TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 19, 2021

Mr. Daniel McCutchen
Waterfall Kid, LLC
125 Ash Juniper
New Braunfels, Texas 78132

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Oakrun Commercial Reserve 2-Big League Car Wash #3; Located 1,200 ft east of the intersection of Oak Run Point and State Highway 46; New Braunfels, Texas

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

Regulated Entity No. RN111252805 Additional ID No. 13001395

Dear Mr. McCutchen:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the Water Pollution Abatement Plan Modification application for the above-referenced project submitted to the San Antonio Regional Office by Pawelek & Moy, Inc on behalf of Waterfall Kid, LLC on September 22, 2021. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected, and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

Oakrun Commercial Reserve 2-Big League Car Wash #3 is located on 4.496-acres of undeveloped land that is part of an overall 9.996-acre site, which consists of a 5.50-acre tract and this 4.496 tract. On February 9, 2015 TCEQ approved a WPAP for the 5.50-acre lot and was developed into a Memory Care facility and the remaining 4.496-acre tract was recently re-platted into three (3) lots (Lots 2A2-1R, 2A2-2R and 2A2-3R) which drain from the east to the west towards the existing 5.50-acre tract/Memory Care facility and the existing batch detention base. The batch detention basin was previous designed and approved for the entire 9.96-acres anticipating a total of 6.03-acres of impervious cover (IC), but the new total IC will be 3.83-acres in total.

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 4.496-acres. It will include clearing, grading, excavation, installation of utilities, drainage improvements, 5,612 square feet for a new building, and 56,326 square feet of parking lots, sidewalks and drives for a car wash and coffee shop. The impervious cover will be 1.422-acres (31.63%). Project wastewater will be disposed of by conveyance to the existing Gruene Wastewater Treatment Plant operated by New Braunfels Utilities (NBU).

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one (1) existing batch detention basin (13-14082104) designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be utilized to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 1,160 pounds of TSS generated from the 1.422-acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the geologic assessment included with the application, the site is located within the Lower Cretaceous Person Formation. The project geologist evaluated 3 geologic features and ranked them as non-sensitive. The San Antonio Regional Office site assessment conducted on November 15, 2012 revealed that the site was generally as described in the application.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated February 9, 2015.

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

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

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

12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. No well exists on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Drew Evans of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4053.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/de

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

cc: John Moy, P.E. Pawelek & Moy, Inc

PAWELEK & MOY, INC.

CIVIL ENGINEERING & CONSULTING SERVICES

- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

Modification of a Previously Approved Water Pollution Abatement Plan

Oakrun Commercial Reserve 2
Big League Car Wash #3

2010 State Highway 46 W
New Braunfels, Texas 78132

by
Pawelek & Moy, Inc.
Job No. 2004.01

September 2021

130 W. Jahn Street, New Braunfels, Texas 78130 P.O. Box 311870 New Braunfels, Texas 78131-1870
tel: (830) 629-2563 fax: (830) 629-2564

Modification of a Previously Approved Plan Checklist

X **Edwards Aquifer Application Cover Page (TCEQ-20705)**

X **General Information Form (TCEQ-0587)**

Attachment A - Road Map
Attachment B - USGS / Edwards Recharge Zone Map
Attachment C - Project Description

X **Geologic Assessment Form (TCEQ-0585)**

Attachment A - Geologic Assessment Table (TCEQ-0585-Table)
Attachment B - Stratigraphic Column
Attachment C - Site Geology
Attachment D - Site Geologic Map(s)

X **Modification of a Previously Approved Plan (TCEQ-0590)**

Attachment A - Original Approval Letter and Approved Modification Letters
Attachment B - Narrative of Proposed Modification
Attachment C - Current Site Plan of the Approved Project

X **Application Form (include any applicable to the proposed modification):**

Aboveground Storage Tank Facility Plan (TCEQ-0575)
Organized Sewage Collection System Application (TCEQ-0582)
Underground Storage Tank Facility Plan (TCEQ-0583)
X Water Pollution Abatement Plan Application (TCEQ-0584)
Lift Station / Force Main System Application (TCEQ-0624)

X **Temporary Stormwater Section (TCEQ-0602)**

Attachment A - Spill Response Actions
Attachment B - Potential Sources of Contamination
Attachment C - Sequence of Major Activities
Attachment D - Temporary Best Management Practices and Measures
Attachment E - Request to Temporarily Seal a Feature (if requested)
Attachment F - Structural Practices
Attachment G - Drainage Area Map
Attachment H - Temporary Sediment Pond(s) Plans and Calculations
Attachment I - Inspection and Maintenance for BMPs
Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

X **Permanent Stormwater Section (TCEQ-0600), if necessary**

Attachment A - 20% or Less Impervious Cover Declaration (if requested for multi-family, school, or small business site)
Attachment B - BMPs for Upgradient Stormwater

Attachment C - BMPs for On-site Stormwater
Attachment D - BMPs for Surface Streams
Attachment E - Request to Seal Features, if sealing a feature
Attachment F - Construction Plans
Attachment G - Inspection, Maintenance, Repair and Retrofit Plan
Attachment H - Pilot-Scale Field Testing Plan (if requested)
Attachment I -Measures for Minimizing Surface Stream Contamination

X **Agent Authorization Form (TCEQ-0599), if application submitted by agent**

X **Application Fee Form (TCEQ-0574)**

X **Check Payable to the "Texas Commission on Environmental Quality"**

X **Core Data Form (TCEQ-10400)**

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.

4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Oakrun Commercial Reserve 2 - Big League Car Wash #3							**2. Regulated Entity No.:** 111252805		
3. Customer Name: Waterfall Kid, LLC							**4. Customer No.:** 605884535		
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):**		4.496 acres
9. Application Fee:	$4000		**10. Permanent BMP(s):**			One Batch Detention Basin			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Comal		**14. Watershed:**			Tributary of Blieders Creek Basin			

Application Distribution

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

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

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

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

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

SUBMITTED: (1) ORIGINAL, (1) COPY AND (1) CD WITH COMPLETE .PDF FILE.

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.	
John J. Moy, Jr. Print Name of Customer/Authorized Agent	
Signature of Customer/Authorized Agent	Date 9/21/21

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

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.

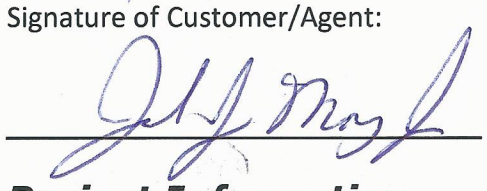
Signature

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: John J. Moy, Jr.

