CIBOLO CANYON GOLF COURSES, SOUTH COURSE HOLE #5 TEE EXPANSION

Exception Request Application

August 2019

CIBOLO CANYON GOLF COURSES, SOUTH COURSE HOLE #5 TEE EXPANSION

Exception Request Application

STATE OF TEXAS
JASON T. DIAMOND
96532
LICENSED
PROFESSIONAL ENGINEER

Jason T. Diamond
8/12/19

August 2019

Texas Board of Professional Engineers, Firm Registration # 470

PAPE-DAWSON ENGINEERS

PAPE-DAWSON ENGINEERS

August 12, 2019

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

Re: Cibolo Canyons Golf Courses, South Course Hole #5 Tee Expansion
RN 105015085, Additional ID No. 13000614
Recharge & Transition Zone Exception Application

Dear Mr. Sadlier:

Please find attached one (1) original, one (1) copy and one (1) digital copy of the Cibolo Canyons Golf Courses South Course Hole #5 Tee Expansion Recharge & Transition Zone Exception Application. This Recharge & Transition Zone Exception Application has been prepared in accordance with the Texas Administrative Code (30 TAC 213) and current policies for development over the Edwards Aquifer Recharge Zone.

This Recharge & Transition Zone Exception Application applies to an approximate 0.4-acre site as identified by the project limits. Please review the plan information for the items it is intended to address. If acceptable, please provide a written approval of the plan in order that construction may begin at the earliest opportunity.

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

Sincerely,
Pape-Dawson Engineers, Inc.

Jason T. Diamond

Jason T. Diamond, P.E., CFM
Vice President

STATE OF TEXAS
JASON T. DIAMOND
96532
LICENSED
PROFESSIONAL ENGINEER

Attachments

P:\63\05\05\Word\Reports\Exception Request\WPAP Cover Letter.docx

EDWARDS AQUIFER APPLICATION COVER PAGE (TCEQ-20705)

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.
3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or 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: Cibolo Canyons Golf Courses, South Course Hole #5 Tee Expansion						**2. Regulated Entity No.:** 105015085			
3. Customer Name: BREIT JWM San Antonio, LP						**4. Customer No.:** 605573229			
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):**		527.5
9. Application Fee:	$500		**10. Permanent BMP(s):**						
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**					N/A	
13. County:	Bexar		**14. Watershed:**					Elm Waterhole Creek	

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	__	__	__
Region (1 req.)	__	__	__
County(ies)	__	__	__
Groundwater Conservation District(s)	__Edwards Aquifer Authority __Barton Springs/ Edwards Aquifer __Hays Trinity __Plum Creek	__Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	__Austin __Buda __Dripping Springs __Kyle __Mountain City __San Marcos __Wimberley __Woodcreek	__Austin __Bee Cave __Pflugerville __Rollingwood __Round Rock __Sunset Valley __West Lake Hills	__Austin __Cedar Park __Florence __Georgetown __Jerrell __Leander __Liberty Hill __Pflugerville __Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	✓	__	__	__	__
Region (1 req.)	✓	__	__	__	__
County(ies)	✓	__	__	__	__
Groundwater Conservation District(s)	✓ Edwards Aquifer Authority ✓Trinity-Glen Rose	__Edwards Aquifer Authority	__Kinney	__EAA __Medina	__EAA __Uvalde
City(ies) Jurisdiction	__Castle Hills __Fair Oaks Ranch __Helotes __Hill Country Village __Hollywood Park ✓San Antonio (SAWS) __Shavano Park	__Bulverde __Fair Oaks Ranch __Garden Ridge __New Braunfels __Schertz	NA	__San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Jason T. Diamond, P.E.
Print Name of Customer/Authorized Agent
Jason T. Diamond 8-12-19 Signature of Customer/Authorized Agent Date

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

GENERAL INFORMATION FORM (TCEQ-0587)

General Information Form

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Jason T. Diamond, P.E.

Date: 8/12/19

Signature of Customer/Agent:

Jason T. Diamond

Project Information

1. Regulated Entity Name: Cibolo Canyon Golf Courses, South Course Hole #5 Tee Expansion
2. County: Bexar
3. Stream Basin: Elm Waterhole Creek
4. Groundwater Conservation District (If applicable): Trinity Glen Rose
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

Contact Person: Scott Spurlock, Vice President
Entity: BREIT JWM San Antonio LP
Mailing Address: 345 Park Avenue
City, State: New York, New York Zip: 10154
Telephone: (973) 866-2055 FAX: _____
Email Address: sspurlock@brehotels.com

8. Agent/Representative (If any):

Contact Person: Jason T. Diamond, 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: jdiamond@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, head north on Judson Road approximately 2.5 miles to Loop 1604. Travel west approximately 1.9 miles to Bulverde Road. Then proceed north on Bulverde Road, approximately 3.3 miles to Evans Road. Travel east on Evans Road for 1.4 miles to TPC Pkwy, Travel north on TPC Parkway for approximately 0.8 miles to Resort Pkwy. Travel north on Resort Pkwy approximately 0.5 miles. The golf courses are located east of Resort Pkwy and behind the existing hotel.

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

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

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

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

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

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

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

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

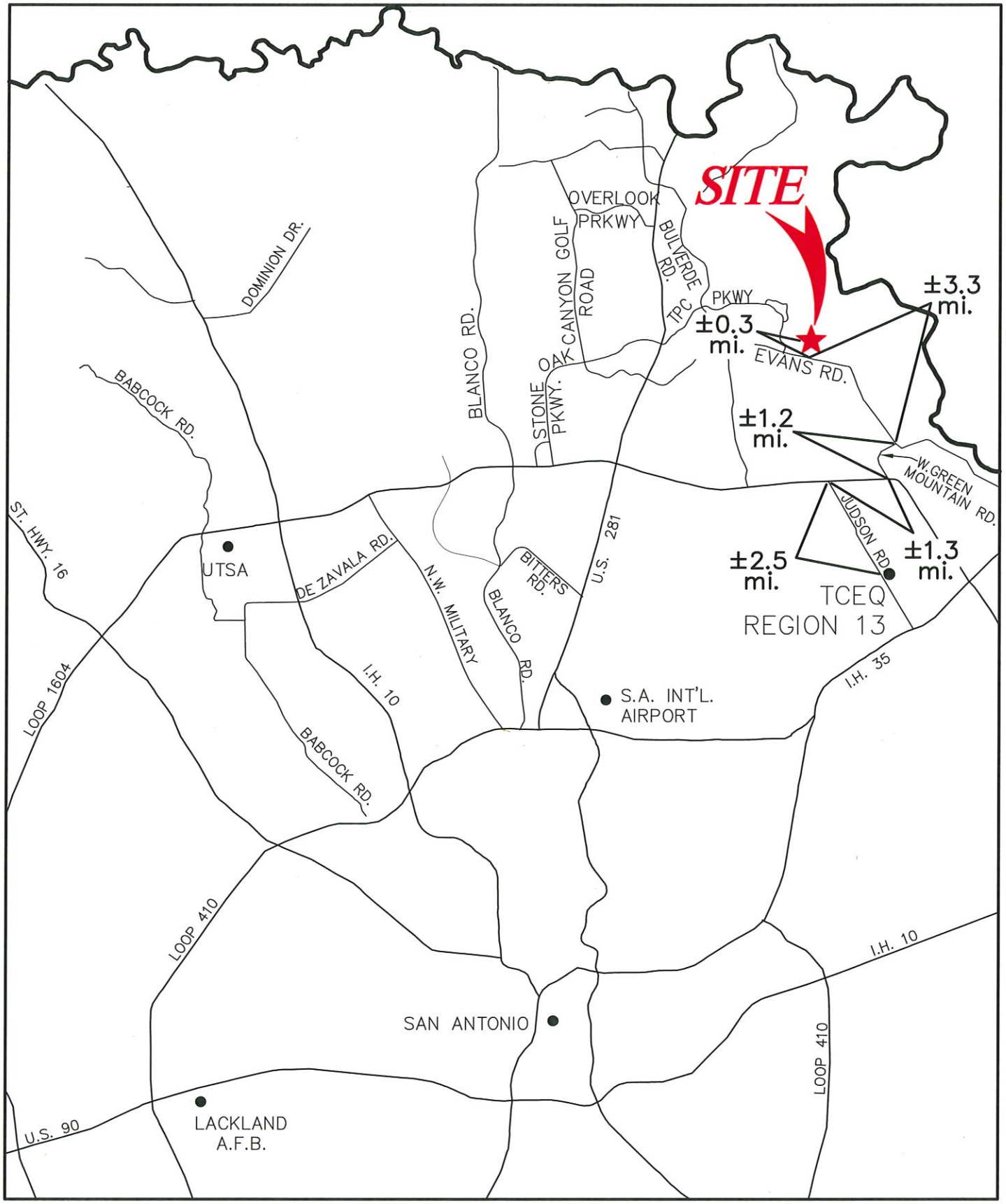
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

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

ATTACHMENT A

CIBOLO CANYONS GOLF COURSES
SOUTH GOLF COURSE HOLE #5 TEE
Exception Request

N
NOT TO SCALE



Pape-Dawson Engineers, Inc.
Date: Aug 09, 2019, 4:44pm User ID: ROlivarez
File: P:\63\05\05\Design\Environmental\Exception Request\RM630505.dwg

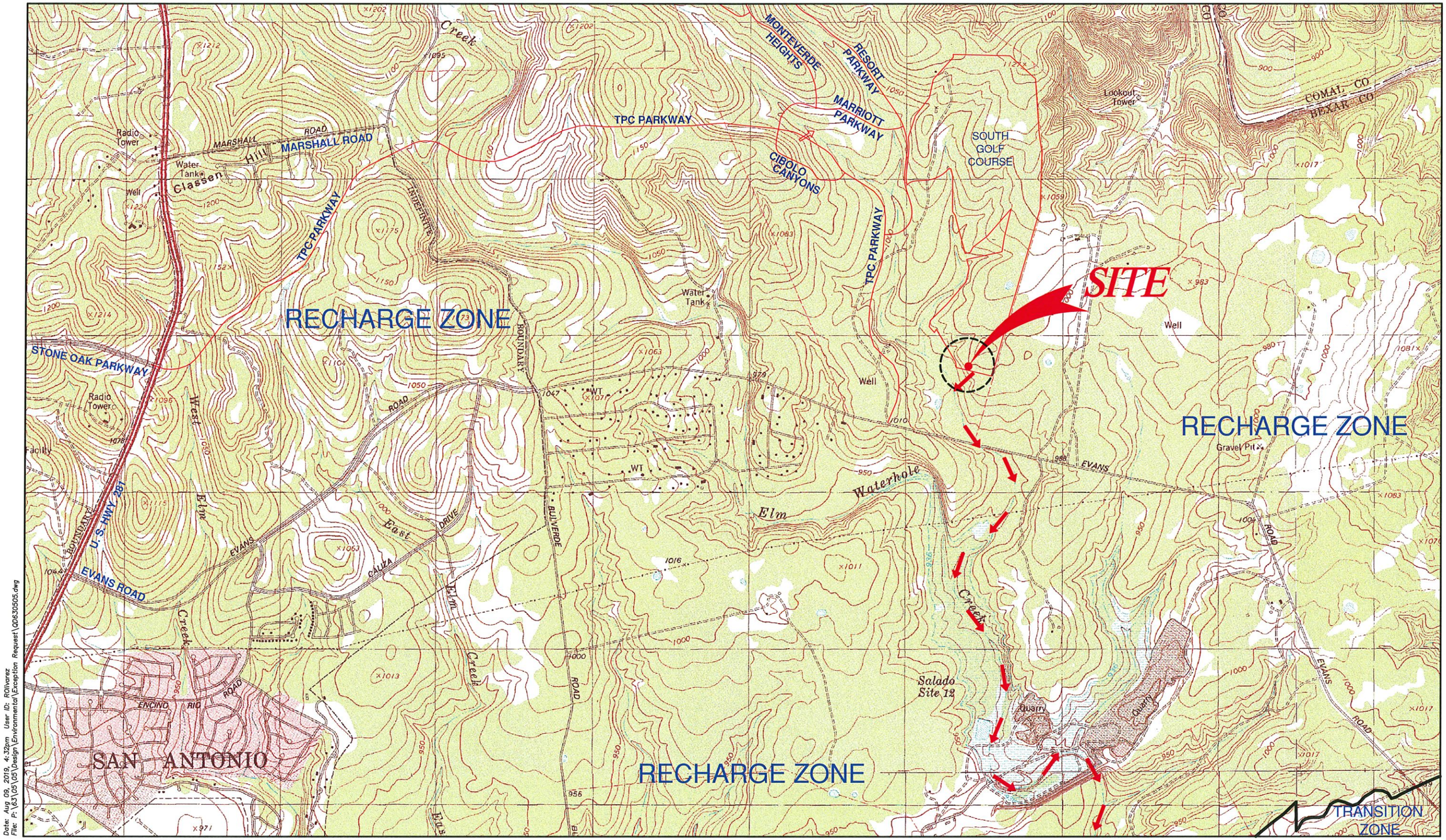
ATTACHMENT A
Road Map

ATTACHMENT B

CIBOLO CANYONS GOLF COURSES
SOUTH COURSE HOLE #5 TEE
Exception Request

N

SCALE: 1" = 2000'



Date: Aug 09, 2019, 4:32pm User ID: ROlivarez
File: P:\63\05\05\Design\Environmental\Exception Request\QD630505.dwg

GENERAL LOCATION MAP - BULVERDE, TX QUAD;
LONGHORN, TX QUAD
DRAINAGE FLOW → →

Pape–Dawson Engineers, Inc.

