tackett, P.E., LEED® AP
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

11/04/10
Date



Comal County

OFFICE OF COMAL COUNTY ENGINEER

October 29, 2010

Ms. Miranda Briones, E.I.T.
Pape-Dawson Engineers, Inc.
555 East Ramsey
San Antonio, TX 78216

Re: Tejas Rodeo On-Site Sewage Facility Suitability Letter, within Comal County, Texas

Dear Ms. Briones:

In accordance with TAC §213.5(b)(4)(F)(ii), Comal County has found that the entire referenced site (except for areas listed below) 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 October 29, 2010:

- The Geologic Assessment, prepared by Pape-Dawson Engineers, Inc.
- The Water Pollution Abatement Plan, prepared by Pape-Dawson Engineers, Inc.

Areas that are not Suitable

Feature	Latitude	Longitude	Description
S-1	29°44'16.6"	98°29'25.9"	Water Well
S-2	29°44'19.6"	98°29'28.2"	Water Well

In accordance with TAC §285.91, Table X, sewer pipe with water tight joints and tanks must maintain a 50' separation distance from the wells identified above. Soil absorption systems, unlined ET beds, lined ET beds, surface application areas (edge of spray area), and drip irrigation must maintain a 150' separation distance from these wells.

Moreover, according to TAC §285.41(b), Tejas Rodeo Company, the owner of the referenced site, must inform, in writing, each prospective purchaser, lessee, or renter of the following:

- A Permit to Construct is required from Comal County before an OSSF can be constructed on the Tejas Rodeo Company land;
- A License to Operate is required from Comal County before an OSSF can be operated in on the Tejas Rodeo Company land;
- 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
- Minimum separation distances, as outlined in Table 10 of TAC §285.91

Furthermore, according to TAC §285.42(a), if any recharge feature, not listed above, 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 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: Jay Millikin, Comal County Commissioner, Precinct No. 2

Temporary Stormwater Section
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

REGULATED ENTITY NAME: ***Tejas Rodeo***

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:

   √ Aboveground storage tanks with a cumulative storage capacity of less that 250 gallons ~~will~~ ***may*** be stored on the site for less than one (1) year.
   __ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
   __ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An **Aboveground Storage Tank Facility Plan** application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
   __ Fuels and hazardous substances will not be stored on-site.

   Temporary aboveground storage tank(s) may be located within the construction staging area in compliance with 30 TAC §213.

2. √ **ATTACHMENT A - Spill Response Actions**. A description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is provided at the end of this form.

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.** Describe ***below*** ~~in an attachment at the end of this form~~ any other activities or processes which may be a potential source of contamination.
   __ There are no other potential sources of contamination.

   Other potential sources of contamination during construction include:
   Potential Source • ***Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.***
   Preventative Measure ■ ***Vehicle maintenance when possible will be performed within the construction staging area.***
   ■ ***Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.***
   Potential Source • ***Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.***

Preventative Measure
- *Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.*
- *Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.*
- *Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.*
- *A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.*

Potential Source
- *Miscellaneous trash and litter from construction workers and material wrappings.*

Preventive Measure
- *Trash containers will be placed throughout the site to encourage proper trash disposal.*

Potential Source
- *Construction debris.*

Preventive Measure
- *Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.*

Potential Source
- *Spills/Overflow of waste from portable toilets*

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

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 provided ~~at the end of this form~~ ***below***. For each activity described, an estimate of the total area of the site to be disturbed by each activity is given.

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. This will disturb approximately 2.1 acres. The second is construction that will include construction of buildings and new parking area, landscaping and site cleanup. This will disturb approximately 2.1 acres.

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: ***Cibolo Creek***

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the

Technical Guidance Manual for guidelines and specifications. **All structural BMPs must be shown on the site plan.**

7. √ **ATTACHMENT D - Temporary Best Management Practices and Measures.** A description of the TBMPs and measures that will be used during and after construction are provided ~~at the end of this form~~ ***below***. For each activity listed in the sequence of construction, include appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

Please see Exhibit 1 for TBMP layout and the response to "a" through "d" below for more details.

√ 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 has been provided ~~in the attachment at the end of this form~~ ***below***.

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 from a residential area will cross the site. As this area is undisturbed, no TBMPs for it are necessary. Onsite TBMPs are adequate for the drainage areas served.

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

Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of this work can begin, the clearing and grading contractor will be responsible for the installation of all on-site control measures. The methodology for pollution prevention of on-site stormwater will include: (1) erection of silt fences along the downgradient boundary of construction activities for temporary erosion and sedimentation controls and (2) 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 that may exist downstream.

No naturally-occurring sensitive features were identified in the Geologic Assessment.

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 the aquifer or surface streams and/or sensitive features that may exist downstream.

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

No naturally-occurring sensitive features were identified in the Geologic Assessment. 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. Features discovered during construction will be reported and assessed in accordance with applicable regulations.

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.

N/A **ATTACHMENT E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is provided at the end of this form. 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.** Describe 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. Placement of structural practices in floodplains has been avoided.

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

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

10. √ **ATTACHMENT G - Drainage Area Map**. A drainage area map is provided ~~at the end of this form~~ ***as Exhibit 1*** to support the following requirements.

— 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 ***will be used***.

11. ***N/A*** **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 has 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 provided as at the end of this form.

12. √ **ATTACHMENT I - Inspection and Maintenance for BMPs.** A plan for the inspection of temporary BMPs and measures and for their timely maintenance, repair, and, if necessary, retrofit is provided at the end of this form. A description of documentation procedures and recordkeeping practices is included in the plan.

13. √ All control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicates 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. ***N/A*** Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

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

SOIL STABILIZATION PRACTICES

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

17. √ **ATTACHMENT J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is ~~attached at the end of this form~~ ***below***.

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.

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.

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:

Pape-Dawson Engineers, Inc.

Texas Board of Professional Engineers, Firm Registration # 470

Cara C. Tackett, P.E., LEED® AP

Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

11/04/10

Date

Spill Response Actions

In the event of an accidental leak or spill:

- 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.

- Sand or material used to contain the spill should be collected and stored in such a way so as not to continue to affect additional ground. Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. In the event of potential rainfall the material should be covered with poly or plastic sheeting to prevent contaminating runoff.

- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill:

- The contractor will be required to report significant or hazardous spills in reportable quantities to:
  - 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)

- 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.

INSPECTIONS

Designated and qualified person(s) shall inspect Pollution Control Measures weekly and within 24 hours after a storm event. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of Storm Water TPDES data for a period of three years after the date of the inspection. 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.

Pollution Prevention Measure	Inspected	Corrective Action	
		Description	Date Completed
General			
Revegetation			
Erosion/sediment controls			
Vehicle exits			
Material areas			
Equipment areas			
Concrete rinse			
Construction debris			
Trash receptacles			
Infrastructure			
Roadway clearing			
Utility clearing			
Roadway grading			
Utility construction			
Drainage construction			
Roadway base			
Roadway surfaces			
Site cleanups			
Building			
Clearing for building			
Foundation grading			
Utility construction			
Foundation construction			
Building construction			
Site grading			
Site cleanup			

Indicate N/A where measure does not apply.

By my signature below, I certify that all items are acceptable and the project site is in compliance with SWPPP.

Inspector's Name _____ Inspector's Signature _____

Name of Owner/Operator (Firm) _____ Date _____

Note: Inspector is to attach a brief statement of his qualifications to this report.

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date

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

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date

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

REGULATED ENTITY NAME: ***Tejas Rodeo***

Permanent best management practices (BMPs) 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.

2. ***N/A*** 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 provided below

   _____

   _____

3. ***N/A*** 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.

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.

   __ This site will be used for low density single-family residential development and has 20% or less impervious cover.
   __ This site will be used for low density single-family residential development but has more than 20% impervious cover.
   √ This 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.** This 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 found at the end of this form.

MGB

___ This site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

~~___~~ This 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 identified as **ATTACHMENT B** at the end of this form.

___ If no surface water, groundwater or stormwater originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form.

√ If 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, an explanation is provided ~~as **ATTACHMENT B** at the end of this form~~ ***below***.