Date: 9/21/21

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Oakrun Commercial Reserve 2 - Big League Car Wash #3
2. County: Comal
3. Stream Basin: Tributary of Blieder's Creek Basin
4. Groundwater Conservation District (If applicable): Edwards Aquifer Authority
5. Edwards Aquifer Zone:

   [X] Recharge Zone
   [ ] Transition Zone

6. Plan Type:

   [X] WPAP
   [ ] SCS
   [X] Modification
   [ ] AST
   [ ] UST
   [ ] Exception Request

7. Customer (Applicant):

Contact Person: Daniel McCutchen
Entity: Waterfall Kid, LLC
Mailing Address: 125 Ash Juniper
City, State: New Braunfels, Texas Zip: 78132 - 3551
Telephone: (405) 413-4982 FAX: -
Email Address: cutch82@gmail.com

8. Agent/Representative (If any):

Contact Person: John J. Moy, Jr.
Entity: Pawelek & Moy, Inc.
Mailing Address: 130 W. Jahn St.
City, State: New Braunfels, TX. Zip: 78130 - 7640
Telephone: (830)629-2563 FAX: (830)629-2564
Email Address: johnmoy711@sbcglobal.net

9. Project Location:

[X] The project site is located inside the city limits of New Braunfels.
[ ] The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
[ ] The project site is not located within any city's limits or ETJ.

10. [X] 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.

1,200 ft. east of the intersection of Oak Run Point and S.H. Hwy 46, New Braunfels.

11. [X] **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. [X] **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:

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

13. [X] **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.

[X] Survey staking will be completed by this date: 09/24/21

14. [X] **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:

[X] Area of the site
[X] Offsite areas
[X] Impervious cover
[X] Permanent BMP(s)
[X] Proposed site use
[X] Site history
[X] Previous development (N/A - Currently the 4.496 ac. is undeveloped)
[X] Area(s) to be demolished (N/A - No Areas areas to be deomolished)

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)
[X] Undeveloped (Undisturbed/Uncleared) (Routine Maintenance/Shredding)
[ ] Other: _____

Prohibited Activities

16. [X] 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. [X] 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:

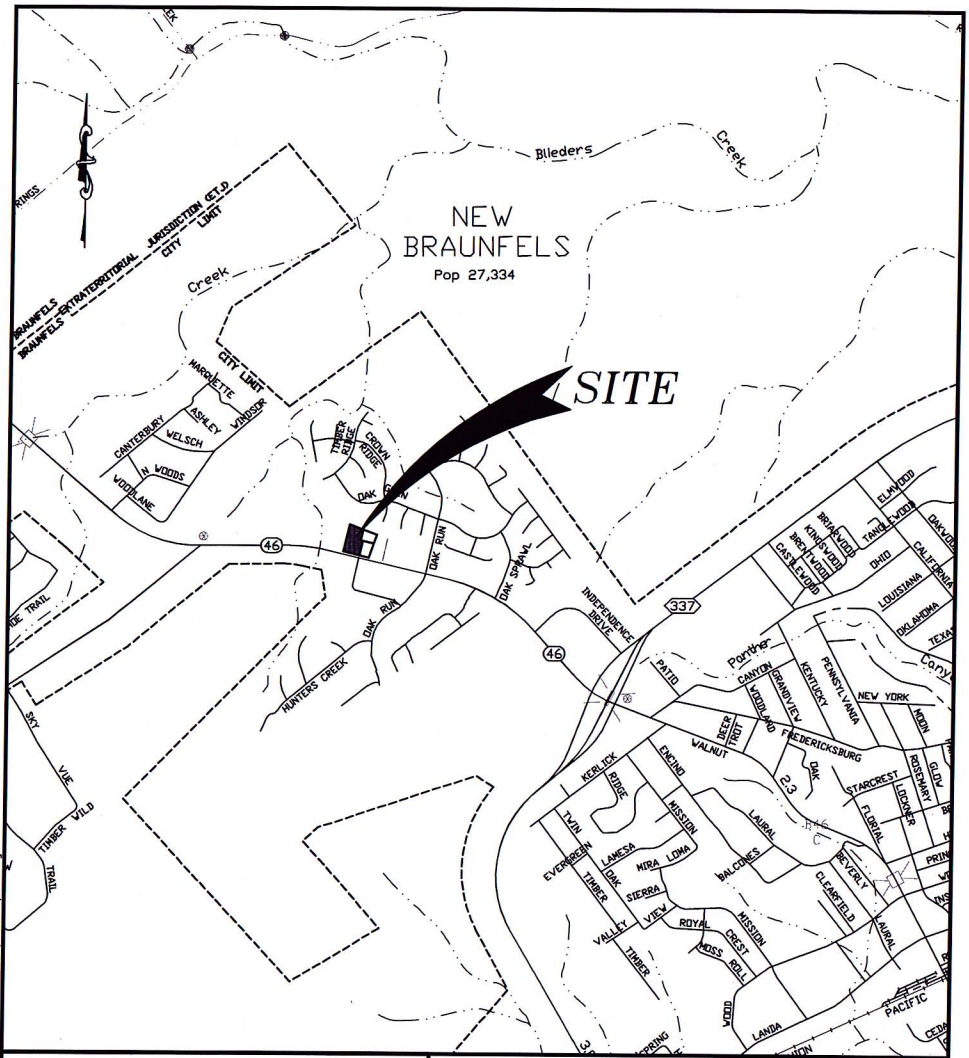
- [X] For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- [ ] For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- [ ] For a UST Facility Plan or Modification 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. [X] 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)
- [X] San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

20. [X] 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. [X] 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.