MATCHLINE See Sheet 2 of 2

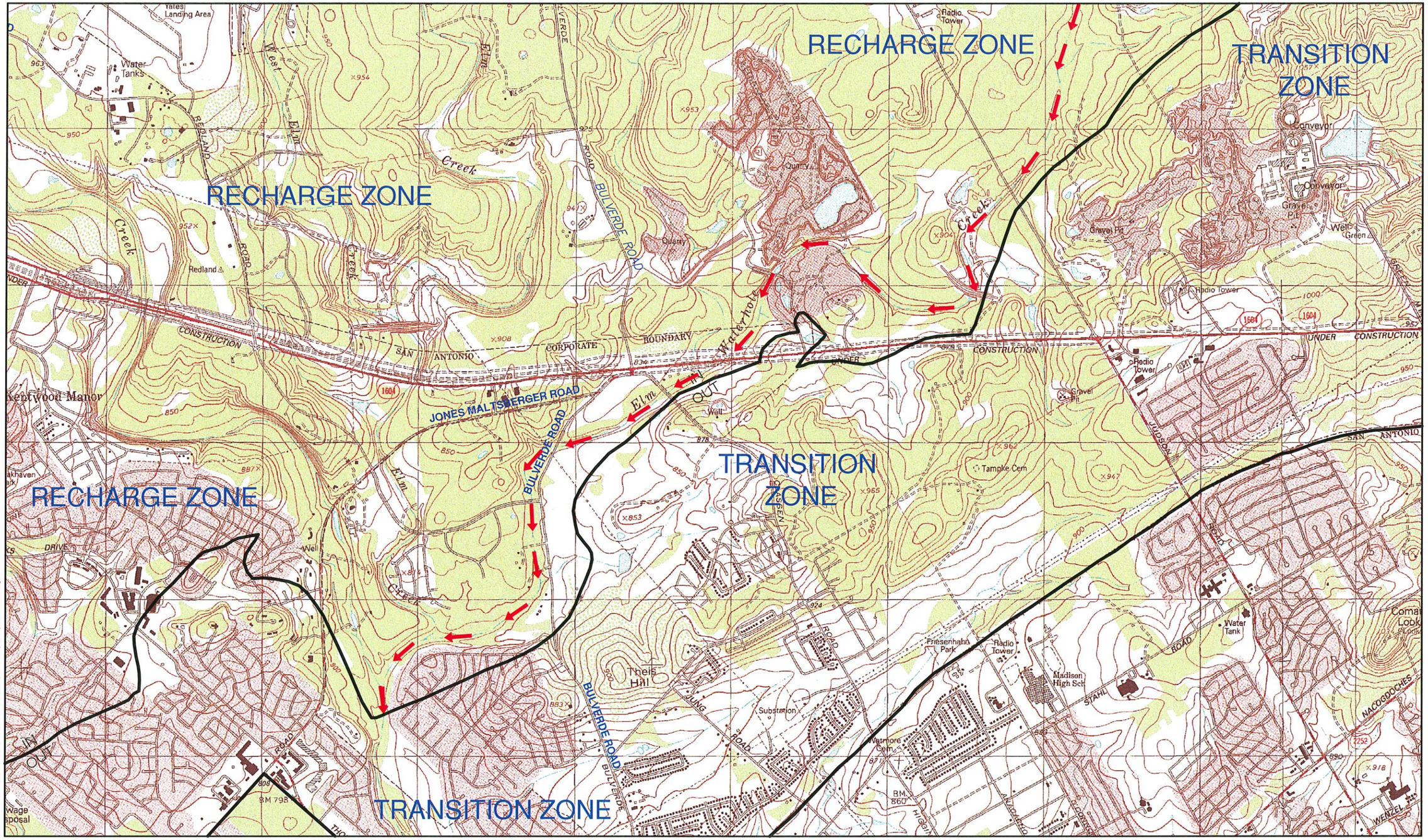
USGS/EDWARDS RECHARGE ZONE MAP
Sheet 1 Of 2
ATTACHMENT B

CIBOLO CANYONS GOLF COURSES
SOUTH COURSE HOLE #5
Exception Request

N

SCALE: 1" = 2000'

MATCHLINE See Sheet 1 of 2



GENERAL LOCATION MAP - BULVERDE, TX QUAD;
LONGHORN, TX QUAD
DRAINAGE FLOW → →
Pape–Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP
Sheet 2 Of 2
ATTACHMENT B

Date: Aug 09, 2019, 2:46pm User ID: RDiaz
File: P:\63\05\05\Design\Environmental\Exception Request\06530505.dwg

ATTACHMENT C

Attachment C – Project Narrative

The Cibolo Canyons Golf Courses, Maintenance Facility, and Tournament Special Use Areas is a recreational development located approximately 2.2 miles east of the intersection of TPC Parkway and Bulverde Road. The project consists of two 18-hole golf courses (the North Golf Course and the South Golf Course), a golf maintenance facility, and three tournament special use areas used for parking and staging before, during, and after tournaments. The development is located within the extra-territorial jurisdiction (ETJ) of San Antonio in Bexar County, Texas and lies entirely over the Edwards Aquifer Recharge Zone.

The JW Marriot is preparing to expand the Hole #5 tee box on the southern golf course to add additional length to the hole to improve the playability. The proposed tee box will be graded off of the existing tee box complex to the south east and will increase the playing distance on the hole by an additional 50 yards. This location is "clouded" accordingly on Exhibits included with this request. The total area is within the boundaries of the existing golf course.

On April 12, 2018, the TCEQ approved the WPAP MOD V for the Cibolo Canyons Golf Courses, which proposed the construction of a golf hitting bay facility within the existing golf course facility. The total impervious cover at that time was 19.42 acres or approximately 3.39 percent of the overall 573.02-acre site. The proposed tee box expansion is within an area that drains to the existing south golf course collection/transfer pond S-G as approved in the prior modifications to the original plan approved on November 8, 2006 and subsequently modified.

This new tee box will not affect the existing collection/transfer pond S-G which serves as the permanent pollution abatement measure for this portion of the golf course including this tee box expansion. There will not be an increase in impervious cover associated with this tee box expansion and it will not affect land not already covered in an approved water pollution abatement plan. The improvements proposed with this Exception Request will not have any associated permanent population nor will they generate additional wastewater. No naturally-occurring sensitive features were identified in the Geologic Assessment within the project limits.

GEOLOGIC ASSESSMENT FORM (TCEQ-0585)

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Geologist: Amanda L. Miller Telephone: 210-375-9000

Date: 29 MAY 2015 Fax: 210-375-9090

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

Signature of Geologist:

STATE OF TEXAS
Amanda L. Miller
Geology
11413
LICENSED
PROFESSIONAL GEOSCIENTIST

Regulated Entity Name: CIBOLO CANYONS GOLF COURSE

Project Information

Date(s) Geologic Assessment was performed: August 15, 2000 through January 26, 2001; March 7 - May 23, 2002; August 19 - 22, 2002; September 3-5, 2002; October 30 - 31, 2006 and May 18, 2015.

1. Type of Project:

   ☒ WPAP ☐ AST
   ☐ SCS ☐ UST

2. Location of Project:

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

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

4. ☒ 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)
Crawford & Bexar stony soils (Cb)	D	2-3
Tarrant association, gently undulating (TaC)	C	1-2
Tarrant association hilly (TaD)	C	1-2

Soil Name	Group*	Thickness(feet)

** 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.

5. ☒ **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.

6. ☒ **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.

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

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

8. Method of collecting positional data:

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

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

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

11. ☒ 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.

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

13. 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 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

14. ☒ 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.

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: CIBOLO CANYONS GOLF COURSE																		
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)		DENSITY (NO/FT)	APERTURE (FEET)	INFILLING	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.8	>1.8	
S-4a	29°40'40"	98°24'38"	CD	5	Kek	5	5	0.6	-				F	5	10	10		X		Hillside
S-5a	29°40'40"	98°24'38"	CD	5	Kek	10	6	1	-				F	5	10	10		X		Hillside
S-8a	29°40'29"	98°24'14"	CD	5	Kek	1	2.3	1.5	-				F	10	15	15		X		Hillside
S-11	29°39'05"	98°23'49"	CD	5	Kep	6	6	1	-				F	5	10	10		X		Hillside
S-17	29°39'07"	98°23'49"	CD	5	Kep	7	9	1.4	-				F	15	20	20		X		Hillside
S-18	29°39'09"	98°23'52"	CD	5	Kep	5	7	1.5	-				F	15	20	20		X		Hillside
S-24	29°39'20"	98°23'47"	CD	5	Kep	12	20	1	-				F	10	15	15		X		Hillside
S-35	29°39'42"	98°23'56"	MB	30	Kep								N	5	35	35		X		Hillside
S-38	29°39'05"	98°23'51"	F	20	Kep			4080	N77°E				F	5	25	25			X	Streambed
S-39	29°39'13"	98°23'50"	F	20	Kep			4700	N70°E	10			F	5	35	35			X	Streambed
S-41	29°39'27"	98°23'53"	F	20	Kep/Kek			6320	N60°E	10			F	5	35	35			X	Streambed
S-43	29°39'48"	98°24'30"	F	20	Kek			6400	N62°E	10			F	5	35	35			X	Streambed
S-44	29°40'38"	98°24'22"	F	20	Kek			3160	N15°E				F	5	25	25			X	Streambed
S-73	29°39'37"	98°23'56"	SC	20	Kek	1.2	2.5	2	N55°E	10	1/1	0.1	O	35	65		65	X		Hillside
S-76	29°39'39"	98°23'55"	MB	30	Kek				-				N	35	65		65	X		Hillside
S-77	29°39'31"	98°23'43"	CD	5	Kep	10	15	0.5	-				F	5	10	10			X	Streambed
S-78	29°39'35"	98°23'41"	CD	5	Kek	6	6	2	-				C	15	20	20		X		Hillside

** DATUM: NAD 83

Note: Only those geologic and man-made features within that area of the assessment are included. Therefore, the features may not be numbered sequentially.

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

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Date 29 May 2015

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

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE	PROJECT NAME: CIBOLO CANYONS GOLF COURSE

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)	D	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-115	29°39'34"	98°23'60"	CD	5	Kek	6.8	8.2	1.3	-				F	5	10	10		X		Hillside
S-116	29°39'58"	98°23'57"	CD	5	Kek	6.3	11	1.3	-				F	5	10	10		X		Hillside
S-173	29°40'18"	98°23'46"	F	20	Kek			5450	N60°E	10			F	5	35	35			X	Streambed
S-174	29°40'22"	98°23'48"	F	20	Kek			6300	N60°E	10			F	5	35	35			X	Streambed
S-175	29°40'31"	98°24'27"	F	20	Kek			2200	N15°E				F	5	25	25			X	Streambed
S-176	29°40'11"	98°23'52"	F	20	Kek			800	N55°W				F	5	25	25			X	Streambed
S-177	29°40'12"	98°23'41"	F	20	Kep/Kek			2700	N85°E				F	5	25	25			X	Streambed
S-178	29°40'07"	98°23'54"	F	20	Kek			1100	N40°E				F	5	25	25			X	Floodplain
S-179	29°40'12"	98°24'01"	F	20	Kek			3650	N55°E	10			F	5	35	35			X	Streambed
S-300	29°40'04"	98°23'44"	CD	5	Kep/Kek	4	16	1	-				F	5	10	10			X	Streambed
S-302	29°40'28"	98°23'42"	CD	5	Kek	5.6	9.2	1.7	-				F	5	10	10		X		Streambed
S-303	29°40'05"	98°23'47"	CD	5	Kek	6.8	9.6	1.5	-				F	5	10	10		X		Streambed
S-305	29°40'11"	98°23'54"	CD	5	Kek	5.5	6.7	1.4	-				F	5	10	10			X	Streambed
S-308	29°40'11"	98°24'07"	CD	5	Kek	2.5	7	1	-				F	5	10	10		X		Hillside
S-309	29°40'20"	98°24'08"	CD	5	Kek	4	5	1	-				F	5	10	10			X	Streambed
S-310	29°40'20"	98°24'08"	CD	5	Kek	7.6	9	1	-				F	5	10	10			X	Streambed
S-313	29°40'19"	98°24'17"	C	30	Kek	14	42	14.3	N75°W				N	40	70		70	X		Hillside

** DATUM: NAD 83

Note: Only those geologic and man-made features within that area of the assessment are included. Therefore, the features may not be numbered sequentially.