Runoff from a developed residential area flows across the site. No permanent structural BMPs are proposed for this upgradient area as both have less than 20% impervious cover.

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 identified as **ATTACHMENT C** at the end of this form.

√ If 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, an explanation is provided ~~as **ATTACHMENT C** at the end of this form~~ ***below***.

As this is a small business site, with 20% or less impervious cover, an exemption from permanent BMPs is requested.

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 provided ~~at the end of this form~~ ***below***. Each feature identified in the Geologic Assessment as "sensitive" or "possibly sensitive" has been addressed.

As this is a small business site, with 20% or less impervious cover, an exemption from permanent BMPs is requested.

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" or "possibly sensitive" feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed for any naturally-occurring "sensitive" or "possibly sensitive" features on this site.

N/A **ATTACHMENT E - Request to Seal Features.** A request to seal a naturally-occurring "sensitive" or "possibly sensitive" feature, that includes a justification as to why no reasonable and practicable alternative exists, is found at the end of this form. A request and justification has been provided for each feature.

The following table identifies the proposed treatment for all on-site features identified in the Geologic Assessment.

#[1]	Feature Type	Relative Infiltration Rate (refer to Geologic Assessment)	Sensitivity Of Feature	Permanent Pollution Abatement Measure[2]
S-1	***Manmade (water well)***	***Low***	***Not sensitive***	***N/A; in use***
S-2	***Manmade (water well)***	***Low***	***Not sensitive***	***N/A; in use***
S-3	***Closed Depression***	***Low***	***Not sensitive***	***N/A; in use***

10. √ **ATTACHMENT F - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided ~~at the end of this form~~ ***in the Exhibits section of this application***. Design Calculations, TCEQ Construction Notes, all man-made or naturally occurring geologic features, all proposed structural measures, and appropriate details must be shown on the construction plans.

11. √ **ATTACHMENT G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is provided at the end of this form. The plan has been prepared and certified by the engineer designing the permanent BMPs and measures. The plan has been signed by the owner or responsible party. The plan includes procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofits as well as a discussion of record keeping procedures.

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

___ Pilot-scale field testing (including water quality monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.

N/A **ATTACHMENT H - Pilot-Scale Field Testing Plan.** A plan for pilot-scale field testing is provided at the end of this form.

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 provided ~~at the end of this form~~ ***below***. 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.

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.

Responsibility for maintenance of permanent BMPs and measures after construction is complete.

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

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.

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:

Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Cara C. Tackett, P.E., LEED® AP
Print Name of ~~Customer~~/Agent

Cara C. Tackett — 11/04/10

Signature of ~~Customer~~/Agent — Date

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I ***Trey Martin***,
Print Name

Owner,
Title - Owner/President/Other

of ***Tejas Rodeo Company***,
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.

SIGNATURE PAGE:

Applicant's Signature 10/4/10 Date

THE STATE OF TEXAS §

County of BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared TREY MARTIN 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 4th day of OCTOBER 2010

NOTARY PUBLIC

RICHARD OLIVAREZ
Typed or Printed Name of Notary

RICHARD OLIVAREZ
MY COMMISSION EXPIRES
October 18, 2013

MY COMMISSION EXPIRES: 10-18-2013

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Application Fee Form

NAME OF PROPOSED REGULATED ENTITY: ***Tejas Rodeo***
REGULATED ENTITY LOCATION: ***401 Obst Road***
NAME OF CUSTOMER: ***Tejas Rodeo Company***
CONTACT PERSON: ***Trey Martin*** PHONE: ***(830) 980-2226***
(Please Print)

Customer Reference Number (if issued): CN _____ (nine digits)

Regulated Entity Reference Number (if issued): RN _____ (nine digits)

Austin Regional Office (3373) ☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362) ☐ Bexar ☒ Comal ☐ Medina ☐ Kinney ☐ Uvalde

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 (Check One):

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

☐ **Overnight Delivery to TCEQ**:
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-0347

Site Location (Check All That Apply): ☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	***34.82*** 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

10/7/10
Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

PROJECT	PROJECT AREA IN ACRES	FEE
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

PROJECT	COST PER LINEAR FOOT	MINIMUM FEE MAXIMUM FEE
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

PROJECT	COST PER TANK OR PIPING SYSTEM	MINIMUM FEE MAXIMUM FEE
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

TEJAS RODEO COMPANY
FOOD, BEVERAGE & MERCHANDISE
401 OBST RD
BULVERDE, TX 78163

1695

88-2194/1149
07

DATE 10/11/10

PAY TO THE ORDER OF TCEQ

$ 6,500.00

Six thousand five hundred and 00/100 DOLLARS

Security Features Details on Back.

SECURITY STATE BANK & TRUST
P.O. BOX 86 • BULVERDE, TEXAS 78163 • 830-438-4846

FOR Water Pollution Abatement Plan

MP

⑈001695⑈ ⑆114921949⑆ 114 530 9⑈

EXHIBITS

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided)*

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Attachments **Describe Any Attachments:** *(ex. Title V Application, Waste Transporter Application, etc.)*

☒ Yes ☐ No — Water Pollution Abatement Plan

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN		RN

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)

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

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

7. General Customer Information

☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State) ☐ No Change**

If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.

8. Type of Customer:			
	☒ Corporation	☐ Individual	☐ Sole Proprietorship- D.B.A
☐ City Government	☐ County Government	☐ Federal Government	☐ State Government
☐ Other Government	☐ General Partnership	☐ Limited Partnership	☐ Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)* — *If new Customer, enter previous Customer below* — *End Date:*

Tejas Rodeo Company

10. Mailing Address: 401 Obst Road

City	State	ZIP	ZIP + 4
Bulverde	TX	78163	2094

11. Country Mailing Information *(if outside USA)*

12. E-Mail Address *(if applicable)*

13. Telephone Number	14. Extension or Code	15. Fax Number *(if applicable)*
(830) 980-2226		(830) 438-3395

16. Federal Tax ID *(9 digits)*	17. TX State Franchise Tax ID *(11 digits)*	18. DUNS Number *(if applicable)*	19. TX SOS Filing Number *(if applicable)*
204068482	12040684826		0800589815

20. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated?

☒ Yes ☐ No

SECTION III: Regulated Entity Information

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

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information ☐ No Change** *(See below)*

If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

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

Tejas Rodeo

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*	401 Obst Road							
	City	Bulverde	State	TX	ZIP	78163	ZIP + 4	2094
25. Mailing Address:	401 Obst Road							
	City	Bulverde	State	TX	ZIP	78163	ZIP + 4	2094

26. E-Mail Address:		
27. Telephone Number	28. Extension or Code	29. Fax Number *(if applicable)*
(830) 980-2226		(830) 438-3395

30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)	33. Secondary NAICS Code (5 or 6 digits)
7999	7113	5812	72221

34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*

Rodeo & concessions

Questions 34 – 37 address geographic location. Please refer to the instructions for applicability.

35. Description to Physical Location: ~~401 Obst Road~~ (MGB) Northeast of the intersection of Specht and Obst Road

36. Nearest City	County	State	Nearest ZIP Code
Bulverde	Comal	TX	78163

37. Latitude (N) In Decimal:	29.73896	38. Longitude (W) In Decimal:	98.49107

Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29°	44'	20.3"	98°	29'	27.8"

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 or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

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

SECTION IV: Preparer Information

40. Name:	Miranda G. Briones, E.I.T., LEED® AP	41. Title:	Engineer III

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 375-9000		(210) 375-9010	mbriones@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 9 and/or as required for the updates to the ID numbers identified in field 39.

(See the Core Data Form instructions for more information on who should sign this form.)

Company:	Pape-Dawson Engineers, Inc.	Job Title:	Vice President, Land Development
Name *(In Print)* :	Cara C. Tackett, P.E., LEED® AP	Phone:	(210) 375-9000
Signature:	Cara C. Tackett	Date:	11/04/10

Date: Nov 04, 2010, 9:35am User ID: ROlivarez
File: P:\76\74\00\Design\Environmental\767400-TWPAP(2).dwg

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. 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 (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, 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 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 TEMPORARY OR PERMANENTLY CEASE 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) 490-3096
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 UPGRADIENT 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.