LOCATION MAP

SCALE: 1" = 2000'

ATTACHMENT A
ROAD MAP

P&M

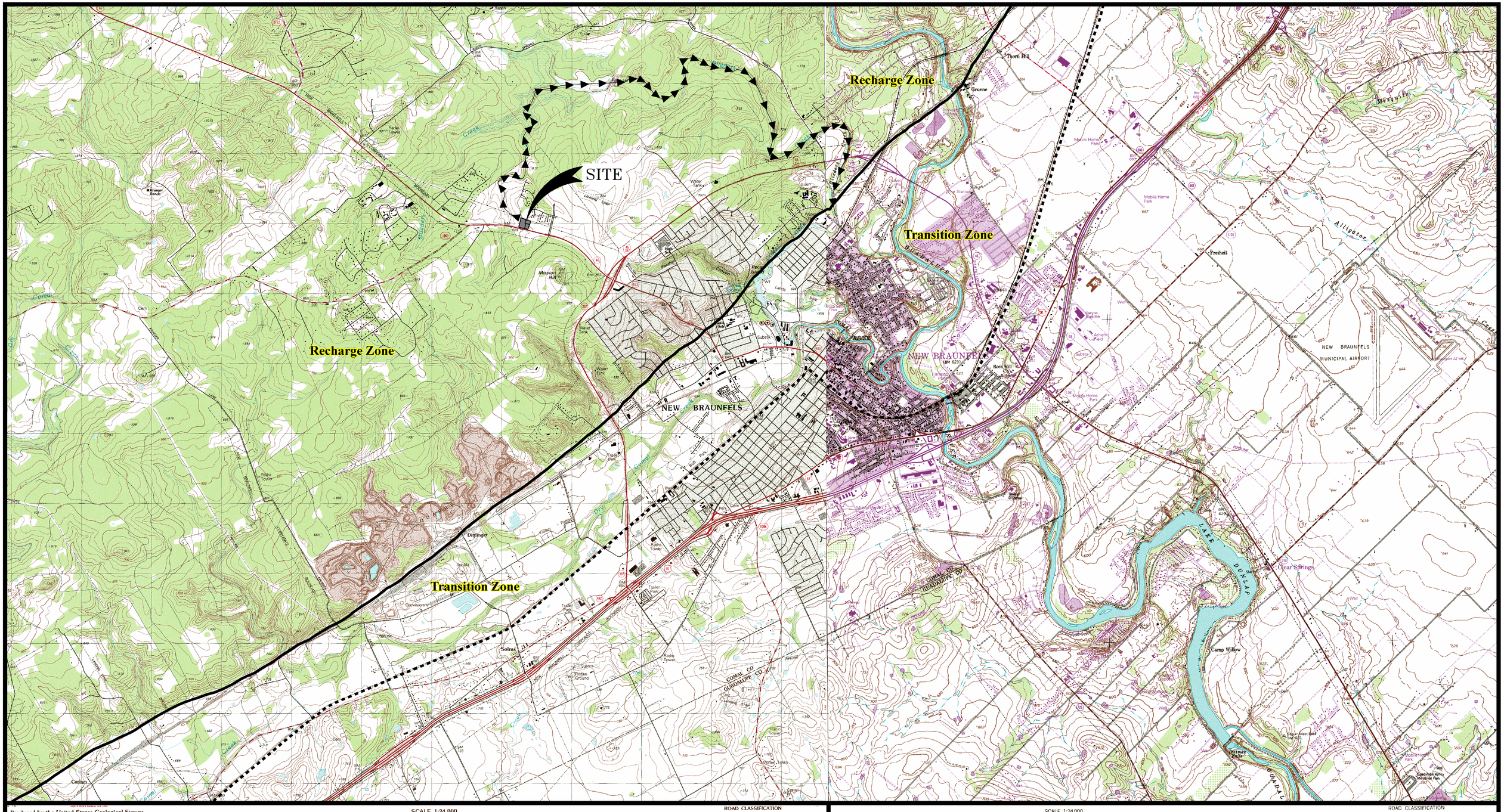
PAWELEK & MOY, INC.
CIVIL ENGINEERING & CONSULTING SERVICES
130 W. Jahn Street tel: (830) 629-2563
New Braunfels, Texas 78130 fax: (830) 629-2564

TECHNICIAN:	D.G.III	DATE:	09/2/21
JOB NO.	2004.01	SHEET:	R1

File Name: F:\2004.01 – Oakrun Com Res 2 McCutchen\site map-1.dwg

ATTACHMENT B

USGS/EDWARDS RECHARGE ZONE MAP



Produced by the United States Geological Survey
Revised in cooperation with the Texas Water Development Board

Control by USGS, NOS/NOAA, and USCE

Compiled by the Army Map Service by photogrammetric methods from aerial photographs taken 1956. Field checked 1958
Revised from aerial photographs taken 1986. Field checked 1987
Map edited 1988

Projection and 10,000-foot grid ticks: Texas coordinate system, south central zone (Lambert conformal conic)
1000-meter Universal Transverse Mercator grid, zone 14
1927 North American Datum
To place on the predicted North American Datum 1983 move the projection lines 20 meters south and 28 meters east as shown by dashed corner ticks

Fine red dashed lines indicate selected fence and field lines generally visible on aerial photographs. This information is unchecked

MN / GN — 0°24' E, 7 MILS — 124 MILS

UTM GRID AND 1988 MAGNETIC NORTH DECLINATION AT CENTER OF MAP
DIAGRAM IS APPROXIMATE

SCALE 1:24 000

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10 000 FEET
1 0 1 MILES
1000 0 1000 2000 METERS
1 0 1 2 KILOMETERS

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

TEXAS
QUADRANGLE LOCATION

2998-413

ROAD CLASSIFICATION

Primary highway, hard surface — Light-duty road, hard or improved surface
Secondary highway, hard surface — Unimproved road
Interstate Route · U. S. Route · State Route

NEW BRAUNFELS WEST, TEX.
29098-F2-TF-024
1988
DMA 6343 II NW-SERIES V822

Last revision date of the Recharge Zone Boundary for this Quadrangle Map: March 1974

MN / GN — 0°28' E, 8 MILS — 116 MILS

UTM GRID AND 1994 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
SUPPLEMENTARY CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

TEXAS
QUADRANGLE LOCATION

2998-414

ROAD CLASSIFICATION

Primary highway, hard surface — Light-duty road, hard or improved surface
Secondary highway, hard surface — Unimproved road
Interstate Route · U. S. Route · State Route

NEW BRAUNFELS EAST, TEX.
29098-F1-TF-024
1968
REVISED 1994
DMA 6343 II NE-SERIES V882

Last revision date of the Recharge Zone Boundary for this Quadrangle Map: March 1974

ATTACHMENT "C"
PROJECT DESCRIPTION

This 4.496 acre project site is located approximately 1,200 feet east of the intersection of Oak Run Point and State Highway 46 in New Braunfels, Texas. The existing site is a 4.496 acre undeveloped commercial tract that is part of an overall 9.996 acre site, which consists of a 5.50 acre tract and this 4.496 acre tract, that was approved by TCEQ letter dated February 9, 2015. The 5.50 acre lot (Lot 2A1 – Oakrun Commercial Reserve 2) was developed into a Memory Care facility and the remaining 4.496 acre tract, previously Lot 2A2, is now being developed in accordance with the TCEQ approval letter with less than 85% impervious cover being proposed. The 4.496 acre tract was recently re-platted into three lots (Oakrun Commercial Reserve 2 - Lots 2A2-1R, 2A2-2R and 2A2-3R) which drain from the east to the west towards the existing 5.50 acre tract/Memory Care facility and the existing batch detention basin (the approved permanent Best Management Practice for the entire 9.996 acre development). The project site is located in the Blieder's Creek drainage basin but is not located in a FEMA 100 yr. flood plain according to FEMA FIRM Map 48091C0435F (effective 9/2/2009).