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	Cave, clustered or filled 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
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Date 29 MAY 2015

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

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE	PROJECT NAME: CIBOLO CANYONS GOLF COURSE

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)		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-314	29°40'18"	98°24'23"	CD	5	Kek	3	4.7	1	-				F	5	10	10			X		Hillside
S-318	29°40'34"	98°24'35"	CD	5	Kek	1.3	8	1.4	-				F	5	10	10			X		Hillside
S-319	29°40'34"	98°24'38"	CD	5	Kek	7	8.3	1.6	-				F	5	10	10			X		Hillside
S-320	29°40'34"	98°24'40"	CD	5	Kek	5	7.3	1.2	-				F	5	10	10			X		Hillside
S-347	29°40'19"	98°24'22"	SH	20	Kek	12	13	0.7	N70°E	10			F	5	35	35			X		Hillside
S-400	29°40;47"	98°24'34	CD	5	Kek	242	73	>5	-				F	5	10	10				X	Hillside
S-401	29°40'39"	98°24'11"	CD	5	Kek	162	74	>5	-				F	5	10	10				X	Hillside
S-402	29°40'30"	98°24'3"	CD	5	Kek	270	72	>5	-				F	5	10	10				X	Hillside
S-403	29°40'30"	98°24'16"	CD	5	Kek	447	211	>5	-				F	5	10	10				X	Hillside
S-404	29°40'28"	98°24'28"	CD	5	Kek	526	185	>5	-				F	5	10	10				X	Hillside
S-405	29°40'18"	98°24'12"	CD	5	Kek	175	64	>5	-				F	5	10	10				X	Hillside
S-406	29°40'8"	98°23'54"	CD	5	Kek	302	110	>5	-				F	5	10	10				X	Hillside
S-407	29°40'7"	98°23'44"	CD	5	Kek	216	76	>5	-				F	5	10	10				X	Hillside
S-408	29°39'51"	98°23'57"	CD	5	Kek	155	134	>5	-				F	5	10	10				X	Hillside
S-409	29°39'34"	98°24'40"	CD	5	Kek	239	57	>5	-				F	5	10	10				X	Hillside

** DATUM: NAD 83288

Note: Only those geologic and man-made features within that area of the assessment are included. Therefore, the features may not be numbered sequentially.

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

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Date 29 MAY 2015

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

ATTACHMENT A

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE	PROJECT NAME: CIBOLO CANYONS GOLF COURSE

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-410	29°39'44"	98°23'53"	CD	5	Kek	288	238	>5	-				F	5	10	10			X	Hillside
S-411	29°39'27"	98°23'48"	CD	5	Kep	204	112	>5	-				F	5	10	10			X	Hillside
S-412	29°39'19"	98°23'49"	CD	5	Kep	158	100	>5	-				F	5	10	10			X	Hillside
S-413	29°39'6"	98°23'45"	CD	5	Kep	578	295	>5	-				F	5	10	10			X	Hillside
S-414	29°38'59"	98°23'52"	CD	5	Kep	176	152	>5	-				F	5	10	10			X	Hillside
S-415	29°39'12"	98°23'40"	CD	5	Kep	384	316	>5	-				F	5	10	10			X	Hillside

** DATUM: NAD 83

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

ATTACHMENT A

ATTACHMENT B

CIBOLO CANYONS GOLF COURSE
Stratigraphic Column

[Hydrogeologic subdivisions modified from Maclay and Small (1976); groups, formations, and members modified from Rose (1972); lithology modified from Dunham (1962); and porosity type modified from Choquette and Pray (1970); CU, confining unit; AQ, aquifer]

Hydrogeologic subdivision			Group, formation, or member			Hydrologic function	Thickness (feet)	Lithology	Field Identification	Cavern development	Porosity/ permeability type
	II	*Edwards Aquifer*	*Edwards Group*	*Person Formation (Kep)*	Cyclic and marine members, undivided	AQ	80-90	Mudstone to packstone; *miliolid* grainstone; chert	Thin graded cycles; massive beds to relatively thin beds; crossbeds	Many subsurface; might be associated with earlier karst development	Laterally extensive; both fabric and not fabric/water-yielding
	III				Leached and collapsed members, undivided	AQ	70-90	Crystalline limestone; mudstone to grainstone; chert; collapsed breccia	Bioturbated iron-stained beds separated by massive limestone beds; stromatolitic limestone	Extensive lateral development; large rooms	Majority not fabric/one of the most permeable
	IV				Regional dense member	CU	20-24	Dense, argillaceous mudstone	Wispy iron-oxide stains	Very few; only vertical fracture enlargement	Not fabric/low permeability; vertical barrier
	V			*Kainer Formation (Kek)*	Grainstone member	AQ	50-60	*Miliolid* grainstone; mudstone to wackestone; chert	White crossbedded grainstone	Few	Not fabric/ recrystallization reduces permeability
	VI				Kirschberg evaporite member	AQ	50-60	Highly altered crystalline limestone; chalky mudstone; chert	Boxwork voids, with neospar and travertine frame	Probably extensive cave development	Majority fabric/one of the most permeable
	VII				Dolomite member	AQ	110 -130	Mudstone to grainstone; crystalline limestone; chert	Massively bedded light gray, *Toucasia* abundant	Caves related to structure or bedding planes	Mostly not fabric; some bedding plane-fabric/water-yielding
	VIII				Basal nodular member	Karst AQ; not karst CU	50-60	Shaly, nodular limestone mudstone and miliolid grainstone	Massive, nodular and mottled, *Exogyra texana*	Large lateral caves at surface; a few caves near Cibolo Creek	Fabric; stratigraphically controlled/large conduit flow at surface; no permeability in subsurface
	Lower confining unit		Upper member of the Glen Rose Limestone (Kgru)			CU; evaporite beds AQ	350-500	Yellowish tan, thinly bedded limestone and marl	Stair-step topography; alternating limestone and marl	Some surface cave development	Some water production at evaporite beds/ relatively impermeable

(Modified from Stein and Ozuna, 1995)

ATTACHMENT C

CIBOLO CANYON GOLF COURSE

Site Geology

This site consists of a 36-hole golf course. The overall potential for fluid movement to the Edwards Aquifer for the site is low. As a result of several faults that cross the subject site and significant elevation changes in the northeastern portion, two separate formations of the Edwards Group exist on-site- the Kainer (Kek) and Person (Kep) formations. The northeastern portion of the site is generally located along ridges and hilltops that drain into the incised valleys. Three springs within the underlying Glen Rose formation (Kgru) are located in the bordering valleys. Water that infiltrates the Kek passes through the bottom of the Kek into the Kgru and either recharges the Trinity Aquifer or discharges from the three springs or seeps. The lower section of the Edwards Group is not saturated onsite.

The basal nodular, dolomitic, and grainstone members of the Kek, and the regional dense and leached and collapsed members of the Kep are all present at the surface.

Multiple faults were identified onsite with a predominant trend of approximately N60°E.

In general, in the Kek, the basal nodular member has vertical shafts as well as large lateral caves, while the dolomitic member predominantly has vertical shafts. One cave was identified within the subject site, cave S-313, which is located within the dolomitic member. The karstic characteristics of the regional dense member of the Person Formation includes few caves with vertical fracture enlargement. Extensive lateral development is common in the leached and collapsed members.

Feature S-4a and S-5a
These features are clay lined closed depressions. Therefore, the probability of rapid infiltration is low.

Feature S-8a
Feature S-8 is a closed depression located within the soil profile, which is filled with reddish-brown clay. Due to the fine infilling, the probability of rapid infiltration is low.

Feature S-11
Feature S-11 is a closed depressions created by an animal burrow. Due to the non-karst origin, the probability of rapid infiltration is low.

Feature S-17, and S-18
Features S-17, and S-18 are closed depressions created by animal burrows. The features are clay lined and have non-karst origins. Therefore, the probability of rapid infiltration is low.

Feature S-24
Feature S-24 is a closed depression created by three animal burrows restricted to the soil horizon. Due to the clay infilling and non-karst origin, the probability of rapid infiltration is low.

Feature S-35
Feature S-35 is a water well once operated by a windmill. The water well was plugged in 2007 (Tracking Number 39596) and the windmill was removed. Because the well has been properly plugged by a licensed driller, the probability for rapid infiltration is low.

Feature S-38, S-39, S-41, S-43, and S-44
These features are intraformational faults, with the exception of S-41, which separates the upthrown Kek from the downthrown Kep. Each was identified by aerial photographs, on-site and previous offsite mapping. Because no direct evidence of rapid infiltration associated with the faults was observed at the ground surface, the probability of rapid infiltration is low.

Feature S-73
Feature S-73 is a solution cavity that contains three interconnected openings in bedrock. The infilling is loose organic soil. Therefore, the probability of rapid infiltration is high.

Feature S-76
Feature S-76 is an existing water well that is not currently in use. The well has metal casing that extends approximately 1 foot above a concrete slab. Because of the unknown age, integrity of casings and extent of casings below ground surface, and because the well is open, the probability for rapid infiltration is high.

Feature S-77
Feature S-77 is a closed depression created by stream scour. Due to the non-karst origin, the probability of rapid infiltration is low.

Feature S-78
Feature S-78 is a closed depression. After hand excavation, clay infilling was observed. Therefore, the probability of rapid infiltration is low.

Features S-115 and S-116
Features S-115 and S-116 are closed depressions possibly created by uprooted trees. Due to the non-karst origin, the probability of rapid infiltration is low.

Features S-173 through S-179
The above features are intraformational faults identified by aerial photographs and previous mapping. Because no direct evidence of the faults were observed at the ground surface, the probability of rapid infiltration is low.

Feature S-300
Feature S-300 is a closed depression created by stream scour. Due to the non-karst origin, the probability of rapid infiltration is low.

Features S-302, S-303, and S-305
Features S-302, S-303, and S-305 are closed depressions created by stream scour. Due to the non-karst origin, the probability of rapid infiltration is low.

Feature S-308
This feature is a clay-lined closed depression. Therefore, the probability of rapid infiltration is low.

Feature S-309 and S-310
Features S-309 and S-310 are closed depressions created by stream scour. Due to the non-karst origin, the probability of rapid infiltration is low.

Feature S-313
Feature S-313 was originally mapped as a sinkhole with exposed rim rock. The feature was filled with cobble to boulder-sized rock. Later the feature was excavated into a cave by Mike Wharton and Associates and named "Stein Cave". A 10.5-foot dip entrance pit leads to an elongated room with a very low ceiling. The cave entrance is capable of receiving rapid infiltration; therefore, the probability of rapid infiltration is high.

Feature S-314, S-318 through S-320
These features are clay lined closed depressions. Therefore, the probability of rapid infiltration is low.