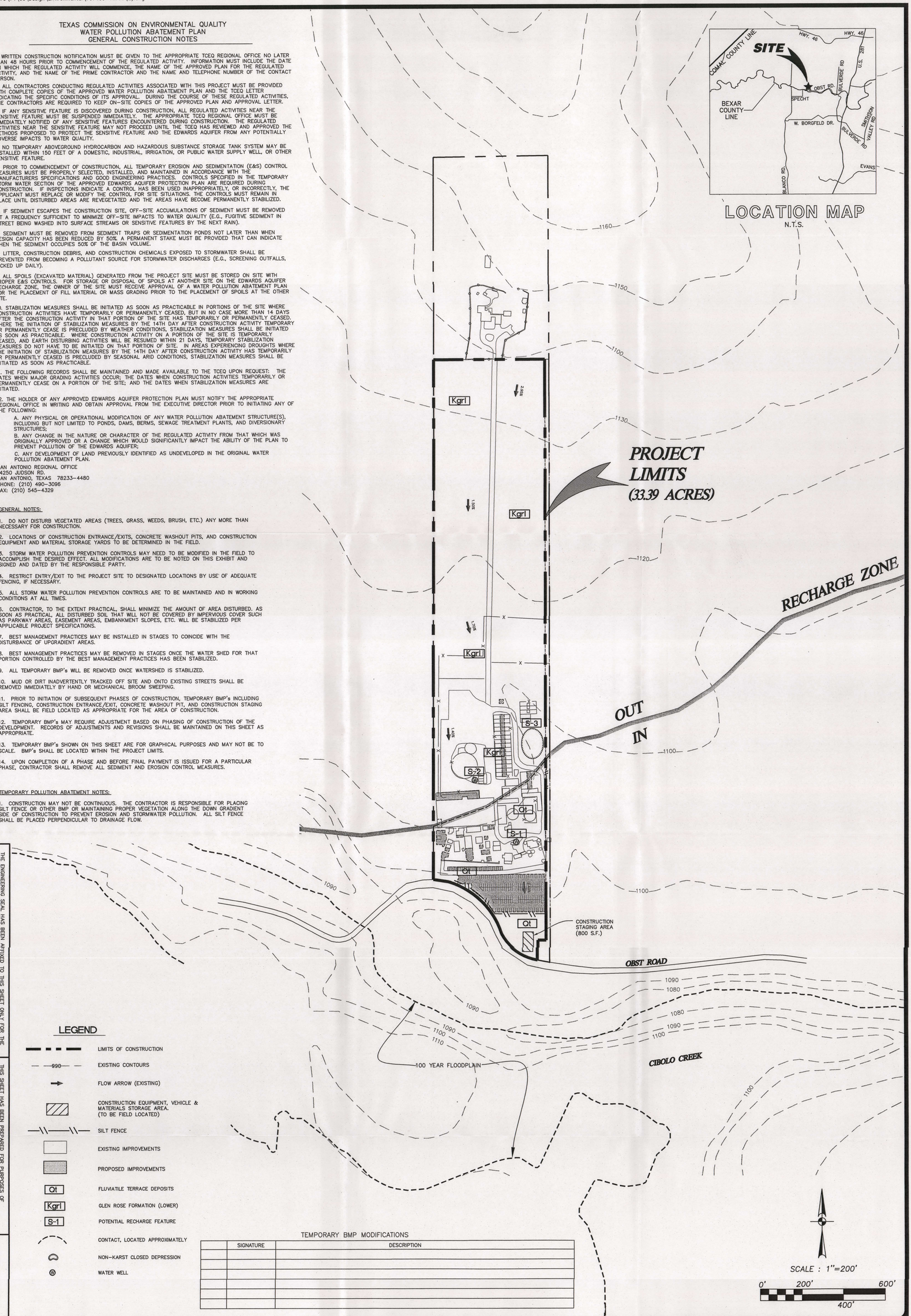
12. TEMPORARY BMP's MAY REQUIRE ADJUSTMENT BASED ON PHASING OF CONSTRUCTION OF THE DEVELOPMENT. RECORDS OF ADJUSTMENTS AND REVISIONS SHALL BE MAINTAINED ON THIS SHEET AS APPROPRIATE.

13. 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.

14. UPON COMPLETION OF A PHASE AND BEFORE FINAL PAYMENT IS ISSUED FOR A PARTICULAR PHASE, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES.

TEMPORARY POLLUTION ABATEMENT NOTES:

1. CONSTRUCTION MAY NOT BE CONTINUOUS. THE CONTRACTOR IS RESPONSIBLE FOR PLACING SILT FENCE OR OTHER BMP OR MAINTAINING PROPER VEGETATION ALONG THE DOWN GRADIENT SIDE OF CONSTRUCTION TO PREVENT EROSION AND STORMWATER POLLUTION. ALL SILT FENCE SHALL BE PLACED PERPENDICULAR TO DRAINAGE FLOW.



LEGEND

- LIMITS OF CONSTRUCTION
- 990 EXISTING CONTOURS
- FLOW ARROW (EXISTING)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA. (TO BE FIELD LOCATED)
- SILT FENCE
- EXISTING IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- Qt FLUVIATILE TERRACE DEPOSITS
- Kgrl GLEN ROSE FORMATION (LOWER)
- S-1 POTENTIAL RECHARGE FEATURE
- CONTACT, LOCATED APPROXIMATELY
- NON-KARST CLOSED DEPRESSION
- WATER WELL

TEMPORARY BMP MODIFICATIONS

	SIGNATURE	DESCRIPTION

SCALE : 1"=200'

0' 200' 600'
400'

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF TEMPORARY WATER 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 TEMPORARY WATER POLLUTION ABATEMENT PLANNING. ADDITIONAL RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 1

TEJAS RODEO
WATER POLLUTION ABATEMENT PLAN
TEMPORARY WATER POLLUTION ABATEMENT PLAN

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

CARA C. TACKETT 89491 LICENSED PROFESSIONAL ENGINEER
11/04/10

REVISIONS:

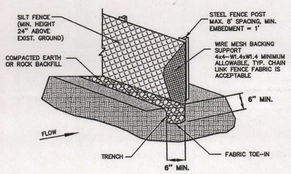
JOB NO. 767400
DATE NOVEMBER, 2010
DESIGNER MSB
CHECKED MSB DRAWN JAG
SHEET 1 OF 1

SILT FENCE

SILT FENCE
A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out. If not properly installed, silt fences are not likely to be effective.

The purpose of a silt fence is to intercept and detain water-born sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.



ISOMETRIC PLAN VIEW

N.T.S.

Schematic of a Silt Fence Installation (NCTCOG, 1993b)

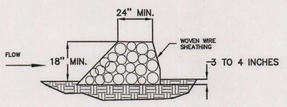
MATERIALS:
(1) Silt fence material should be polypropylene, polyethylene, or polyamide woven or nonwoven fabric. The fabric should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. sieve No.30
(2) Fence posts should be made of hot rolled steel, at least 4 feet long with tee or Y-bar cross section, surface painted or galvanized, minimum weight 1.25 lb/ft, and brindell hardness exceeding 140.
(3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum

INSTALLATION:
(1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Posts must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.
(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
(5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.
(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

COMMON TROUBLE POINTS:
(1) Fence not installed along the contour causing water to concentrate and flow over the fence.
(2) Fabric not seated securely to ground (runoff passing under fence).
(3) Fence not installed perpendicular to flow line (runoff escaping around sides).
(4) Fence treating too large an area, or excessive channel flow (runoff overtops or collapses fence).

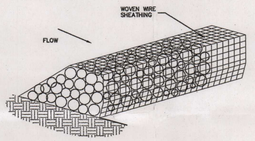
INSPECTION AND MAINTENANCE GUIDELINES:
(1) Inspect all fencing weekly, and after rainfall.
(2) Remove sediment when buildup reaches 6 inches.
(3) Replace torn fabric or install a second line of fencing parallel to the torn section.
(4) Replace or repair sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

SILT FENCE



CROSS SECTION

N.T.S.