This proposed 4.496 acre site will consist of one building containing a car wash and coffee shop along with associated parking/sidewalk areas. The runoff from the roofs, associated parking areas and sidewalks will be treated by the existing batch detention basin located on the 5.50 acre Memory Care facility lot in accordance with the TCEQ approval letter dated February 9, 2015. The following table summarizes the impervious cover areas draining to the existing batch detention basin BMP for an Impervious Cover of 31.63% for this 4.496 acre site, which is less than the maximum 85% allowable per TCEQ approval letter:

LOT # (Acreage)	IMPERVIOUS COVER DESCRIPTION (for 4.496 acre site)			PERMANENT BEST MANAGEMENT PRACTICE
2A2-1R (2.651 ac.)	Structures/Rooftops	-	5,612 sf	Existing – Batch Detention Basin on Lot 2A1
	Sidewalks/Parking/Drives	-	51,688 sf	
	Impervious Cover	=	57,300 sf	
2A2-2R (0.974 ac.)	Structures/Rooftops	-	0 sf	Existing – Batch Detention Basin on Lot 2A1
	Sidewalks/Parking/Drives	-	4,111 sf	
	Impervious Cover	=	4,111 sf	
2A2-3R (0.871 ac.)	Structures/Rooftops	-	0 sf	Existing – Batch Detention Basin On Lot 2A1
	Sidewalks/Parking/Drives	-	527 sf	
	Impervious Cover	=	527 sf	
	Total Impervious Cover Included in this 4.496 ac. plan (1.422 Acres) (31.63%)	=	61,938 sf	

GEOLOGIC SITE ASSESSMENT

PREPARED BY

PSI

FOR

OAKRUN COMMERCIAL RESERVE 2

BIG LEAGUE CAR WASH #3

intertek
psi

GEOLOGIC ASSESSMENT

For

OAKRUN COMMERCIAL RESERVE 2
BIG LEAGUE CAR WASH NO. 3

HIGHWAY 46
NEW BRAUNFELS, COMAL COUNTY, TEXAS

Prepared for
BIG LEAGUE CAR WASH
723 DEER RUN WAY
NEW BRAUNFELS, TEXAS 78132

Prepared by

Professional Service Industries, Inc.
3 Burwood Lane
San Antonio, Texas 78216
Telephone (210) 342-9377

PSI PROJECT NO.: 0435-4440

September 14, 2021

Professional Service Industries, Inc.
3 Burwood Lane, San Antonio, TX 78216
Phone: (210) 342-9377
Fax: (210) 342-9401

September 14, 2021

Big League Car Wash
723 Deer Run Way
New Braunfels, TX 78132

Attn: Mr. Daniel McCutchen, Owner

RE: Geologic Assessment
Oakrun Commercial Reserve 2 – Big League Car Wash No. 3 Tract
Highway 46
New Braunfels, Comal County, Texas
PSI Project No. 435-4440

Dear Mr. McCutchen:

Professional Service Industries, Inc. (PSI) has completed geologic recharge assessment for the above referenced project in compliance with the Texas Commission on Environmental Quality (TCEQ) requirements for regulated developments located on the Edwards Aquifer Recharge Zone (EARZ). The purpose of this report is to describe surficial geologic units and identify the locations and extent of significant recharge features present in the development area.

PROJECT DESCRIPTION

The subject site is located on the north side of Highway 46, approximately 0.16 miles east of Oak Run Point, in New Braunfels, Comal County, Texas. The site consisting of Lots 2A2-1R, 2A2-2R and 2A2-3R (previously Lot 2A2) is approximately 4.496-acres in size, and is a rectangular shaped tract of undeveloped land, that has historically been undeveloped or range land. The site vegetation consists primarily of native grasses, with ashe juniper and live oak trees, and mountain laurel, agarita, and prickly pear cactus.

REGIONAL GEOLOGY

Physiography

Comal County lies within two physiographic provinces, the Edwards Plateau and the Blackland Prairie. Most of Comal County lies within the Edwards Plateau, which is characterized by rugged and hilly terrain, with elevations in excess of 1,400' feet above sea level in the northwestern portion of the county. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Comal County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 650 feet to 1100 feet above sea level. The regional dip of the lower Cretaceous rocks in Comal County is 15 feet per mile towards the southeast. The faults are predominantly normal, down-to-the Gulf Coast, with near vertical throws. Elevations along the site range from approximately 859 feet MSL in the eastern portion to approximately 838 feet MSL on the west side of the site. The topographic slope of the site is to the west, towards an unnamed tributary to Blieder's Creek, located approximately 400 feet west of the site boundary.

Stratigraphy and Structure

Based on the United States Geologic Survey (USGS) "Geologic Map of the Edwards Aquifer Recharge Zone, South-Central Texas (2005), rocks at the site are mapped as the Lower Cretaceous Person Formation. The site is covered with a fairly thick soil horizon, with limited rock outcrops. According to "The Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County Texas" written by the USGS, the Person Formation ranges between 180 and 224 feet thick and forms the upper member of the Edwards Group, beneath the Georgetown Formation which compromises the Edwards Aquifer, a federally-designated sole source aquifer for the region.

No sensitive features scoring more than 40 points on the F-0585 form were observed on the subject tract. Notable rock outcrops were sparse, and the predominantly clay covered areas of the subject tract did not have potential recharge features. Features S-1, S-2 and S-3 were small closed depressions on the site.

SITE INVESTIGATION

The site investigation was performed by systematically traversing the subject tract, and mapping fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration. The results of the site investigation are included in the attached TCEQ report format.