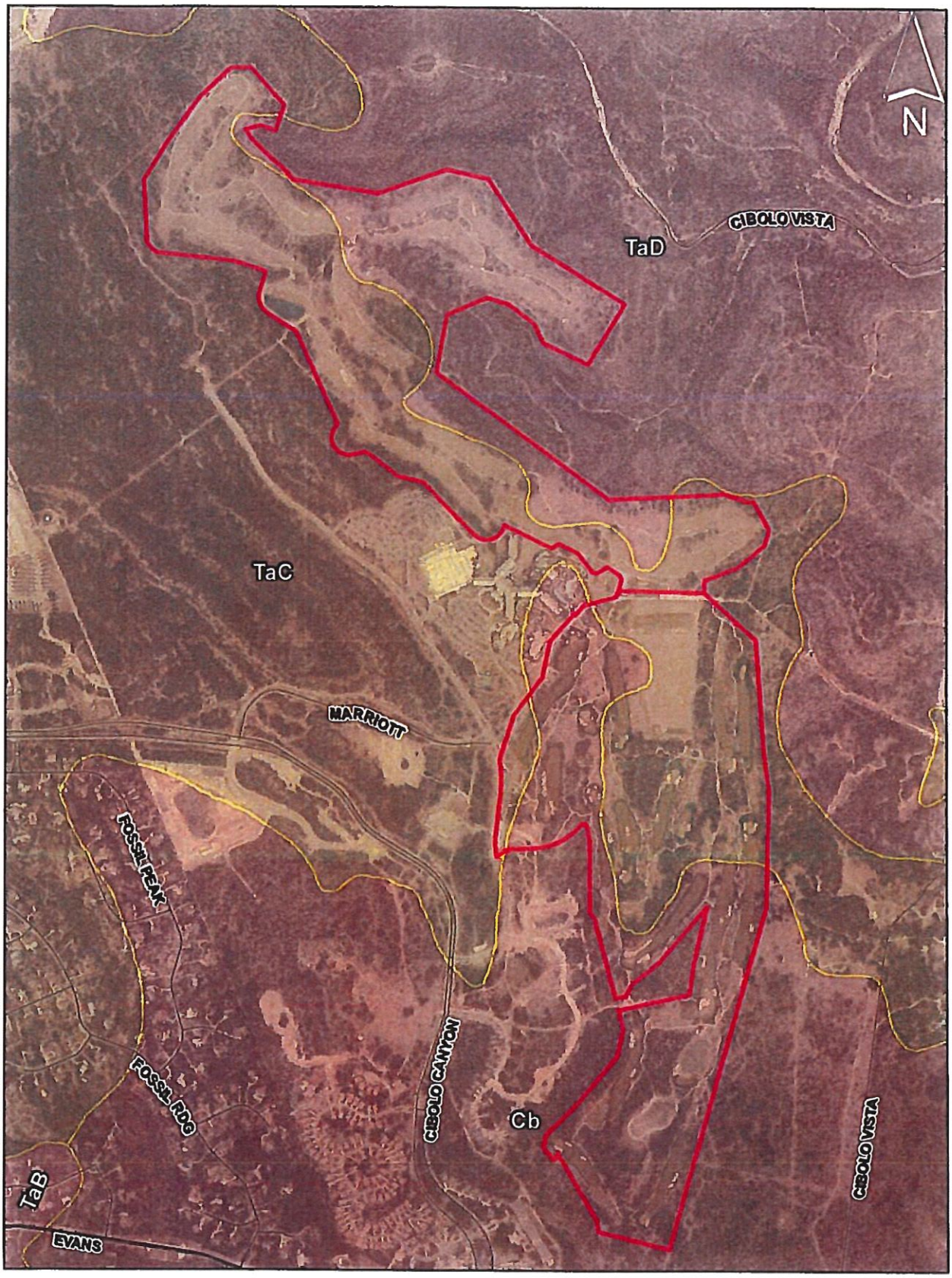
Feature S-347
Feature S-347 is a shallow, small sinkhole filled with clayey soil. The feature holds water for prolonged periods. Due to the clay infilling and ponding of water, the probability of rapid infiltration is low.

Features S-400 through S-415
These features are manmade closed depressions (collection/transfer basins and irrigation lakes) created for the golf course. They are designed to catch and retain surface water runoff, which is then used for irrigation purposes. Due to their non-karst origin and slow infiltration rate, the probability for rapid infiltration into the subsurface is low.

Twenty-two features were previously identified in Geologic Assessment reports titled *Cibolo Canyon Resort Community*, dated January 22, 2003 and *Cibolo Canyons Golf Courses, Maintenance Facility and Tournament Special Use Areas*, dated November 6, 2008 by Pape-Dawson Engineers. These features included three solution cavities, two sinkholes, and seventeen non-karst closed depressions. Each feature was considered to have a low probability for rapid infiltration. However, the features are no longer present due to the development of the golf course, which was approved by a Water Pollution Abatement Plan on November 8, 2006 (EAPP No. 2558.00). The previous locations of these features can be seen on Attachment D of this report.

ATTACHMENT D

CIBOLO CANYON GOLF COURSE
Geologic Assessment

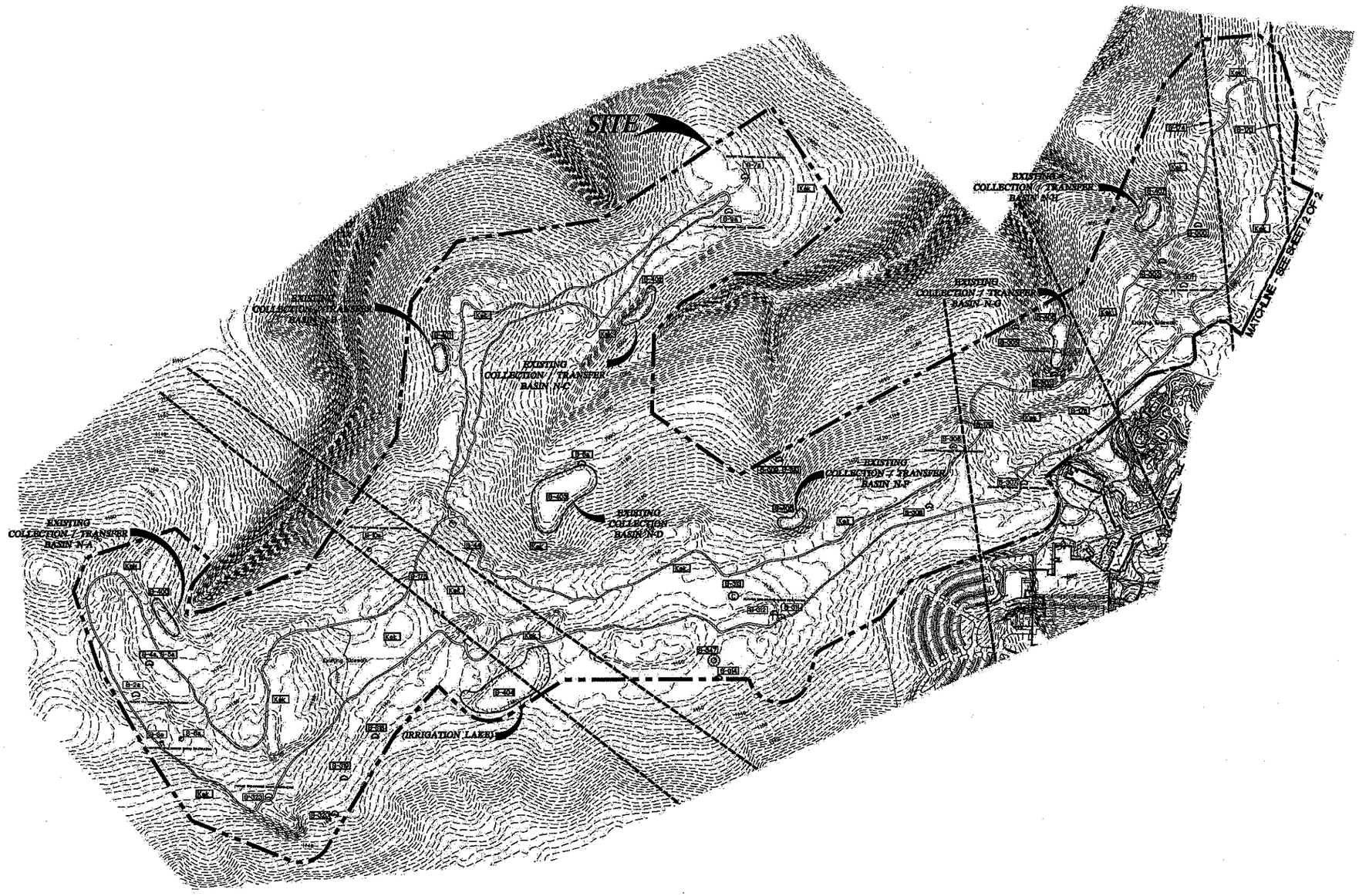


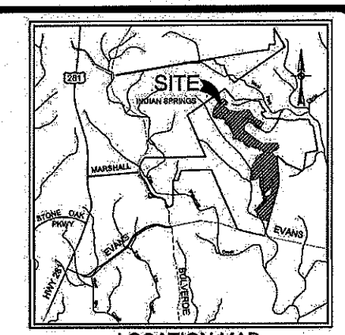
Date: May 29, 2015 10:06:00 AM User: emiller
File: P:\42\03\19\Design\Environmental\GA Mod - Golf Course\soils.mxd

ATTACHMENT D

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

PAPE-DAWSON ENGINEERS





LOCATION MAP
MAPSCO MAP GRID: 123A1
NOT-TO-SCALE

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

LEGEND

Qal	ALLUVIUM
Kbu	BUDA LIMESTONE
Kdr	DEL RIO CLAY
Kgt	GEORGETOWN FORMATION
Kep	PERSON FORMATION
Kek	KAINER FORMATION
Kgru	GLEN ROSE FORMATION (UPPER)
S-1	POTENTIAL RECHARGE FEATURE
	DRAINAGE PATHWAY
	CONTACT, LOCATED APPROXIMATELY
	FAULT, LOCATED APPROXIMATELY (D, downthrown side; U, upthrown side)
	FAULT, EXISTENCE UNCERTAIN
	POSSIBLE FAULT (as located by aerial photographs)
	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
	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.

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

STATE OF TEXAS
Amanda L. Miller
Geology
11413
LICENSED
5-29-2015

NO.	REVISION	DATE

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

CIBOLO CANYON GOLF COURSE
SAN ANTONIO, TEXAS

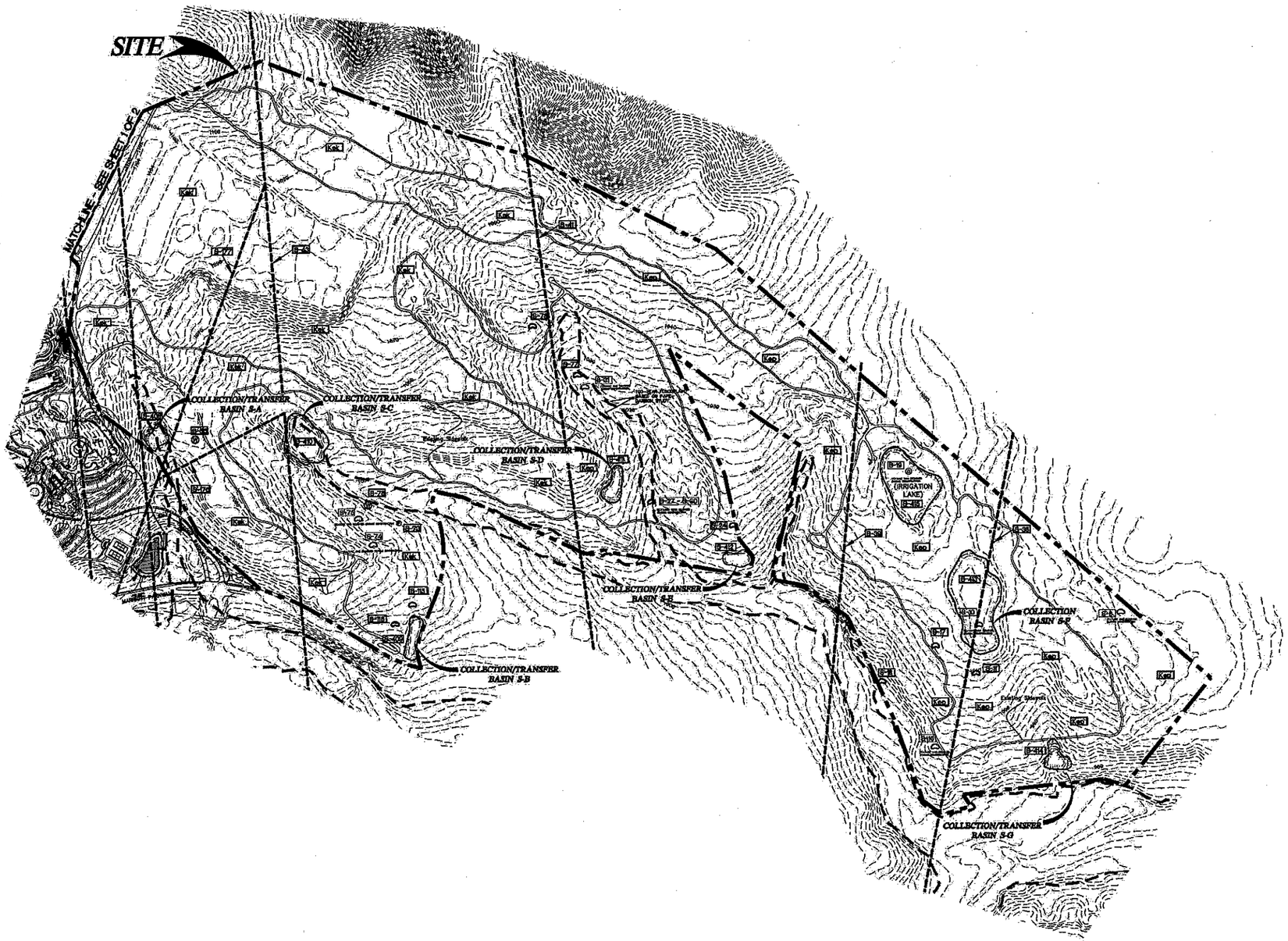
WATER POLLUTION ABATEMENT PLAN MODIFICATION
TEMPORARY WATER POLLUTION ABATEMENT PLAN