ISOMETRIC PLAN VIEW

N.T.S.

Schematic Diagram of a Rock Berm (NCTCOG, 1993)

ROCK BERMS
The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures farther up the watershed.

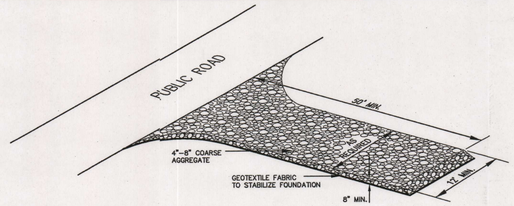
MATERIALS:
(1) The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
(2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

INSTALLATION:
(1) Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.
(2) Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.
(3) Place the rock along the sheathing as shown in the diagram to a height not less than 18".
(4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
(5) Berm should be built along the contour at zero percent grade or as near as possible.
(6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

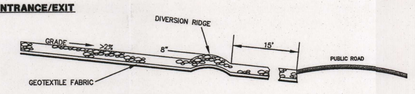
COMMON TROUBLE POINTS:
(1) Insufficient berm height or length (runoff quickly escapes over the top or around the sides of berm).
(2) Berm not installed perpendicular to flow line (runoff escaping around one side).

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

ROCK BERM



SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT



MATERIALS:
(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
(2) The aggregate should be placed with a minimum thickness of 8 inches.
(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd², a mullen burst rating of 140 lb/in², and an equivalent opening size greater than a number 50 sieve.
(4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rock should be included in the plans. Divert wastewater to a sediment trap or basin.

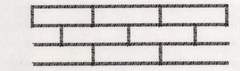
INSTALLATION:
(1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
(2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
(3) The construction entrance should be at least 50 feet long.
(4) If the slope toward the road exceeds 2%, construct a ridge, 6 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.

CROSS-SECTION 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.

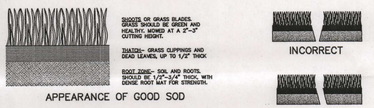
INSPECTION AND MAINTENANCE GUIDELINES:
(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used 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.

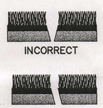
STABILIZED CONSTRUCTION ENTRANCE/EXIT



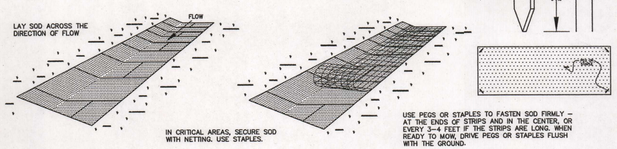
LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

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





NOTES:
- ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.
- WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.
- MOW WHEN THE SOD IS ESTABLISHED – IN 2–3 WEEKS. SET THE MOWER HIGH (2"–3").



MATERIALS:
(1) Sod should be machine cut at a uniform soil thickness of 3/4 inch (± 1/4 inch) at the time of cutting. This thickness should exclude shoot growth and thatch.
(2) Pieces of sod should be cut to the supplier's standard width and length, with a maximum allowable deviation in any dimension of 5%. Torn or uneven pads should not be acceptable.
(3) Standard size sections of sod should be strong enough to support their own weight and retain their size and shape when suspended from a firm grasp on one end of the section.
(4) Sod should be harvested, delivered, and installed within a period of 36 hours.

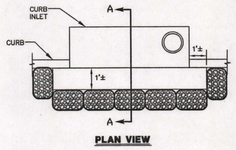
SITE PREPARATION:
(1) Prior to soil preparation, areas to be sodded should be brought to final grade in accordance with the approved plan.
(2) The surface should be cleared of all trash, debris and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.
(3) Fertilize according to soil tests. Fertilizer needs can be determined by a soil testing laboratory or regional recommendations can be made by county agricultural extension agents. Fertilizer should be worked into the soil to a depth of 3 inches with a disc, springtooth harrow or other suitable equipment. On sloping land, the final harrowing or discing operation should be on the contour.

INSTALLATION IN CHANNELS:
(1) Sod strips in waterways should be laid perpendicular to the direction of flow. Care should be taken to butt ends of strips tightly (see Figure above).
(2) After rolling or tamping, sod should be pegged or stapled to resist washout during the establishment period. Mesh or other netting may be pegged over the sod for extra protection in critical areas.

GENERAL INSTALLATION IVA 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 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 as a good root system becomes developed, in the absence of adequate rainfall, watering should be performed as often as necessary to maintain moist soil to a depth of at least 4 inches.
(8) The first mowing should not be attempted until the sod is firmly rooted, usually 2–3 weeks. Not more than one third of the grass leaf should be removed at any one cutting.

INSPECTION AND MAINTENANCE GUIDELINES:
(1) Sod should be inspected weekly and after each rain event to locate and repair any damage.
(2) Damage from storms or normal construction activities such as tire ruts or disturbance of swale stabilization should be repaired as soon as practical.

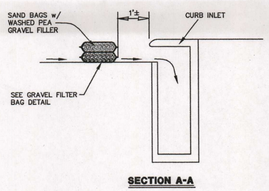
SOD INSTALLATION



PLAN VIEW

PLAN VIEW

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.



SECTION A-A

MATERIALS:
1) 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.

INSPECTION AND MAINTENANCE GUIELINES:
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 disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

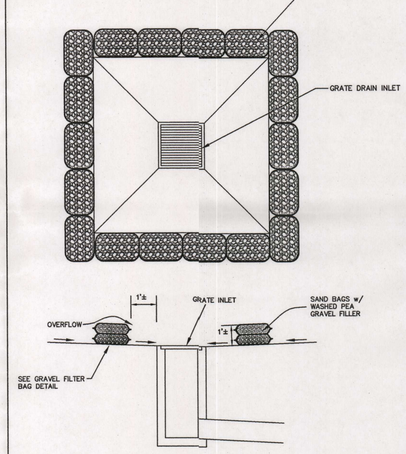
CONCRETE TRUCK WASHOUT PIT

SECTION A-A

GENERAL NOTES:
1) The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around inlets.
2) The bags should be tightly abutted against each other to prevent runoff from flowing between the bags.

INSPECTION AND MAINTENANCE GUIDELINES:
1) Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
2) Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a matter that it will not erode.
3) Check placement of device to prevent gaps between device and curb.
4) Inspect filter fabric and patch or replace if torn or missing.
5) Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

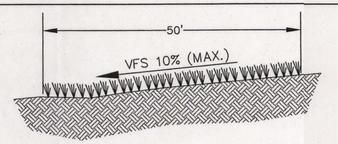
BAGGED GRAVEL CURB INLET PROTECTION



GENERAL NOTES:
1) The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around inlets.
2) The bags should be tightly abutted against each other to prevent runoff from flowing between the bags.

INSPECTION AND MAINTENANCE GUIDELINES:
1) Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
2) Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a matter that it will not erode.
3) Check placement of device to prevent gaps between device and curb.
4) Inspect filter fabric and patch or replace if torn or missing.
5) Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

BAGGED GRAVEL GRATE INLET PROTECTION



NATURAL VEGETATIVE BUFFER DETAIL

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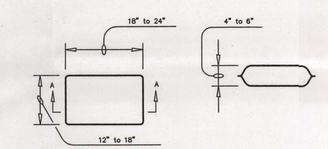
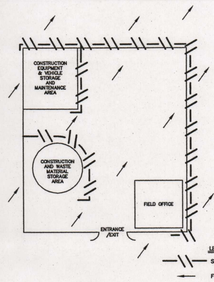


PLAN VIEW **SECTION A-A**

MATERIALS:
1) The filter bag material shall be made of polypropylene, polyethylene or polyamide woven fabric, min. unit weight of 4 ounces/sy, have a Mullen burst strength exceeding 300 psi and ultraviolet stability exceeding 70%.
2) The filter bag shall be filled with clean, medium (washed pea gravel), to course gravel (0.31 to 0.75 inch diameter).