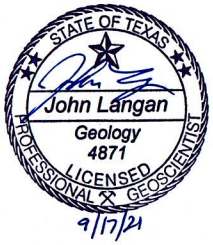
SUMMARY

No sensitive features scoring more than 40 points on the F-0585 form were observed on the subject tract. Please note that subtle features, buried or obscured from view, may be present on the tract. It is possible that clearing/construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If additional caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.

We appreciate this opportunity to be of service to you. If you have any questions, please do not hesitate to contact our office.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

John Langan, P.G.
Environmental Department Manager



WARRANTY

The field observations and research reported herein are considered enough in detail and scope to form a reasonable basis for a general geological recharge assessment of this site. PSI warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted geologic methods, only for the site described in this report. These methods have been developed to provide the client with information regarding apparent indications of existing or potential conditions relating to the subject site and are necessarily limited to the conditions observed at the time of the site visit and research. This report is also limited to the information available at the time it was prepared. In the event additional information is provided to PSI following the report, it will be forwarded to the client in the form received for evaluation by the client. There is a possibility that conditions may exist which could not be identified within the scope of the assessment or which were not apparent during the site visit. PSI believes that the information obtained from others during the review of public information is reliable; however, PSI cannot warrant or guarantee that the information provided by others is complete or accurate.

This report has been prepared for the exclusive use of Big League Car Wash and Pawelek & Moy, Inc. for the site discussed herein. Reproductions of this report cannot be made without the expressed approval of Big League Car Wash and Pawelek & Moy, Inc. The general terms and conditions under which this assessment was prepared apply solely to Big League Car Wash and Pawelek & Moy, Inc. No other warranties are implied or expressed.

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: John Langan Telephone: 210/342-9377

Date: 9/14/21 Fax: 210/342-9401

Representing: PSI TBPG No. 50128 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Oakrun Commercial Reserve 2 Big League Car Wash No. 3

Project Information

1. Date(s) Geologic Assessment was performed: 4/21/20
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

STATE OF TEXAS
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST
9/14/21

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Rumple-Comfort association, undulating (RUD)	C	1-3

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.

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

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

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

   Applicant's Site Plan Scale: 1" = 40'
   Site Geologic Map Scale: 1" = 40'
   Site Soils Map Scale (if more than 1 soil type): 1" = _____'

9. Method of collecting positional data:

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

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

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

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

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

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

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

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

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

Administrative Information

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

STRATIGRAPHIC COLUMN
Oakrun Commercial Reserve 2, Big League Car Wash No. 3
Approximate 4.496-Acre Tract
Highway 46
New Braunfels, Comal County, Texas

FORMATION	THICKNESS	LITHOLOGIC DESCRIPTION
Del Rio Clay	40-50	Calcareous and gypsiferous, with pyrite common, with a blocky structure that weathers to light gray or yellowish gray. The characteristic marine megafossil, *Ilmatogyra arietina* (formerly *exogyra arietina*) is widespread throughout the formation.
Georgetown Formation	<10	Light tan limestone identified by proximity to Del Rio clay and diagnostic marker fossil: *kingena wacoensis* brachiopod; low porosity and permeability development.
Person Formation	180-220′	Limestones and dolomites, extensive porosity development in "honeycomb sections, interbedded with massive recrystallized limestones with more limited permeabilities (especially Regional Dense Member separating the Person and Kainer Formations.
Kainer Formation	260-310′	Hard, miliolid limestones, overlying calcified dolomites and dolomite. Leached evaporitic "Kirschberg" zone of very porous and permeable collapse breccia formed by the dissolution of gypsum. Overlies the basal nodular (Walnut) bed.

SOILS NARRATIVE

According to the Soil Survey of Comal County, published by the United States Department of Agriculture, Soil Conservation Service, in cooperation with the Texas Agricultural Extension Service, reissued in 1984, the soils beneath the subject property have been classified as Rumple-Comfort association, undulating (RUD).

Rumple-Comfort association soils are shallow to moderately deep soils on uplands in the Edwards Plateau. The surface layer is a dark reddish-brown cherty clay loam about 10 inches thick and overlies a subsoil of reddish-brown cherty clay with abundant limestone fragments to a depth of 28 inches. The underlying parent material is an indurated limestone. The soil is well drained, with medium surface runoff, moderately slow permeability, and very low available water capacity. The soil is not suited for cropland, or cultivation, but is used as range land and habitat for wildlife.

SITE GEOLOGIC NARRATIVE

Physiography

Comal County lies within two physiographic provinces, the Edwards Plateau and the Blackland Prairie. Most of Comal County lies within the Edwards Plateau, which is characterized by rugged and hilly terrain, with elevations in excess of 1,400' feet above sea level in the northwestern portion of the county. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Comal County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 650 feet to 1100 feet above sea level. The regional dip of the lower Cretaceous rocks in Comal County is 15 feet per mile towards the southeast. The faults are predominantly normal, down-to-the Gulf Coast, with near vertical throws. Elevations along the site range from approximately 859 feet MSL in the eastern portion to approximately 838 feet MSL on the west side of the site. The topographic slope of the site is to the west, towards an unnamed tributary to Blieder's Creek, located approximately 400 feet west of the site boundary.

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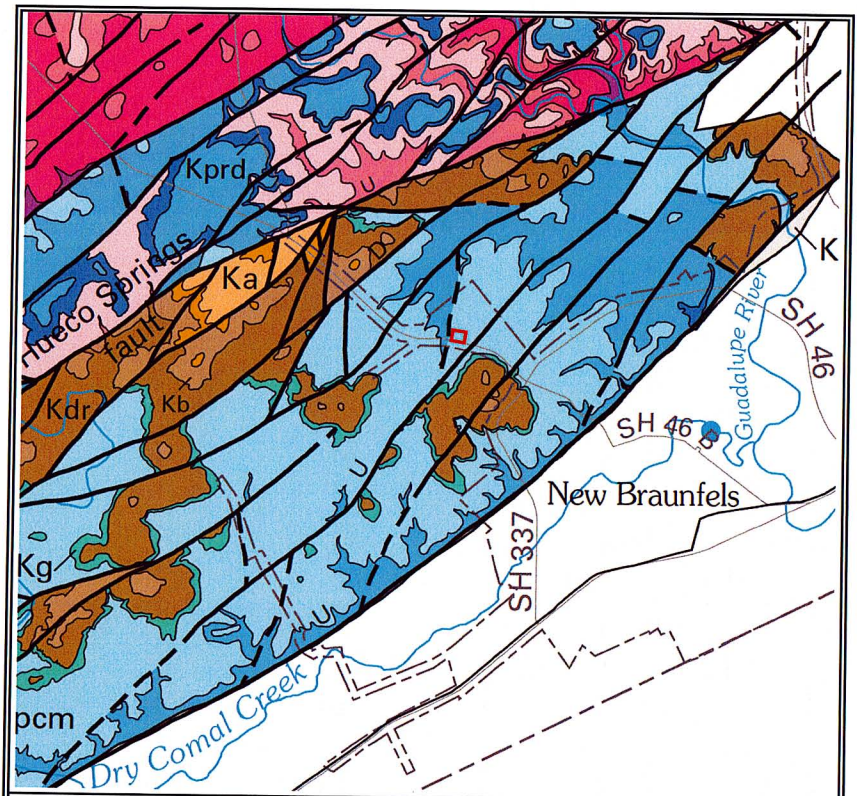
and/or soil cover. If additional caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.