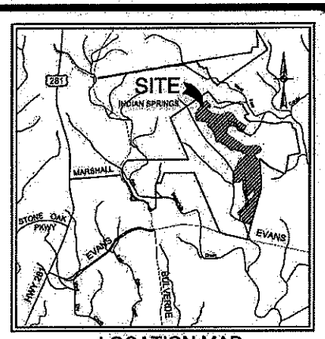
JOB NO. 6203-19
DATE MAY 2015
GEOLOGIST RCP
CHECKED ALM DRAWN ALM

ATTACHMENT D
SHEET 1 OF 2

Date: May 29, 2015, 9:24am User: ID_cantler
File: E:\Cibolo\GOLF\6203-19-Tmd.dwg

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





LOCATION MAP
MAPSCO MAP GRID: 123A1
NOT-TO-SCALE

SCALE: 1"= 300'
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LEGEND

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Kbu	BUDA LIMESTONE
Kdr	DEL RIO CLAY
Kgt	GEORGETOWN FORMATION
Kep	PERSON FORMATION
Kek	KAINER FORMATION
Kgru	GLEN ROSE FORMATION (UPPER)
S-1	POTENTIAL RECHARGE FEATURE
	DRAINAGE PATHWAY
	CONTACT, LOCATED APPROXIMATELY
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	FAULT, EXISTENCE UNCERTAIN
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	STRIKE AND DIP OF JOINTS
	STRIKE OF VERTICAL JOINTS
	CAVE
	NON-KARST CLOSED DEPRESSION
	SINKHOLE
	SOLUTION CAVITY
	OTHER NATURAL BEDROCK FEATURES: VUGGY ROCK, REEF DEPOSITS
	ZONE
MB	MAN-MADE FEATURE IN BEDROCK
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NOTE: ONLY THOSE GEOLOGIC FEATURES WHITHIN THAT AREA OF THIS ASSESSMENT ARE INCLUDED. THEREFORE, THE FEATURES MAY NOT BE NUMBERED SEQUENTIALLY.

STATE OF TEXAS
Amanda L. Miller
Geology
11413
LICENSED
PROFESSIONAL GEOSCIENTIST

5-29-2015

NO.	REVISION	DATE

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

CIBOLO CANYON GOLF COURSE
SAN ANTONIO, TEXAS
WATER POLLUTION ABATEMENT PLAN MODIFICATION
TEMPORARY WATER POLLUTION ABATEMENT PLAN

JOB NO. 6203-19
DATE MAY 2015
GEOLOGIST RCP
CHECKED ALM DRAWN ALM

ATTACHMENT D
SHEET 2 OF 2

Date: May 29, 2015, 10:44am User: ID: amiller
File: I:\Cibolo\2012\0462019-final.dwg
THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. - RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.

RECHARGE AND TRANSITION ZONE EXCEPTION REQUEST FORM (TCEQ-0628)

Recharge and Transition Zone Exception Request Form

Texas Commission on Environmental Quality
30 TAC §213.9 Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.
Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Recharge and Transition Zone Exception Request Form** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Jason T. Diamond, P.E.
Date: 8/12/19
Signature of Customer/Agent:

Jason T. Diamond

Regulated Entity Name: Cibolo Canyons Golf Courses, South Course Hole #5 Tee Expansion

Exception Request

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

Administrative Information

3. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
4. ☒ The applicant understands that no exception will be granted for a prohibited activity in Chapter 213.
5. ☒ The applicant understands that prior approval under this section must be obtained from the executive director for the exception to be authorized.

ATTACHMENT A

Attachment A – Nature of Exception

On April 12, 2018, the Texas Commission on Environmental Quality (TCEQ) approved the WPAP MOD V for Cibolo Canyons Golf Courses (EAPP ID No. 13000614), that proposed the construction of a golf hitting bay facility within the existing golf course facility. The WPAP approved approximately 19.42 acres of impervious cover, or approximately 3.39 percent of the overall 573.02-acre site.

This exception application is to add additional length to the Hole #5 tee box to improve playability. Please see included approved PBMP, exhibit 3, attached to this application. The new tee box will not affect the existing collection/transfer pond S-G which serves as the permanent pollution abatement measure for this portion of the golf course including this proposed tee box expansion.

Due to the slight change in scope, this Recharge Zone Exception Request is submitted as an exception to the Water Pollution Abatement Plan Modification Application. There will be no increase in impervious cover associated with this tee box expansion and it will not affect land not already covered in an approved water pollution abatement plan. No additional TSS will result from this plan.

ATTACHMENT B

Attachment B – Equivalent Water Quality Protection

On April 12, 2018, the Texas Commission on Environmental Quality (TCEQ) approved the WPAP MOD V for Cibolo Canyons Golf Courses (EAPP ID No. 13000614), that proposed the construction of a golf hitting bay facility within the existing golf course facility. The total impervious cover at that time was 19.42 acres or approximately 3.39 percent of the overall 573.02-acre site. The proposed tee box expansion is within an area that drains to the existing south golf course collection/transfer pond S-G as approved in the prior modifications to the original plan approved on November 8. 2006 and subsequently modified.

This exception application is to expand the Hole #5 tee box on the southern golf course to add additional length to the hole. Please see included approved PBMP, exhibit 2, attached to this application. There will not be an increase in impervious cover associated with this tee box expansion and it will not affect land not already covered in an approved water pollution abatement plan. No additional TSS will result from these changes, therefore, no additional equivalent water protection is required other than the previously-approved PBMP.

TEMPORARY STORMWATER SECTION (TCEQ-0602)

Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

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

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

Signature

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

Print Name of Customer/Agent: Jason T. Diamond, P.E.

Date: 8/12/19

Signature of Customer/Agent:

Jason T. Diamond

Regulated Entity Name: Cibolo Canyon Golf Courses, South Course Hole #5 Tee Expansion

Project Information

Potential Sources of Contamination

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

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

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

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

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

- ☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
- ☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

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

2. ☒ **Attachment A - Spill Response Actions**. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
3. ☒ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
4. ☒ **Attachment B - Potential Sources of Contamination**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

5. ☒ **Attachment C - Sequence of Major Activities**. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
   - ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.
   - ☒ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Elm Waterhole Creek

Temporary Best Management Practices (TBMPs)

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

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

- ☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
- ☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
- ☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
- ☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

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

   - ☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
   - ☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.

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

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

    - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
    - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
    - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
    - ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

ATTACHMENT A

Spill Response Actions

In the event of an accidental leak or spill:

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

In the event of an accidental significant or hazardous spill:

- The contractor will be required to report significant or hazardous spills in reportable quantities to:
  - Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- Notification should first be made by telephone and followed up with a written report.
- The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
- Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

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

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

ATTACHMENT B

Attachment B – Potential Sources of Contamination

Other potential sources of contamination during construction include:

Potential Source	•	*Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.*
Preventative Measure	■	*Vehicle maintenance when possible will be performed within the construction staging area.*
	■	*Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.*
Potential Source	•	*Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.*
Preventative Measure	■	*Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.*
	■	*Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.*
	■	*Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.*
	■	*A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.*
Potential Source	•	*Miscellaneous trash and litter from construction workers and material wrappings.*
Preventive Measure	■	*Trash containers will be placed throughout the site to encourage proper trash disposal.*
Potential Source	•	*Construction debris.*
Preventive Measure	■	*Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.*

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

ATTACHMENT C

Attachment C – Sequence of Major Activities

The sequence of major activities which disturb soil during construction on this site consists of installation of TBMPs as illustrated on included exhobits, limited grading of the existing tee box to add additional length to the hole. This will disturb approximately 0.4 acres.

ATTACHMENT D

Attachment D – Temporary Best Management Practices and Measures

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

No upgradient stormwater will cross the project limits. All other TBMPs are adequate for the drainage areas they serve.

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

Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of this work can begin, the clearing and grading contractor will be responsible for the installation of all on-site control measures. The methodology for pollution prevention of on-site stormwater will include: (1) installation of sediment control wattles and gravel filter bags at 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.

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

There are no surface streams or naturally-occurring sensitive features on, or immediately adjacent to, the project site.

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

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

There are no surface streams or naturally-occurring sensitive features on, or immediately adjacent to, the project site.

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

ATTACHMENT F

Attachment F – Structural Practices

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

- ***Installation of sediment control wattles and gravel filter bags along the downgradient boundary of construction activities, as located on Exhibit 1.***

ATTACHMENT G

Attachment G – Drainage Area Map

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

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.

CIBOLO CANYON GOLF COURSES, SOUTH COURSE HOLE #5 TEE EXPANSION

Temporary Stormwater Section (TCEQ-0602)

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, 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. Stabilization measures in this instance shall comply with temporary stabilization as defined in TXR150000 or as defined otherwise in the landscape plans where applicable.

PERMANENT STORMWATER SECTION (TCEQ-0600)

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Jason T. Diamond, P.E.

Date: 8/12/19

Signature of Customer/Agent

Jason T. Diamond

Regulated Entity Name: Cibolo Canyon Golf Courses, South Course Hole #5 Tee Expansion

Permanent Best Management Practices (BMPs)

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

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

   ☒ N/A

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

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

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

☒ N/A

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

   ☒ N/A

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

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

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

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

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

- ☐ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.
- ☒ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.
- ☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

7. ☒ **Attachment C - BMPs for On-site Stormwater.**
   - ☐ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.
   - ☒ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.
8. ☐ **Attachment D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

   ☒ N/A
9. ☒ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.
   - ☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.
   - ☐ **Attachment E - Request to Seal Features.** A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.
10. ☐ **Attachment F - Construction Plans.** All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:
    - ☐ Design calculations (TSS removal calculations)
    - ☐ TCEQ construction notes
    - ☐ All geologic features
    - ☐ All proposed structural BMP(s) plans and specifications

    ☒ N/A

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

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

    ☒ N/A

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

    ☒ N/A

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

    ☒ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

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

    ☒ N/A

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

    ☒ N/A

ATTACHMENT B

Attachment B – BMPs for Upgradient Stormwater

No upgradient stormwater will cross the project limits as an earthen swale will intercept the stormwater and route it around the building. No modifications to the existing PBMPs are proposed in this exception request.

In accordance with the prior approvals, BMPs for golf courses

- *A one-foot minimum clay liner was constructed under the areas of the golf courses that will be irrigated.*
- *A closed loop recycle system was incorporated into the golf courses for capturing 0.5-inch of runoff from the irrigated areas of the greens, fairways and tees. This runoff is routed via pipe systems to the capture ponds for reuse.*
- *An Integrated Pest Management plan has been prepared for operating and maintenance of the golf courses.*
- *A digital weather station was installed to provide information that the golf course superintendent can use to set irrigation schedule.*

ATTACHMENT C

Attachment C – BMPs for Onsite Stormwater

No modifications to the existing PBMPs are proposed in this exception request. In accordance with the prior approvals, BMPs for golf courses

- *A one-foot minimum clay liner was constructed under the areas of the golf courses that will be irrigated.*
- *A closed loop recycle system was incorporated into the golf courses for capturing 0.5-inch of runoff from the irrigated areas of the greens, fairways and tees. This runoff is routed via pipe systems to the capture ponds for reuse.*
- *An Integrated Pest Management plan has been prepared for operating and maintenance of the golf courses.*
- *A digital weather station was installed to provide information that the golf course superintendent can use to set irrigation schedule.*

ATTACHMENT D

Attachment D – BMPs for Surface Streams

No modifications to the existing PBMPs are proposed in this exception request. The catchment areas in the golf courses have been designed to capture at least 0.5 inches of stormwater runoff from the irrigated areas of the golf course fairways, greens, and tees. Captured runoff will be routed via pipe systems to the capture ponds for reuse as irrigation water. This will reduce the potential for fertilizers and pesticides to affect runoff in the surface streams.

Buffer zones of native grasses and vegetation will be established along the edge of the golf course areas. These buffer zones will serve to filter runoff from the golf course areas.

ATTACHMENT F

Attachment F – Construction Plans

Please refer to the Exhibits Section of this application for Water Pollution Abatement Site Plans. No changes are proposed to the previously-approved PBMPs.

ATTACHMENT G

Attachment G – Inspection, Maintenance, Repair and Retrofit Plan

A new Inspection and Maintenance Schedule is not provided with this WPAP Exception Request application as there are no proposed revisions to the design or function of existing Permanent Best Management Practices. An Inspection and Maintenance Schedule for the Cibolo Canyon Golf Courses, Maintenance Facility and Tournament Special Use Areas was previously provided with the WPAP MOD approved on March 23, 2008 (EAPP File No. 2558.02).