GRAVEL FILTER BAG DETAIL



TYP. CONSTRUCTION STAGING AREA

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

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

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

EXHIBIT 2

REVISIONS:

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

CARA C. TACKETT 89491 LICENSED PROFESSIONAL ENGINEER
11/04/10

TEJAS RODEO
WATER POLLUTION ABATEMENT PLAN
TEMPORARY POLLUTION ABATEMENT PLAN
DETAIL SHEET

JOB NO. 7674-00
DATE NOVEMBER 2010
DESIGNER MGB
CHECKED CCT DRAWN RO
SHEET 1 of 1

Date: Nov 02, 2010, 11:00am User ID: JCarse
File: P:\7674\100\Design\Environmental\WPAP\TMD7674400.dwg

Date: Nov 04, 2010 9:32:41 AM User: JGarza
File: P:\76\74\00\Design\Environmental\WPAP\TejasRodeo_ImperviousCover_With_Proposed_RodeoSite.mxd

N

0 40 80
FEET

LEGEND

- Project Limits
- Existing I.C. Buildings
- Existing I.C. Ground
- Proposed Improvements

MARTIN TREY S III

KAUPERT FORREST J TR

GERGES ANWAR & AMY J

MARTIN TREY S III

MOBILE TRAILORS

FUTURE SHED 0.009 Ac.

EXISTING CALICHE PARKING AREA

EXISTING PENS

EXISTING STOCK TANK

FUTURE ROOF AREA 0.128 Ac.

EXISTING RIDING AREA

EXISTING RIDING AREA

EXISTING COVER

EXISTING PENS

FUTURE ROOF AREA 0.039 Ac.

EXISTING BARN

EXISTING BARN

EXISTING HORSE STABLE

FUTURE ROOF AREA 0.173 Ac.

EXISTING HORSE STABLE

EXISTING ARENA

EXISTING HORSE STABLE

EXISTING RIDING PEN

NEW BLEACHERS

EXISTING I.C. REMOVED

EXISTING I.C. REMOVED

EXISTING I.C. REMOVED

EXISTING WALK-IN COOLER

EXISTING FOOD SERVICE

EXISTING BLEACHERS

RELOCATED CANTINA 0.009 Ac.

EXISTING STORAGE

EXISTING CALICHE DRIVE

FUTURE STEAK HOUSE 0.071 Ac.

NEW ROOF AREA 0.003 Ac.

NEW BAR

EXISTING OUTDOOR DINING

EXISTING OPEN SITTING AREA

RELOCATED MECH. BULL 0.006 Ac.

EXISTING CANTINA TO BE RELOCATED

EXISTING TR 0.007 Ac.

EXISTING OUTDOOR DANCE FLOOR

EXISTING TR

EXISTING BARN

EXISTING STORAGE

EXISTING HOUSE

RELOCATED BLACKSMITH SHOP 0.000 Ac.

FUTURE ROOF AREA OPEN DANCE FLOOR AREA 0.0140 Ac.

FUTURE BILLIARDS ROOM 0.015 Ac.

FUTURE MECH 0.023 Ac.

FUTURE STAGE

FUTURE GIFT SHOP 0.009 Ac.

EXISTING HOUSE

EXISTING STRUCTURE

EXISTING STRUCTURE

FUTURE PARKING AREA 0.150 Ac.

EXISTING CALICHE DRIVE

FUTURE PARKING AREA 1.377 Ac.

MARTIN TREY S III

Future Impervious Cover Totals	
Description	**Acreage**
Buildings (Exist.)	1.5
Buildings (Prop'd)	0.6
Ground (Exist.)	3.0
Ground (Prop'd)	1.5
Totals	**6.6**

JOB NO. 767400
DATE NOVEMBER 2010
DESIGNER MB
CHECKED MB DRAWN JG
SHEET 1 OF 1

TEJAS RODEO PROPERTY
IMPERVIOUS COVER WORKMAP

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

REVISIONS:

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

REGULATED ENTITY NAME: ***Tejas Rodeo Property***

TYPE OF PROJECT: √ WPAP ___ AST ___ SCS ___ UST

LOCATION OF PROJECT: √ Recharge Zone ___ Transition Zone ___ Contributing Zone within the Transition Zone

PROJECT INFORMATION

1. √ Geologic or manmade features are described and evaluated using the attached **GEOLOGIC ASSESSMENT TABLE**.

2. 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.

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Brackett-Rock outcrop – Comfort complex, undulating (BtD)	***B***	***0-2***
Purves clay, 1 to 5 percent slopes (PuC)	***B***	***0-2***
Anhalt clay, 1 to 3 percent slopes (AnB)	***D***	***0-3***
Denton silty clay, 1 to 3 percent slopes (DeB)	***B***	***0-4***

* 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.

3. √ A **STRATIGRAPHIC COLUMN** is attached at the end of this form that shows formations, members, and thicknesses. The outcropping unit should be at the top of the stratigraphic column.

4. √ A **NARRATIVE DESCRIPTION OF SITE SPECIFIC GEOLOGY** is attached at the end of this form. The description must include a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure, and karst characteristics of the site.

5. √ Appropriate **SITE GEOLOGIC MAP(S)** are attached:

The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1" : 400'

Applicant's Site Plan Scale	1" = ***200'***
Site Geologic Map Scale	1" = ***200'***
Site Soils Map Scale (if more than 1 soil type)	1" = ***1,000'***

6. Method of collecting positional data:
   √ Global Positioning System (GPS) technology.
   ___ Other method(s).

7. √ The project site is shown and labeled on the Site Geologic Map.

8. √ Surface geologic units are shown and labeled on the Site Geologic Map.

9. √ 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.

10. √ The Recharge Zone boundary is shown and labeled, if appropriate.

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

   √ There are ***two*** (***2***) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
   ___ The wells are not in use and have been properly abandoned.
   ___ The wells are not in use and will be properly abandoned.
   √ The wells are in use and comply with 16 TAC Chapter 76.
   ___ There are no wells or test holes of any kind known to exist on the project site.

ADMINISTRATIVE INFORMATION

12. √ One (1) original and three (3) copies of the completed assessment has been provided.

Date(s) Geologic Assessment was performed: ***October 6, 2010***
Date(s)

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.

Philip C. Pearce, P.G.
Print Name of Geologist

(210) 375-9000
Telephone

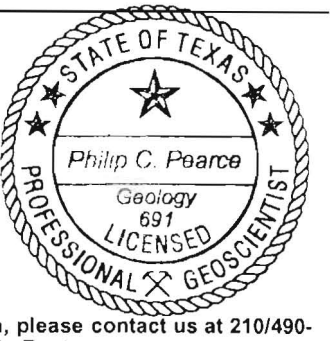
(210) 375-9010
Fax

Signature of Geologist

10-15-10
Date

Representing: ***Pape-Dawson Engineers, Inc.***
(Name of Company)

The following attachments are included and complete this submittal.
**** Attachment A - Geologic Assessment Table***
**** Attachment B - Site Geologic Map***
**** Attachment C - Stratigraphic Column***
**** Attachment D - Narrative of Site Specific Geology***
**** Attachment E - Site Soils Map***
**** Attachment F - References***



If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

GEOLOGIC ASSESSMENT TABLE | PROJECT NAME: TEJAS RODEO PROPERTY

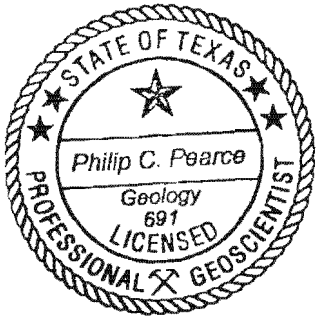
LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILLING	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-1	29°44'16.6"	98°29'25.9"	MB	30	Qt				--	0			--	5	35	35		X		Hillside
S-2	29°44'19.6"	98°29'28.2"	MB	30	Kgrl				--	0			--	5	35	35		X		Hillside
S-3	29°49'21.3"	98°29'24.9"	CD	5	Kgrl	95	147	6	N-S	0			F	5	10	10		X		Hillside

* DATUM: NAD 83

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

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

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



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

Date 10-15-10

Sheet 1 of 1
ATTACHMENT A

TEJAS RODEO PROPERTY

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, rept., 273, 12 pp.]