intertek psi

PSI, Inc.
3 Burwood Lane
San Antonio, Texas 78216

PROJECT NAME:
Oakrun Commercial Reserve
2-Big League Car Wash #3
Highway 46
New Braunfels, Comal County,Texas

PROJECT NO.:435-4440

Geologic Map of Edwards Aquifer Recharge Zone, South-Central Texas

(USGS, 2005)

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Oakrun Commercial Reserve 2 Big League Car Wash No. 3

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)	ROD	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10							<40	≥40	<1.6	≥1.6	
S-1	29-43-16	98-10-8.5	CD	5	Kep	1.5	1.5	0.5					F	7	12	X		X		hillside
S-2	29-43-16.3	98-10-12	CD	5	Kep	3	2	0.5					F	7	12	X		X		hillside
S-3	29-43-17.9	98-10-12.2	CD	5	Kep	2	2	0.8					F	7	12	X		X		hillside

* DATUM:

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

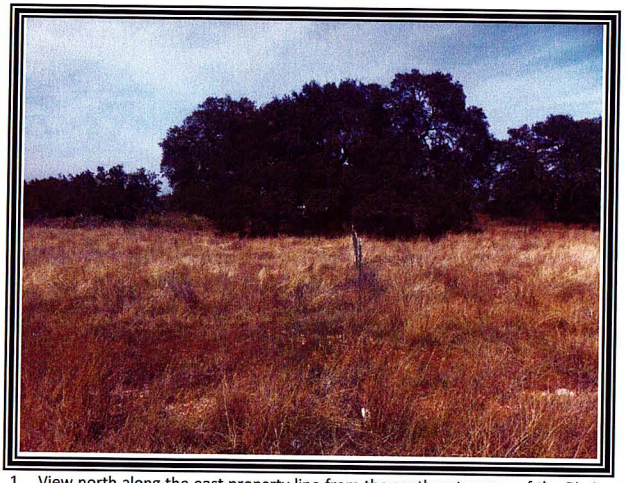
My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date: August 20, 2014

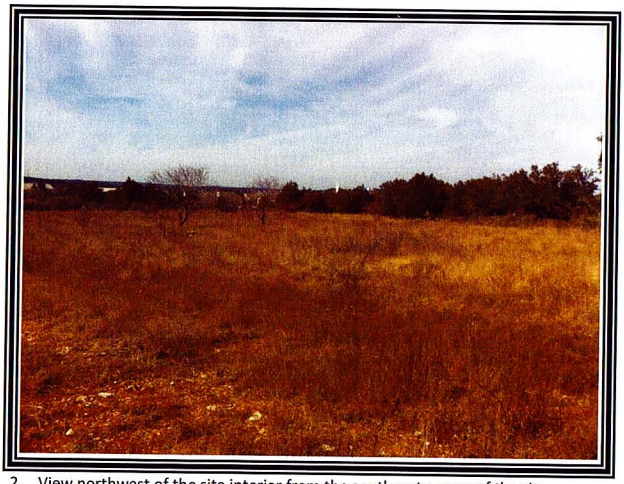
Sheet 1 of 1

STATE OF TEXAS
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST
9/1/24

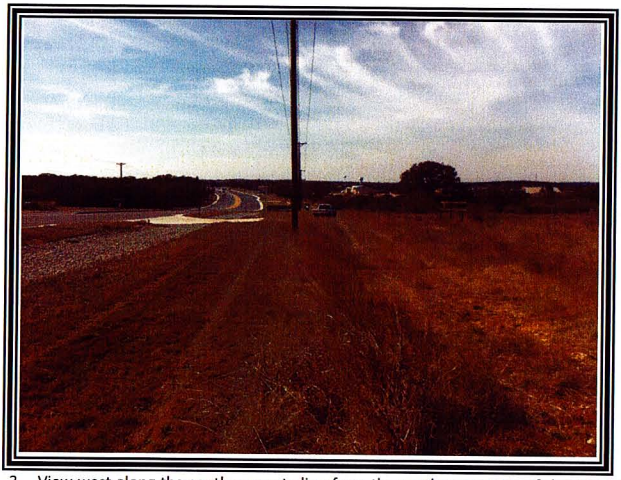
TCEQ-0585-Table (Rev. 10-01-04)



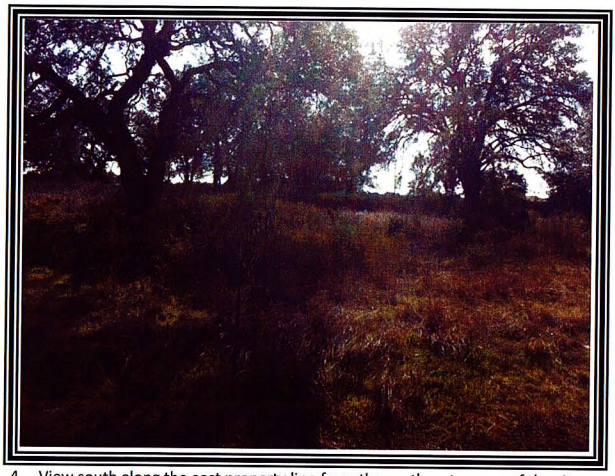
1. View north along the east property line from the southeast corner of the Big League Car Wash No. 3 site on Highway 46 in New Braunfels, Texas.