ATTACHMENT I

Attachment I - Measures Minimizing Surface Stream Contamination

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

AGENT AUTHORIZATION FORM (TCEQ-0599)

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

I ***Scott Spurlock***,
Print Name

Vice President,
Title - Owner/President/Other

of ***BREIT JWM San Antonio LP***,
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:

Scott A. Spurlock
Applicant's Signature

8-02-19
Date

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Scott A. Spurlock 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 2nd day of August, 2019.

Candace Bumgarner
NOTARY PUBLIC

Candace Bumgarner
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

CANDACE BUMGARNER
My Notary ID # 383953
Expires January 11, 2020

APPLICATION FEE FORM
(TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Cibolo Canyon Golf Courses, South Course Hole #5 Tee Expansion

Regulated Entity Location: 4455 TPC Parkway, San Antonio, Texas 78261-2271

Name of Customer: BREIT JWM San Antonio LP

Contact Person: Scott Spurlock Phone: (973) 866-2055

Customer Reference Number (if issued):CN 605573229

Regulated Entity Reference Number (if issued):RN 105015085

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☒ Bexar ☐ Medina ☐ Uvalde

☐ Comal ☐ Kinney

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

☐ Austin Regional Office

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

☒ San Antonio Regional Office

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

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

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

Signature: Jason T. Diamond

TCEQ-0574 (Rev. 02-24-15)

Date: 8/7/19

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*

Project	***Fee***
Extension of Time Request	$150

CORE DATA FORM
(TCEQ-10400)

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. Customer Reference Number *(if issued)*		3. Regulated Entity Reference Number *(if issued)*
CN CN605573229	Follow this link to search for CN or RN numbers in Central Registry**	RN 105015085

SECTION II: Customer Information

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

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

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

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

BREIT JWM San Antonio, LP

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

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☐ **Yes** ☐ **No**

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

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

15. Mailing Address:

345 Park Avenue

City	New York	State	NY	ZIP	10154	ZIP + 4	

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

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(973)866-2055		( ) -

SECTION III: Regulated Entity Information

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

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

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

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

Cibolo Canyons Golf Courses, South Course Hole #5 Tee Expansion

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

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	The golf courses are located east of Resort Pkwy and behind the existing JW Marriott hotel.		
26. Nearest City		State	Nearest ZIP Code
San Antonio		Texas	78259

27. Latitude (N) In Decimal:	29.648705		28. Longitude (W) In Decimal:	-98.396724	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	38	55.3	98	23	48.2

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
7992		713910	

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

Golf Course

34. Mailing Address:								
	City		State		ZIP		ZIP + 4	

35. E-Mail Address:		
36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
( ) -		( ) -

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

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

SECTION IV: Preparer Information

40. Name:	Jean Autrey, P.E., CESSWI		41. Title:	Project Engineer
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address	
(210)375-9000		(210) 375-9010	jautrey@pape-dawson.com	

SECTION V: Authorized Signature

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

Company:	Pape-Dawson Engineers, Inc.	Job Title:	Vice President
Name*(In Print)* :	Jason T. Diamond, P.E.	Phone:	(210) 375-9000
Signature:	Jason T. Diamond	Date:	8/9/19

SOUTH GOLF COURSE
STORMWATER CAPTURE PONDS

SOUTH COURSE
POND VOLUME REQUIREMENTS BASED ON CAPTURING GOLF AND GRASSED AREAS ONLY

												MODIFICATION II						SITE PLAN UPDATE 2019			
POND WS	WS AREA (AC)	VOL_{REQ} (AC-FT)	VOL_{REQ} [1] (FT^3)	POND DESIGN AREA TOP (FT^2)	POND DESIGN AREA BOTTOM (FT^2)	POND DEPTH (FT)	VOL_{DESIGN} [2] (FT^3)	EXCESS VOLUME (FT^3)	BOTTOM OF BASIN ELEVATION	TOP OF BASIN ELEVATION	WATER LEVEL	NEW WS AREA (AC)	NEW VOL_{REQ} (FT^3)	NEW POND DEPTH (FT)	NEW VOL_{DESIGN} (FT^3)	EXCESS VOL_{DESIGN} - VOL_{REQ} (FT^3)	BASIN LOCATION	NEW WS AREA (AC)	NEW VOL_{REQ} (FT^3)	NEW VOL_{DESIGN} (FT^3)	EXCESS VOL_{DESIGN} - VOL_{REQ} (FT^3)
S-A	7.4	0.31	13,359	14007	11988	1.5	19,496	6,136	1051.0	1055.2	1054.0	7.4	13,359	3	42,211	6,136	NEW				
S-B	16.2	0.67	29,323	11847	5708	4	35,111	5,788	1019.0	1024.5	1023.0	17.8	32,361			2,749	OLD				
S-C	43.4	1.81	78,747	39041	32302	2.5	89,179	10,432	1041.0	1037.0	1035.5	46.5	84,445	3.5	137,331	52,887	NEW				
S-D	22.1	0.92	40,118	12886	7004	4.2	41,769	1,651	1008.5	1014.0	1012.7	20.5	37,153		.	4,616	OLD				
S-E	12.6	0.53	22,889	8290	4154	4	24,888	1,999	996.0	1001.5	1000.0	12.6	22,923			1,965	OLD				
S-F	43.7	1.82	306,480 *	107261	94332	3.1	312,469	5,989	1012.4	1017.0	1015.5	43.6	308,281			4,188	OLD				
S-G	18.2	0.76	33,121	9934	3479	5	33,533	412	971.5	978.0	976.5	16.4	29,712			3,821	OLD	16.8	30,492	33,533	3,041
S-H	5.3	0.22	9,574	4963	2945	2.5	9,885	311				5.1	9,269			VAULT	NEW				
TOTAL	168.9	7.04	533,612				566,329	32,717				169.9	537,503								

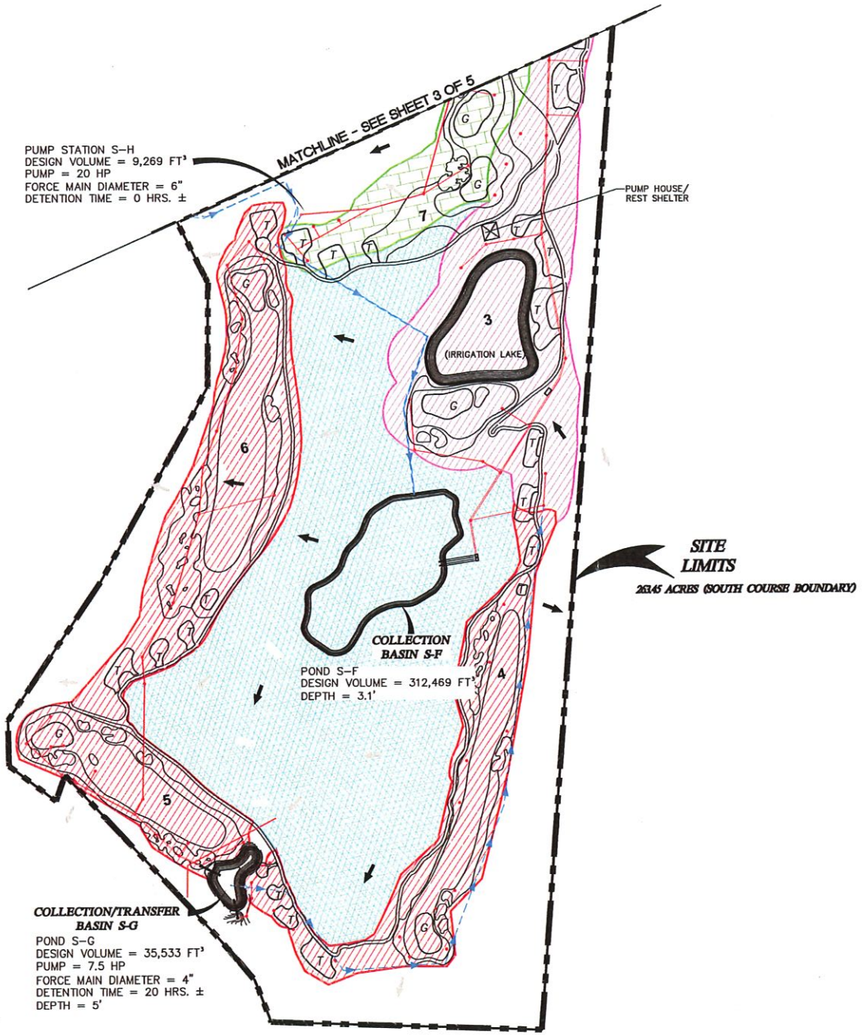
1 - Required Volume is 0.5 Inch over the watershed

2 - Design Volume calculated based on average area and depth

* - Cumulative volume includes storage for watersheds S-A thru S-H

0.76981

IRRIGATION LAKE				81677	55848	8	550,100	550,100	1008.5	1017.5	1016.5



POND WATERSHEDS LEGEND

- FORCE MAIN
- UPGRADIENT STORM DRAIN
- STORM DRAIN
- AREA DRAINS/ INLETS
- BERM
- BY-PASSED UPGRADIENT
- POND S-A
- POND S-B
- POND S-C
- POND S-D
- POND S-E
- POND S-F
- POND S-G
- POND S-H

LEGEND

- PROJECT LIMITS
- EXISTING GRADE
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- 18 GOLF HOLE NUMBER
- KAINER FORMATION
- POTENTIAL RECHARGE FEATURE
- NON-KARST CLOSED DEPRESSION
- SOLUTION CAVITY
- U D FAULT, LOCATED APPROXIMATELY

SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

1. SILT FENCE AND OTHER TEMPORARY BMP's WILL BE MAINTAINED UNTIL THE SITE IMPROVEMENTS ARE COMPLETED AND SUFFICIENT VEGETATION HAS BEEN ESTABLISHED IN ACCORDANCE WITH APPLICABLE PROJECT SPECIFICATIONS.

* 2. DURING CONSTRUCTION, TO THE EXTENT PRACTICAL, CONTRACTOR SHALL MINIMIZE THE AREA OF SOIL DISTURBANCE. AREAS OF DISTURBED SOIL SHALL BE REVEGETATED TO STABILIZE SOIL USING SOLID SOD IN A STAGGERED PATTERN. SEE DETAIL ON EXHIBIT 5 AND REFER TO SECTION 1.3.11 IN TCEQ'S TECHNICAL GUIDANCE MANUAL RG-348 (2005). SOD SHOULD BE USED IN CHANNELS AND ON SLOPES 15% THE CONTRACTOR MAY SUBSTITUTE THE USE OF SOD WITH THE PLACEMENT OF TOP SOIL AND A FRIABLE SEED BED WITH A PROTECTIVE MATTING OR HYDRAULIC MULCH ALONG WITH WATERING UNTIL VEGETATION IS ESTABLISHED. APPLICATIONS AND PRODUCTS SHALL BE THOSE APPROVED BY TXDOT AS OF FEBRUARY 2001 AND IN COMPLIANCE WITH THE TGM RG-348 (2005). SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER AND SHOULD BE IN COMPLIANCE WITH TGM RG-348 (2005) GUIDELINES. IRRIGATION MAY BE REQUIRED IN ORDER TO ESTABLISH SUFFICIENT VEGETATION.

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

4. SLOPES ON SITE VARY FROM APPROXIMATELY 4% TO 58%

SCALE: 1"= 200'

0' 200' 400' 600'

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

NO.	REVISION	DATE

STATE OF TEXAS
CARA C. TACKETT
89491
LICENSED
PROFESSIONAL ENGINEER

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

CIBOLO CANYON GOLF COURSE
SAN ANTONIO, TEXAS
WATER POLLUTION ABATEMENT PLAN MODIFICATION
SITE PLAN

PLAT NO.
JOB NO. 6203-19
DATE JUNE 2015
DESIGNER JN
CHECKED JN DRAWN RO
SHEET 4 of 4

Date: Jun 12, 2015, 1:57pm User ID: ROliverez
File: P:\62\03\19\Design\Environmental\Golf WPAP Mod\PM620319 GOLF.dwg

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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 IS 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 SUBSTANTIALLY 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, TX 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. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASHOUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.

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

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

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

6. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY. IN ADDITION, THESE STRUCTURES SHOULD BE LOCATED AT THE DOWNSTREAM UNIT OF DISTURBED AREAS.

7. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

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

9. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATER SHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICE HAS BEEN STABILIZED.