System	Series	Group		Stratigraphic Unit	Hydrology Unit	Approximate Maximum Thickness (feet)	Character of Rocks	Water Bearing Properties
Cretaceous	Comanche	Trinity	Glen Rose Limestone	Upper member	Upper Trinity	500	Alternating and 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	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	
				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	Not known to yield water
				Sligo Limestone Member	Lower Trinity	120	Sandy dolomitic limestone	Yields small to large quantities of fresh to slightly saline water
				Hosston Sand Member		350	Red and white conglomerate, sandstone, clay stone, shale, dolomite, and limestone	
Pre-Cretaceous rocks							Black, red, and green folded shale, hard massive dolomite limestone, sandstone, and slate	Yield moderate quantities of fresh water in the northern portion of the study area.

Attachment C

TEJAS RODEO PROPERTY

Narrative Description

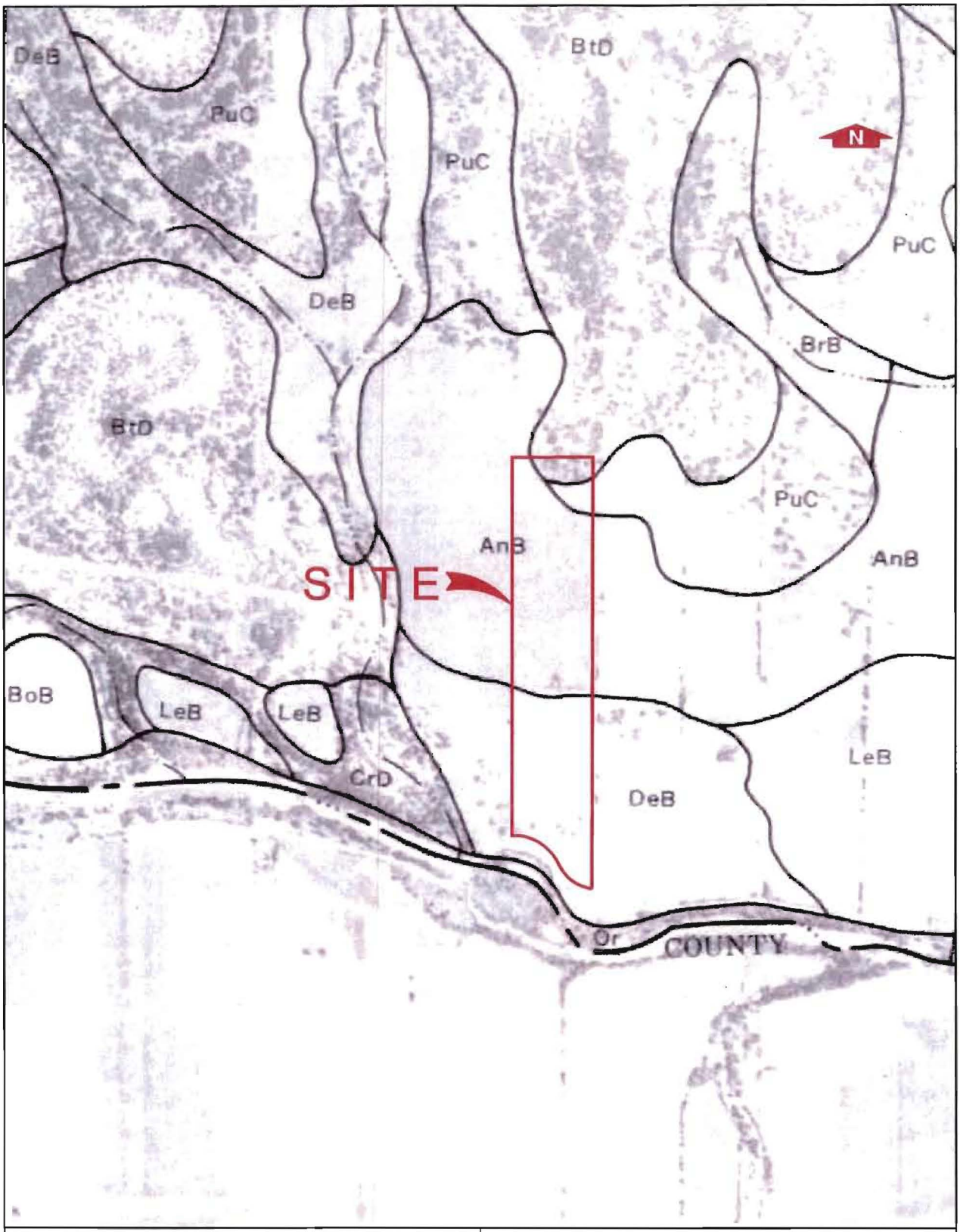
The overall potential for fluid migration to the Edwards Aquifer for the site is low. The site is located within the lower member of the Glen Rose Limestone (Kgrl). Fluviatile terrace deposits (Qt) overlie the Kgrl in the southern portion of the site, The Kgrl is characterized as yellowish-tan massively bedded fossilferous limestone grading upward into thin beds of limestone, dolomite, marl and shale. Karst development in the Kgrl is generally characterized by numerous caves and reefs in the lower portion of the member. No caves or sinkholes were identified onsite.

Features S-1 and S-2

Features S-1 and S-2 are water wells. The wells are equipped with submersible pumps and are in operation. Because the wells have casing above the ground surface and concrete slabs around the casing, the potential for rapid infiltration is low.

Feature S-3

Feature S-3 is a manmade closed depression that serves as a stock tank for livestock on site. Due to ponded water, fine infilling and lack of karst origin, the probability for rapid infiltration is low.



TEJAS RODEO PROPERTY **COMAL COUNTY, TX** **SOILS MAP**	**COMAL COUNTY SOIL SURVEY** **SCALE: 1" = 1000'**
PAPE-DAWSON ENGINEERS 555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010 TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470	**ATTACHMENT E**

Date: Oct 15, 2010, 3:53pm User ID: RPineda
File: P:\76\74\00\Design\Environmental\WPAP\soils.dwg

TEJAS RODEO PROPERTY

References

Arnow, Ted, 1959, Groundwater Geology of Bexar County, Texas: Texas Board of Water Engineers, Bulletin 5911, 62 pp., 18 figs.

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, rept., 273, 12 pp.

Barnes, V.L., 1983, Geologic Atlas of Texas, San Antonio Sheet, Bureau of Economic Geology, The University of Texas at Austin, Texas.

Clark, C.S., Pritchett, J.W., & Spence, E.V., Feb 1947, Geology and Ground-Water Resources of Comal County, Texas, Texas Board of Water Engineers - United States Department of the Interior, Geological Survey, 17-22 pp.

Federal Emergency Management Agency (FEMA), July 17, 1995, Comal County, Texas and Incorporated areas, Flood Insurance Rate Map (FIRM), Panel 4854630055 D, FEMA, Washington, D.C.

Maclay, R.W., and Small, T.A., 1976, Progress Report on the Geology of the Edwards Aquifer, San Antonio Area, Texas and Preliminary Interpretation of Borehole Geophysical and Laboratory Data on Carbonate Rocks: U.S. Geol. Survey open file rept., 76-627, 62 pp., 20 figs.

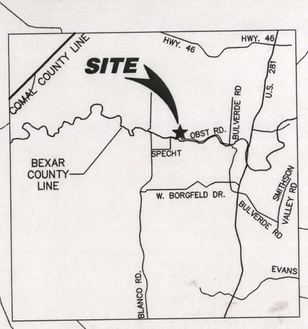
Stein, W.G., and Ozuna, G.B., 1995, Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas: U.S. Geol. Survey, Water - Resources Investigations 95-4030, 8 pp., 2 figs.

Texas Natural Resource Conservation Commission, 1999, Edwards Aquifer Recharge Zone Map, Bulverde Quadrangle, TNRCC, San Antonio, Texas.

United States Department of Agriculture, 1984, Soil Survey - Comal County, Texas, USDA.