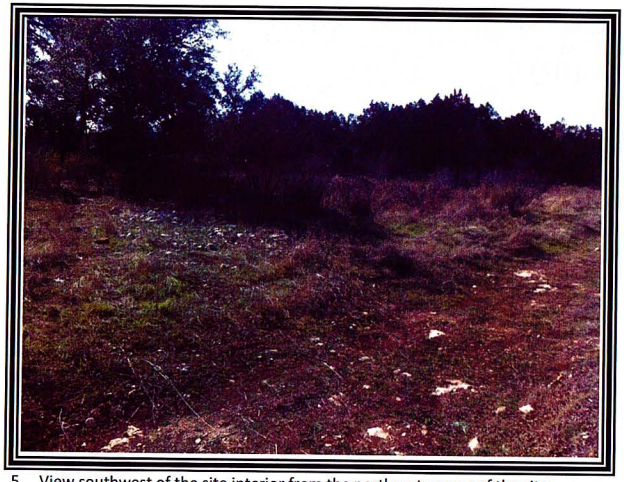
2. View northwest of the site interior from the southeast corner of the site.



3. View west along the south property line from the southeast corner of the site. Highway 46 is on the left.



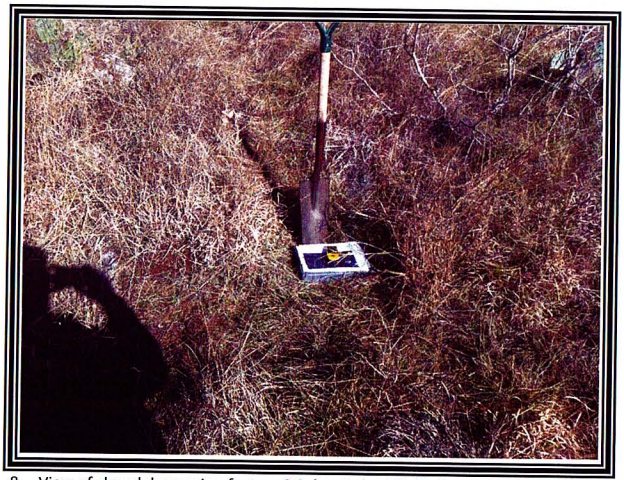
4. View south along the east property line from the northeast corner of the site.



5. View southwest of the site interior from the northeast corner of the site.

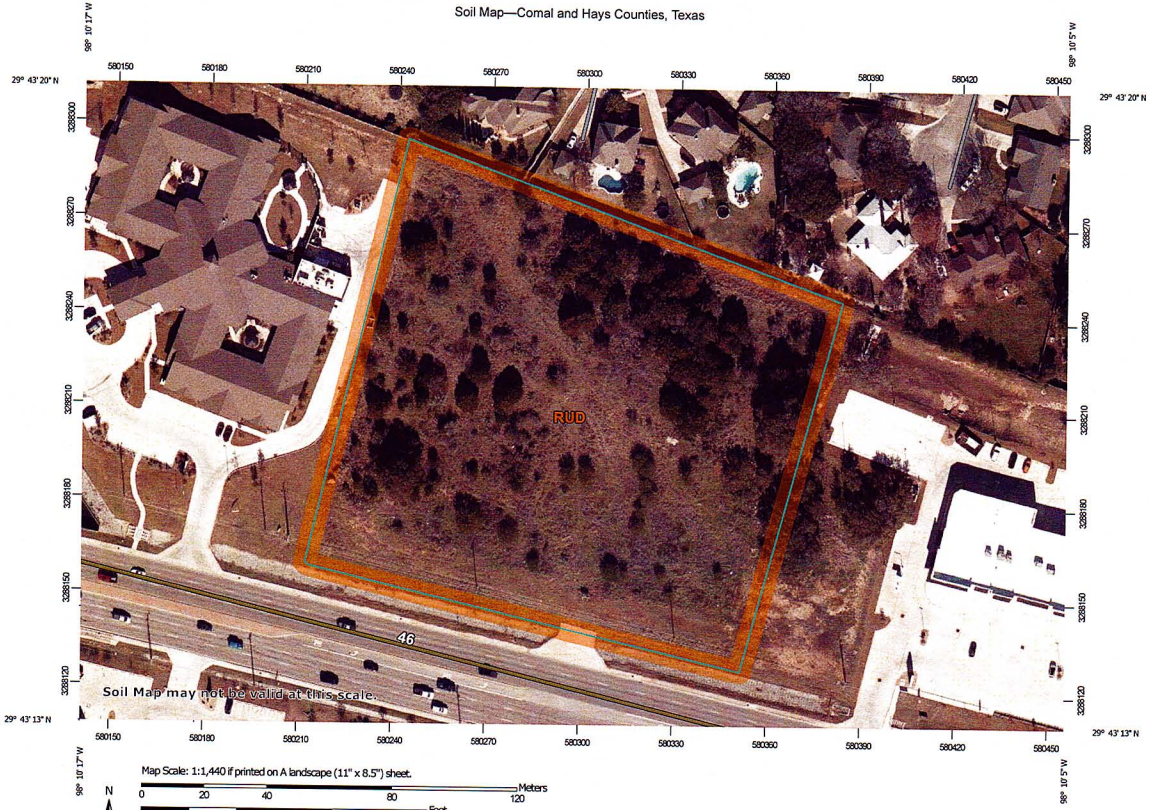
6. View of closed depression feature S-1, located at 29-43-16; 98-10-8.5, in the eastern portion of the site.

7. View of closed depression feature S-2, located at 29-43-16.3; 98-10-12, in the southeastern portion of the site.



8. View of closed depression feature S-3, located at 29-43-17.9; 98-10-12.2, in the east-central portion of the site.

Soil Map—Comal and Hays Counties, Texas



Map Scale: 1:1,440 if printed on A landscape (11" x 8.5") sheet.