10. ALL TEMPORARY BMP's WILL BE REMOVED ONCE WATERSHED IS STABILIZED.

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

12. EXCAVATION OF WATER QUALITY BASINS MAY BE USED TO PROVIDE TEMPORARY SEDIMENTATION TRAPS UNTIL 70% OF THE STREETS HAVE BEEN PAVED; AT WHICH TIME THEY SHALL BE CONVERTED TO A PERMANENT BMP.

13. STORM DRAIN INLETS SHALL BE PROTECTED BY TEMPORARY MEASURES IN A MANNER TO MINIMIZE THE AMOUNT OF SEDIMENT BUILD UP WITHIN THE STORM DRAIN SYSTEM AND SEDIMENTATION BASINS.

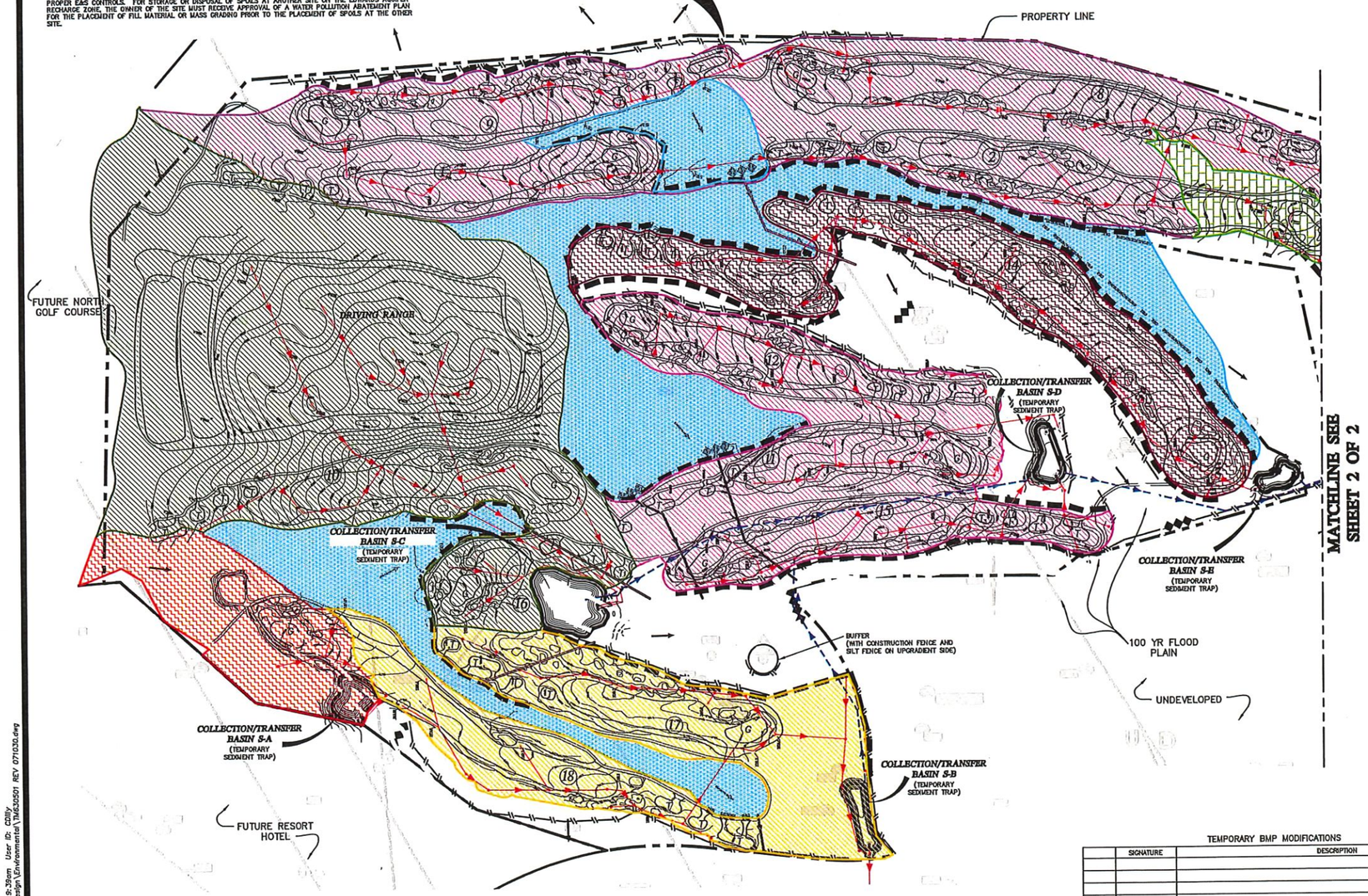
14. SEDIMENT ACCUMULATION IN WATER QUALITY BASINS SHALL BE REMOVED AND PROPERLY DISPOSED OF BY CONTRACTOR(S) FOLLOWING CONSTRUCTION.

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

16. 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.

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

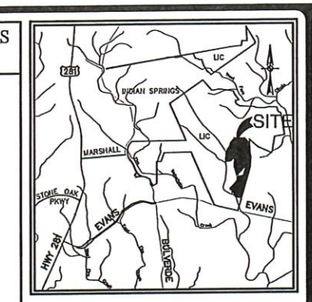
18. A TPDES STORMWATER POLLUTION PREVENTION PLAN(S) WILL ALSO BE PREPARED FOR THIS PROJECT. THE SWPPP WILL BE PREPARED AFTER DESIGN HAS PROGRESSED. IF THERE ARE DISCREPANCIES BETWEEN THIS PLAN AND THE SPECIFIC SWPPP, THE CONTRACTOR SHOULD INSTALL BMP'S IN ACCORDANCE WITH THE SWPPP AND INCLUDE A NOTE ON THIS SHEET REFERRING TO THE SWPPP FOR BMP'S AND REVISIONS TO SUCH.



POND WATERSHEDS LEGEND

- BY-PASSED UPGRADIENT
- CAPTURED UPGRADIENT
- POND S-A
- POND S-B
- POND S-C
- POND S-D
- POND S-E
- POND S-F
- POND S-G
- POND S-H
- FORCE MAIN
- UPGRADIENT STORM DRAIN
- STORM DRAIN
- AREA DRAINS/ INLETS
- BERM
- WETLAND

NOTE:
SEE EXHIBIT 27 FOR DETAIL ON PLACEMENT OF BERMS.



LOCATION MAP
N.T.S.

TRUE PROJECT

SCALE : 1"=200'

0' 200' 400' 600'

LEGEND

- PROJECT LIMITS
- HOLE NUMBER
- DRAINAGE FLOW (EXISTING)
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (TO BE FIELD LOCATED)
- CONCRETE TRUCK WASHOUT PIT (TO BE FIELD LOCATED)
- CONSTRUCTION STAGING AREA (TO BE FIELD LOCATED)
- SILT FENCE
- ROCK BERM
- EXISTING CONTOURS
- DRAINAGE FLOW (PROPOSED)
- POTENTIAL RECHARGE FEATURE
- KAINER FORMATION
- SENSITIVE FEATURE
- CLOSED DEPRESSION
- SOLUTION CAVITY
- FAULT
- CAVE
- SINKHOLE
- RETAINING WALLS
- T TEES
- G GREENS

TEMPORARY BMP MODIFICATIONS

	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.

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.

REVISIONS:
11/30/07 REVISION TO SOUTH GOLF COURSE

PAPE-DAWSON ENGINEERS
505 EAST RANSLEY | SAN ANTONIO TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010

CIBOLO CANYONS SOUTH COURSE
TEMPORARY POLLUTION ABATEMENT PLAN MODIFICATION

JOB NO. 6305-01
DATE MAY, 2006
DESIGNER JD
CHECKED CCT DRAWN BT
EXHIBIT 1
SHEET 1 OF 2

Date: May 29, 2019, 9:39am User ID: CBW
File: P:\63\05\01\Design\Environmental\TWDB\05\01 REV 071030.dwg

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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 IS 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).

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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.

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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.
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GENERAL NOTES:

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

2. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASHOUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.

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

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

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

6. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY. IN ADDITION, THESE STRUCTURES SHOULD BE LOCATED AT THE DOWNSTREAM LIMIT OF DISTURBED AREAS.

7. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

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

9. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATER SHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICE HAS BEEN STABILIZED.

10. ALL TEMPORARY BMP's WILL BE REMOVED ONCE WATERSHED IS STABILIZED.

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

12. EXCAVATION OF WATER QUALITY BASINS MAY BE USED TO PROVIDE TEMPORARY SEDIMENTATION TRAPS UNTIL 70% OF THE STREETS HAVE BEEN PAVED; AT WHICH TIME THEY SHALL BE CONVERTED TO A PERMANENT BMP.

13. STORM DRAIN INLETS SHALL BE PROTECTED BY TEMPORARY MEASURES IN A MANNER TO MINIMIZE THE AMOUNT OF SEDIMENT BUILD UP WITHIN THE STORM DRAIN SYSTEM AND SEDIMENTATION BASINS.

14. SEDIMENT ACCUMULATION IN WATER QUALITY BASINS SHALL BE REMOVED AND PROPERLY DISPOSED OF BY CONTRACTOR(S) FOLLOWING CONSTRUCTION.

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

16. 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.

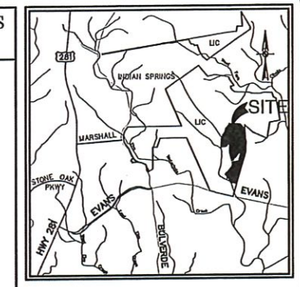
17. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND REMOVAL OF TEMPORARY POLLUTION ABATEMENT MEASURES THAT CONFLICT WITH SITE IMPROVEMENTS SO AS TO PREVENT SEDIMENT FROM ESCAPING THE PROJECT SITE.

18. A TPDES STORMWATER POLLUTION PREVENTION PLAN(S) WILL ALSO BE PREPARED FOR THIS PROJECT. THE SWPPP WILL BE PREPARED AFTER DESIGN HAS PROGRESSED. IF THERE ARE DISCREPANCIES BETWEEN THIS PLAN AND THE SPECIFIC SWPPP, THE CONTRACTOR SHOULD INSTALL BMP'S IN ACCORDANCE WITH THE SWPPP AND INCLUDE A NOTE ON THIS SHEET REFERRING TO THE SWPPP FOR BMP'S AND REVISIONS TO SUCH.

POND WATERSHEDS LEGEND

- BY-PASSED UPGRADIENT
- CAPTURED UPGRADIENT
- POND S-A
- POND S-B
- POND S-C
- POND S-D
- POND S-E
- POND S-F
- POND S-G
- POND S-H
- FORCE MAIN
- UPGRADIENT STORM DRAIN
- STORM DRAIN
- AREA DRAINS/ INLETS
- BERM
- WETLAND

NOTE:
SEE EXHIBIT 27 FOR DETAIL ON PLACEMENT OF BERMS.



LOCATION MAP
N.T.S.

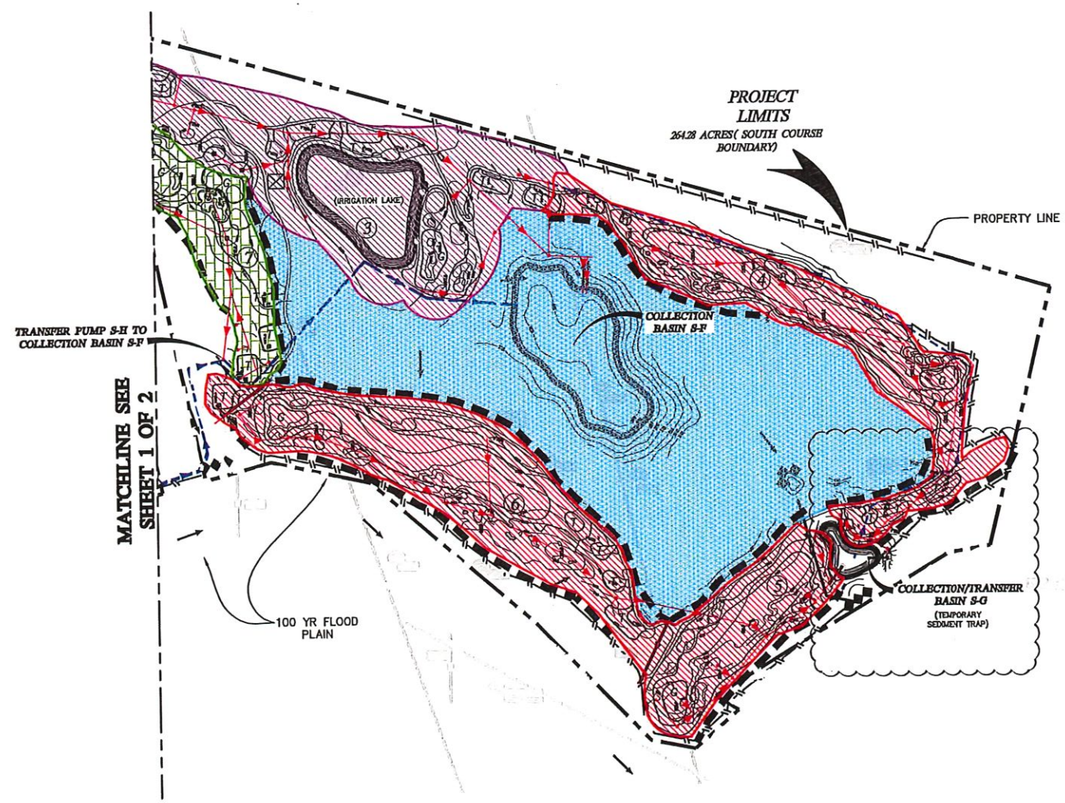
TRUE PROJECT

SCALE : 1"=200'

0' 200' 400' 600'

LEGEND

- PROJECT LIMITS
- (15) HOLE NUMBER
- DRAINAGE FLOW (EXISTING)
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (TO BE FIELD LOCATED)
- CONCRETE TRUCK WASHOUT PIT (TO BE FIELD LOCATED)
- CONSTRUCTION STAGING AREA (TO BE FIELD LOCATED)
- SILT FENCE
- ROCK BERM
- EXISTING CONTOURS
- DRAINAGE FLOW (PROPOSED)
- POTENTIAL RECHARGE FEATURE
- KAINER FORMATION
- SENSITIVE FEATURE
- CLOSED DEPRESSION
- SOLUTION CAVITY
- FAULT
- CAVE
- SINKHOLE
- RETAINING WALLS
- T TEES
- G GREENS



TEMPORARY BMP MODIFICATIONS

	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.