United States Geologic Survey, 1988, (USGS), Bulverde Quadrangle, USGS, Denver, Colorado.

Date: Oct 15, 2010, 3:50pm User ID: RPinedo
File: P:\76\74\00\Design\Environmental\WPAP\geology.dwg



LOCATION MAP
N.T.S.

Kgrl

PROJECT LIMITS

Kgrl

RECHARGE ZONE

Kgrl

OUT

IN

S-3

Kgrl

S-2

Qt

S-1

Qt

Qt

OBST ROAD

100 YEAR FLOODPLAIN

CIBOLO CREEK

LEGEND

Qt	FLUVIATILE TERRACE DEPOSITS
Kbu	BUDA LIMESTONE
Kdr	DEL RIO CLAY
Kgt	GEORGETOWN FORMATION
Kep	PERSON FORMATION
Kek	KAINER FORMATION
Kgru	GLEN ROSE FORMATION (UPPER)
Kgrl	GLEN ROSE FORMATION (LOWER)
S-1	POTENTIAL RECHARGE FEATURE
	DRAINAGE PATHWAY
	CONTACT, LOCATED APPROXIMATELY
U D	FAULT, LOCATED APPROXIMATELY (D, 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
C	CAVE
	NON-KARST CLOSED DEPRESSION
	SINKHOLE
	SOLUTION CAVITY
	OTHER NATURAL BEDROCK FEATURES: VUGGY ROCK, REEF DEPOSITS
	ZONE
MH	MAN-MADE FEATURE IN BEDROCK
W	WATER WELL
SS	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.

STATE OF TEXAS
Philip C. Pearce
Geology
69
LICENSED
PROFESSIONAL GEOSCIENTIST

10-15-10

SCALE : 1"=200'

0' 200' 600'
400'

ATTACHMENT B

JOB NO. 7674-00
DATE OCTOBER 2010
GEOLOGIST RCP
CHECKED RCP DRAWN RCP

TEJAS RODEO
WATER POLLUTION ABATEMENT PLAN
SITE GEOLOGIC MAP

PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO, TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010
TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

REVISIONS:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 19, 2010

Mr. Scott Turpin
T Bar M, Inc.
8201 Preston Rd.
Dallas, Texas 75225

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: T Bar M; Located on the south side of SH 46 West approximately 0.5 miles north of FM 1863 and SH 46; New Braunfels, Texas
TYPE OF PLAN: Request for Extension of Time to Commence Regulated Activities Authorized by a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program File No. 1899.02, Investigation No. 849297, Regulated Entity Number: RN102745502

Dear Mr. Turpin:

On July 22, 2010, the Texas Commission on Environmental Quality (TCEQ) received your request for an extension of time to commence regulated activities related to the above referenced WPAP approval. Final review of the request was completed after additional material was received on October 4, 2010. The request has been reviewed for compliance with 30 TAC §213.4(h) and §213.13 which set forth the procedures for requesting an extension of time to commence regulated activities authorized by the approval and was found to be in general agreement with these procedures. Therefore, the request for an extension to the term of approval for the referenced project is granted. A summary of the dates of approval and expiration is enclosed.

Date of Original Approval:	July 29, 2008
Date of Expiration:	July 29, 2010
Date Extension Request Received	Date of Extension Expiration
July 22, 2010	January 29, 2011

The request and fee were received in compliance with 30 TAC §213.4(h) and §213.13. As indicated in the rules, an extension may not be granted if the proposed regulated activity or approved plan for the regulated activity has changed. As understood, there will be no changes or modifications to the originally approved plan. This request for extension expires on January 29, 2011. Should construction not commence before the end of the six (6) month period, another request for extension would be required to keep the Edwards Aquifer Protection Plan validated.

If you have any questions or require additional information, please contact Javier Anguiano of the Edwards Aquifer Protection Program with the San Antonio Regional Office at (210) 403-4019.

Sincerely,

for Mark R. Vickery, P.G., Executive Director
Texas Commission on Environmental Quality

MRV/JA/eg

cc: Mr. James C. Klein, P.E., City of New Braunfels
Mr. Thomas Hornseth, P.E., Comal County
Mr. Karl J. Dreher, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 15, 2010

Mr. Robert J. Weiss, Jr.
Ralph E. Fair, Inc.
30260 Saratoga Lane
Fair Oaks Ranch, Texas 78015

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Comal County Unit 9 (Cibolo Trails Phase 3); located on the east side of Battle Intense, south of Keeneland Drive, Fair Oaks Ranch, Texas
TYPE OF PLAN: Request for the Approval of an Organized Sewer Collection System (SCS) Plan; 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer and Chapter 217 Design Criteria for Domestic Wastewater Systems
Edwards Aquifer Protection Program File No. 2937.00
Regulated Entity No: RN105952378
Investigation No. 842181
Additional ID No. 13-10062901

Dear Mr. Weiss:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the organized SCS plans and specifications of the referenced project submitted to the San Antonio Region Office on behalf of the Ralph E. Fair, Inc. by Alamo Consulting Engineering & Surveying, Inc. (ACES) on June 29, 2010. Final review of the SCS was completed after additional material was received on August 13, 2010, September 24, 2010, October 14, 2010, and October 15, 2010. As presented to the TCEQ, the construction documents were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213 and Chapter 217. Therefore, based on the Texas Licensed Professional Engineer's concurrence of compliance, the planning materials for construction of the proposed sewage collection system and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed SCS consists of approximately 2,048 linear feet of 8-inch diameter PVC SDR 26 115-psi stiffness, 160-psi pressure pipe and joints (ASTM D2241, ASTM D3139), including manholes, lateral stub-outs, and other appropriate appurtenances. The proposed SCS will provide wastewater disposal service for a 38-lot, single-family residential development.

The SCS will be connected to existing Fair Oaks Ranch Utilities wastewater lines for conveyance to the Fair Oaks Ranch Utilities Wastewater Treatment Plant for treatment and disposal. The project is located within the City of Fair Oaks Ranch and will conform to all applicable codes, ordinances, and requirements of the City of Fair Oaks Ranch, including those of Fair Oaks Ranch Utilities.

GEOLOGY

The geologic assessment states that Quarternary alluvium and terrace deposits underlie the surface soil and that those deposits overlie the Glen Rose Formation at the site. Two features, existing man-made sewer line manholes, were identified within 50 feet of the proposed SCS location and were assessed as not sensitive.

A site investigation was conducted on September 8, 2010, by John Barry of the San Antonio Regional Office, accompanied by Paul Schroeder, P.E., R.P.L.S., of ACES. The site of the proposed SCS was found fill-altered, but otherwise generally as described in the application.

SPECIAL CONDITIONS

I. It is emphasized that where wastewater lines must bridge faults, caverns, sinkholes, or solution features the lines shall be constructed in a manner that will maintain the structural integrity of the pipe. When such sensitive features are encountered, 30 TAC §213.5(f)(2) requires that, all regulated activities near the feature must be immediately suspended and the owner/developer shall immediately notify the San Antonio Regional Office. Additionally, when such geologic features are encountered which are bridged by construction, the location and extent of those features must be assessed by a geologist and must be reported to the San Antonio Regional Office in writing within two working days of discovery as required by 30 TAC §213.5(c)(3)(K). Construction may not resume in the area of the feature until the executive director has reviewed and approved the methods proposed to protect the aquifer from any potential adverse impacts. See Standard Condition 10 below.

II. By the responsible Engineer's dated signature and seal on the submitted Engineering Design Report attached to this application, all the information therein accurately reflects the information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer in accordance with the requirements of 30 TAC §213.5(c) and Chapter 217.

III. Because this proposed SCS may be subject to further review by other entities, any resulting change to the SCS as hereby approved must be addressed to the TCEQ as a possible plan modification. See Standard Condition 5 below.

IV. The applicant shall provide all contractors with a copy of pages 1-35 through 1-60 of TCEQ TGM RG-348 (2005) as a guide for soil stabilization practices and assure that any temporary soil stabilization is performed in accordance with these practices.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

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

Prior to Commencement of Construction:

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

5. Modification to the activities described in the referenced SCS 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.

6. 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.