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REVISIONS:
11/20/07 REVISION TO SOUTH GOLF COURSE

PAPE-DAWSON ENGINEERS
555 EAST RANDSY | SAN ANTONIO TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010

CIBOLO CANYONS SOUTH COURSE
TEMPORARY POLLUTION ABATEMENT PLAN MODIFICATION

JOB NO. 6305-01
DATE MAY 2019
DESIGNER JD
CHECKED CCT DRAWN BT
SHEET EXHIBIT 1 2 OF 2

Date: May 29, 2019, 10:22am User ID: CBB
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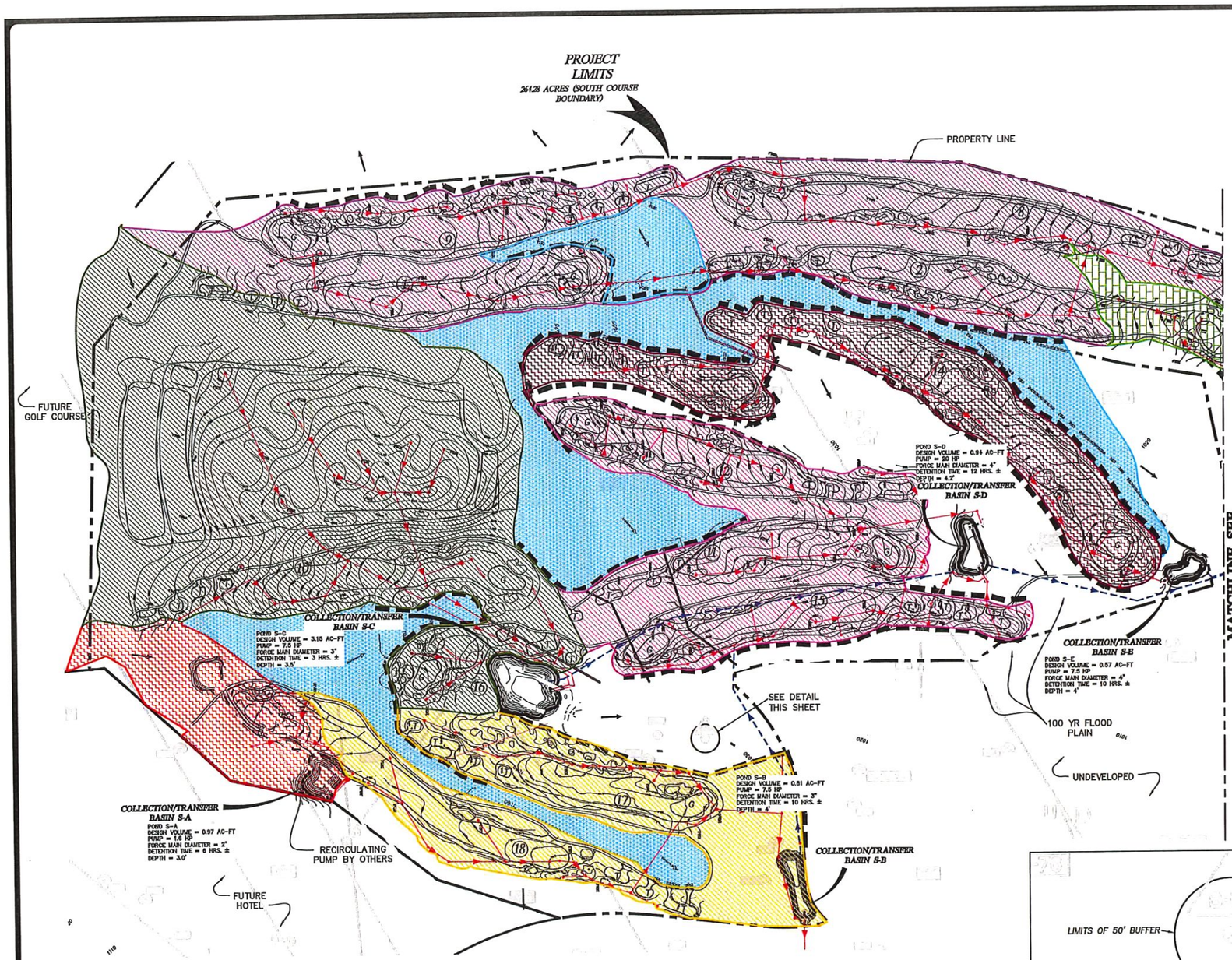

POND WATERSHEDS LEGEND

- BY-PASSED UPGRADIENT
- CAPTURED UPGRADIENT
- POND S-A
- POND S-B
- POND S-C
- POND S-D
- POND S-E
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- POND S-G
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- STORM DRAIN
- AREA DRAINS/ INLETS
- BERM
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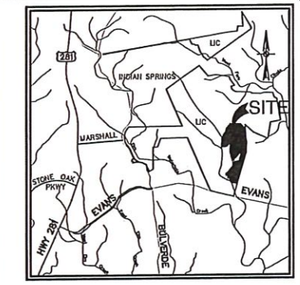


LOCATION MAP
N.T.S.

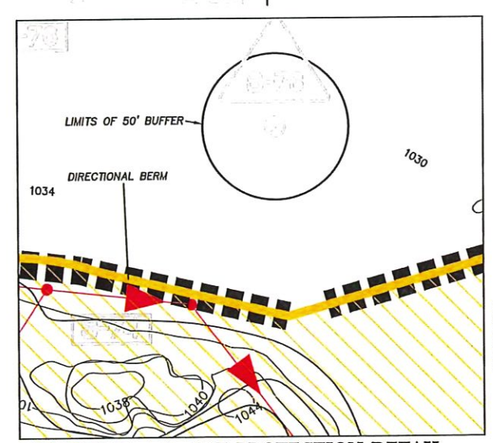
TRUE PROJECT

SCALE : 1"=200'

0' 200' 400' 600'

LEGEND

- PROJECT LIMITS
- (15) HOLE NUMBER
- EXISTING CONTOURS
- DRAINAGE FLOW (PROPOSED)
- POTENTIAL RECHARGE FEATURE
- KAINER FORMATION
- SENSITIVE FEATURE
- CLOSED DEPRESSION
- SOLUTION CAVITY
- FAULT
- CAVE
- SINKHOLE
- RETAINNING WALLS
- T TEES
- G GREENS



SENSITIVE FEATURE PROTECTION DETAIL

SCALE : 1"=50'

NOTE: GEOLOGIC FEATURE SYMBOLS ARE SCHEMATIC AND NOT REPRESENTATIVE OF ACTUAL FEATURE SIZE. THE SURFACE OPENINGS FOR THE FEATURE DETAILED ARE ONLY A FEW INCHES IN DIAMETER.

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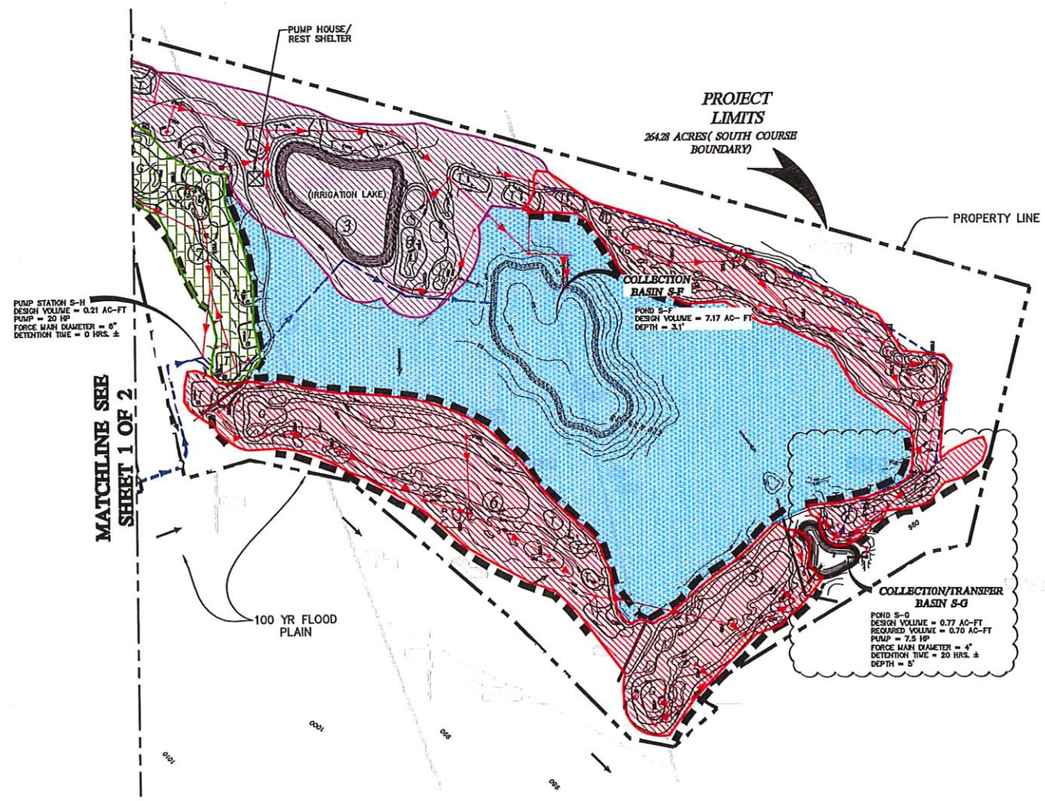
555 EAST RAMSEY | SAN ANTONIO TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010

CIBOLO CANYONS SOUTH COURSE
PERMANENT POLLUTION ABATEMENT PLAN MODIFICATION

JOB NO. 6305-01
DATE MAY 2006
DESIGNER JD
CHECKED CCT DRAWN BT
EXHIBIT 2
SHEET 1 OF 2

Date: May 29, 2019, 9:36am User ID: CBlly
File: P:\6305\01\Design\Environmental\PAE20501 REV 071030.dwg
RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.



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- CAPTURED UPGRADIENT
- POND S-A
- POND S-B
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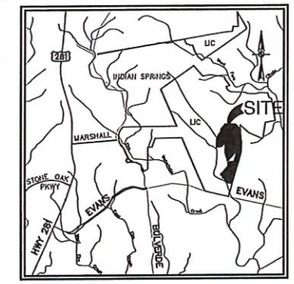

LOCATION MAP
N.T.S.

TRUE PROJECT

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0' 200' 400' 600'

LEGEND

- PROJECT LIMITS
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CIBOLO CANYONS SOUTH COURSE
PERMANENT POLLUTION ABATEMENT PLAN MODIFICATION

JOB NO. 6305-01
DATE MAY 2019
DESIGNER JD
CHECKED CCT DRAWN BT
EXHIBIT 2
SHEET 2 OF 2

Date: May 29, 2019, 10:21am User ID: CBlly
File: P:\63\05\01\Design\Environmental\PME50501 REV 071030.dwg
THIS PLAN SHEET CONSISTS FROM MATERIAL THAT WAS SENT AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.