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

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213 and Chapter 217. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume responsibility for all provisions and conditions of this approval.

9. 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.

10. 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.

11. The following records shall be maintained by the applicant and made available to the executive director upon request: the dates trenching 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 and completed.

12. 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.

13. Intentional discharges of sediment laden stormwater during construction are not allowed. If dewatering of excavated areas becomes necessary, the discharge will be filtered through appropriately selected temporary best management practices. These may include vegetative filter strips, sediment traps, rock berms, silt fence rings, etc.

14. No part of the system shall be used as a holding tank for a pump-and-haul operation.

After Completion of Construction:

15. Certification by a Texas Licensed Professional Engineer of the testing of sewage collection systems required by 30 TAC Chapter 213 and Chapter 217 shall be submitted to the San Antonio Regional Office within 30 days of test completion and prior to the new sewage collection system being put into service. The certification should include the project name as it appeared on the approved application, the program ID number, and two copies of a site plan sheet(s) indicating the wastewater lines that were tested and are being certified as complying with the appropriate regulations.

16. Every five years after the initial certification, the sewage collection system shall be retested. Any lines that fail the test must be repaired and retested. Certification that the system continues to meet the requirements of 30 TAC Chapter 213 and Chapter 217 shall be submitted to the San Antonio Regional Office. The certification should include the project name as it appeared on the approved application, the program ID number and two copies of a site plan sheet(s) indicating the wastewater lines that were tested and are being certified as complying with the appropriate regulations.

17. If ownership of this organized sewage collection system is legally transferred (e.g., developer to city or Municipal Utility District), 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.

18. 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.

If you have any questions or require additional information, please contact John Barry of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4057.

Sincerely,

Richard Garcia

for Mark R. Vickery, P.G.
Executive Director
Texas Commission on Environmental Quality

MRV/JB/eg

cc: Mr. Paul Schroeder, P.E., R.P.L.S., ACES
The Honorable Dan Kasprowicz, City of Fair Oaks Ranch
Mr. Thomas Hornseth, P.E., Comal County Engineer
Mr. Brad Groves, Trinity Glen Rose Groundwater Conservation District
Mr. Karl Dreher, Edwards Aquifer Authority
TCEQ Central Records, MC 212

PAPE-DAWSON ENGINEERS

RECEIVED
JUL 24 2015
COUNTY ENGINEER

July 13, 2015

Mr. Michael Isley
TCEQ Region 13
14250 Judson Rd
San Antonio, TX 78233

RECEIVED TCEQ
2015 JUL 13 PM 4:20
SAN ANTONIO
REGION

Re: Tejas Rodeo
Water Pollution Abatement Plan;
30 TAC Chapter 213
Regulated Entity No. RN 106035074; Additional ID No. 13-15052702;
Investigation No. 1254085

Dear Mr. Isley:

The following are responses to the WPAP comments from your office dated June 29, 2015, regarding the above referenced project.

1. For the irrigation/retention PBMP, provide drawings notes/details identifying compliance with RG-348 for the following items:
   a. Pumps (3.4.3 Design Criteria (5))
   Response: Reference attached Sheets LI1.0, LI1.1, LI1.2, and Exhibit 4 (C3.00) for Basin "A" and Irrigation Wet Well details. Revisions include:
      - ***irrigation pump specifications noted as items 1-3***
      - ***added high/low-pressure pump shut-off system***
      - ***added 12" gate valve outside the wet well***

   b. Alarm (red light) and signage (3.4.3 Design Criteria (6)).
   Response: Reference attached Sheet LI1.2 for alarm system notes identifying compliance with RG-348, 3.4.3 (6).

   c. Splitter box (3.43 Design Criteria (9)). The basin should be designed as an offline facility, with a splitter box designed to convey the 25-year storm while providing at least 1.0 foot of freeboard along basin side slopes.
   Response: Reference Exhibit 5 (C3.01). The splitter box is detailed in Cross Section B-B. The water quality volume is isolated at elevation 1107.64. The minimum top of basin elevation is 1110.00 which provides at least 1.0 foot of freeboard along basin side slopes.

d. Irrigation system (3-4-3 Design Criteria (11)). All irrigation system distribution and lateral piping (i.e., from the pumps to the spray heads) shall be Schedule 80 PVC. Identify if piping will pass beneath roads and other paved surfaces. All piping shall be marked to indicate they contain nonpotable water, etc.
Response: Reference Exhibit 3 and Sheets LI1.0, LI1.1, and LI1.2. The irrigation system is depicted along fence lines within pastures at the north end of the property. Revisions include the following:
- ***Added irrigation system specifications***
- ***Added 6" PVC Class 200 sleeve under driveway***
- ***Added non-potable water signage in two locations***

e. Valves (3.4.3 Design Criteria (12)). Show all valves. All valves should be designed specifically for sediment bearing water and be of appropriate design for the intended purpose, etc.
Response: Reference Sheets LI1.0, LI1.1, LI1.2, and Exhibit 3. Valves are illustrated on the irrigation system layout. Reference irrigation system specifications (note 4, Exhibit 3).

f. Sprinklers (3.4.3 Design Criteria (13)).
Response: Reference Exhibit 3 and Sheets LI1.0, LI1.1, and LI1.2. Irrigation heads appropriate for the intended purpose are specified. Also reference irrigation system specifications (note 5, Exhibit 3).

2. Provide details and specifications for the tanks and for rainwater harvesting in general.
a. Provide design details for the storage tanks, foundation(s), pumps, irrigation systems and tank drainage piping and connections with gutters, piping cleanouts, alarm systems, non-potable markings, etc.
Response: Rainwater collection tanks will be supplied by a vendor that provides rainwater harvesting design and installation service. Larger systems required at this site collect water from multiple downspouts and are custom-designed to suit the specific catchment area, site location, and water end use. Therefore, specific details related to tank plumbing are not available until a contractor has been selected. The rainwater collection tanks will be sized to capture the first 1.5" rain event in accordance with RG-348. Rainwater collected in the tanks will be manually transferred to a portable spray tank to moisture condition the soil inside the rodeo arena. Referenced Rainwater Collection Specification notes and table added to Exhibit 3.

b. Explain in the IMRR how sediment will be removed and if personnel will enter the tanks to remove sediment and how entry would be in compliance with OSHA regulations. If and when entry is necessary, provide tanks capable of being entered (hatch sizing, structural strength, access to tank hatch, etc.).
Response: Rainwater collection tanks will include access for clean-out of sediment. Specific methods detailing compliance with OSHA regulations are not part of the scope of the WPAP.

3. Please provide an explanation of why existing impervious cover was determined to be that which was installed before 1997. Please be aware that WPAP's were required for commercial developments beginning in December 1984. Please adjust the application text, tables, and drawings where the summaries are addressed, as applicable. If revisions to the PBMP calculations are necessary, please revise.
Response: The source of the 1997 date referenced in the plans is from 30 TAC 213.1 "Source Note: The provisions of this §213.1 adopted to be effective December 27, 1996, 21 TexReg 12125; amended to be effective September 1, 2005, 30 TexReg 4984". Regardless, the home structures fronting Obst Road have been in existence in excess of 100 years according to the property owner. Revisions to the PBMP calculations are not required.

4. The IC table uses 23.50 acres to determine percentage of impervious cover instead of 23.09. Various values are given for impervious cover in the application; 7.707 acres of proposed impervious cover is shown in Attachment C of Form 0587 yet the IC table uses 7.85 acres. Explain and revise, as necessary.
Response: 7.85 acres is the total impervious acreage for all watersheds considered whereas 7.707 acres is the impervious area for all onsite areas. Attachment C of Form 0587 is correct while the IC Table, Table 2 shown in the exhibits and on Exhibit 3, "The Permanent Water Pollution Abatement Plan Site Plan" have been revised to additionally show onsite/offsite impervious areas and a revised calculation for percent impervious.

Sincerely,
Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470

Shauna L. Weaver

Shauna L. Weaver, P.E.
Vice President

Attachments

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