N

0 20 40 80 120 Meters

0 50 100 200 300 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Comal and Hays Counties, Texas
Survey Area Data: Version 17, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 4, 2019—Jan 24, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RUD	Rumple-Comfort, rubbly association, 1 to 8 percent slopes	4.7	100.0%
Totals for Area of Interest		**4.7**	**100.0%**

LOT 50
OAK RUN SUBDIVISION UNIT 16
(DOC. #200406003682, MPRCCT)

LOT 42
OAK RUN SUBDIVISION UNIT 16
(DOC. #200406003682, MPRCCT)

LOT 41
OAK RUN SUBDIVISION UNIT 16
(DOC. #200406003682, MPRCCT)

LOT 40
OAK RUN SUBDIVISION UNIT 16
(DOC. #200406003682, MPRCCT)

LOT 31, BLOCK 1
OAKRUN SUBDIVISION UNIT 1
(VOL. 8, PG. 4, MPRCCT)

EXISTING WATER QUALITY BASIN (PER OAK RUN COMMERCIAL RESERVE 2) (WPAP APPROVED FEBRUARY 9, 2015)

LOT 2A1, BLOCK 1,
(5.50 AC.)
OAKRUN COMMERCIAL RESERVE 2
(DOC. #201406014858)

LOT 2A2-3R, BLOCK 1,
(0.871 AC.)
OAKRUN COMMERCIAL RESERVE 2
(DOC. #202006052551)

LOT 2A2-1R, BLOCK 1,
(2.651 AC.)
OAKRUN COMMERCIAL RESERVE 2
(DOC. #202006052551)

LOT 2A2-2R, BLOCK 1,
(0.974 AC.)
OAKRUN COMMERCIAL RESERVE 2
(DOC. #202006052551)

4.496 ACRE SITE

LOT 4, BLOCK 1
OAKRUN COMMERCIAL RESERVE 1 SUBDIVISION
(DOC. #201706052211)

S-3

S-2

S-1

Kep

37.5' DRAINAGE EASEMENT
(DOC. NO. 201406014858, MPRCCT)

37.5' DRAINAGE EASEMENT & UTILITY EASEMENT
(DOC. NO. 201406014858, MPRCCT)

20' UTILITY EASEMENT
(DOC. #202006052551, MPRCCT)

30' ACCESS EASEMENT
(DOC. #202006052551, MPRCCT)

10' UTILITY EASEMENT
(DOC. #202006052551, MPRCCT)

15' UTILITY EASEMENT
(DOC. NO. 201406014858, MPRCCT)

1.0' NON-VEHICULAR ACCESS EASEMENT
(DOC. #202006052551, MPRCCT)

STATE HIGHWAY 46

40 0 20 40
(IN FEET)
1 inch = 40 ft.

LEGEND

Kep - LOWER CRETACEOUS PERSON FORMATION

S-1 - SITE FEATURES

GEOLOGIC ASSESSMENT
for
OAKRUN COMMERCIAL RESERVE 2 BIG LEAGUE CARWASH 3
HIGHWAY 46 COMAL COUNTY, TEXAS

STATE OF TEXAS
JOHN LANGAN
GEOLOGY
6471
CERTIFIED
PROFESSIONAL

intertek psi
Information To Build On
Engineering • Consulting • Testing
THREE BURWOOD LANE
SAN ANTONIO, TEXAS 78216

REVISIONS:

JOB NO. 04354440
FILE: 04354440.01
DATE: 09/09/2021
DESIGN: ~
DRAWN: J LEAL
CHECKED:
SHEET 1 OF 1

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

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

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

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

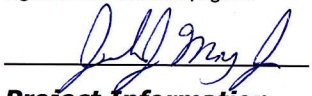
Signature

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

Print Name of Customer/Agent: John J. Moy, Jr.

Date: 9/21/21

Signature of Customer/Agent:



Project Information

1. Current Regulated Entity Name: Oakrun Commercial Reserve 2 - Big League Car Wash #3
   Original Regulated Entity Name: Oak Run Commercial Reserve 2
   Regulated Entity Number(s) (RN): 107695892
   Edwards Aquifer Protection Program ID Number(s): 13-14082104
   ☐ The applicant has not changed and the Customer Number (CN) is: _____
   ☒ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

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

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

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

WPAP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	9.996 ac.	4.496 ac. (Portion of 9.996 ac. included in approved project limits)
Type of Development	Commercial - Assisted Living Facility	Commercial - Car Wash/Coffee Shop
Number of Residential Lots	n/a	n/a
Impervious Cover (acres)	6.033 ac.	1.422 ac. (On 4.496 acre tract) 3.623 ac. (On 9.996 acre total tract)
Impervious Cover (%	60.35%	31.63% (On 4.496 acre tract) < 85% 36.24% (On 9.996 acre total tract) <60.35%
Permanent BMPs	One Batch Detention Basin	No Modification
Other	n/a	n/a

SCS Modification Summary	***Approved Project***	***Proposed Modification***
Linear Feet	n/a	n/a
Pipe Diameter	n/a	n/a
Other	n/a	n/a

AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	n/a	n/a
Volume of ASTs	n/a	n/a
Other	n/a	n/a

UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	n/a	n/a
Volume of USTs	n/a	n/a
Other	n/a	n/a

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

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

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

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

ATTACHMENT A

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 9, 2015

Mr. Darren Bueche
II DB Holding LP
451 Fallen Oak
New Braunfels, Texas 78132-3780

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Oak Run Commercial Reserve 2; Located 1,100 feet east of the intersection of Oak Run Point and TX Hwy 46, New Braunfels, Texas

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

Investigation No. 1192266; Regulated Entity No. RN107695892; Additional ID No. 13-14082104

Dear Mr. Bueche:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the above-referenced project submitted to the San Antonio Regional Office by KFW Engineers on behalf of II DB Holding LP on August 21, 2014. Final review of the WPAP was completed after additional material was received on December 3, December 31, 2014, January 9, 2015, January 16, 2015 and February 2, 2015. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial development project will have an area of approximately 9.996 acres. The tract will be split between 5.50 acres and 4.496 acres. The first 5.50 acres will be developed into a Memory Care America facility and the remaining 4.496 acres will be developed in the future with up to 85% impervious cover. It will include 0.002 acres of existing impervious cover, 1.005 acres of parking and other paved surfaces, 0.101 acres of

concrete sidewalks, curbs and dumpster pads, and 1.105 acres of structures/rooftops. The resulting total impervious cover will be 6.033 acres (60.35 percent). Project wastewater will be disposed of by conveyance to the existing Gruene Wastewater Treatment Plant operated by New Braunfels Utilities (NBU).

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one batch detention basin, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 5,414 pounds of TSS generated from the 6.033 acres of impervious cover. The provided TSS removal is 6,295 pounds of TSS. The total capture volume of the basin is 28,562 cubic feet (27,765 cubic feet required). The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the geologic assessment included with the application, the site is located within the Lower Cretaceous Person Formation, the upper member of the Edwards Group. The San Antonio Regional Office site assessment conducted on November 18, 2014 revealed the site was generally as described in the geologic assessment. One sensitive feature, a fault identified as feature S-4, was noted in the geologic assessment. The natural buffer for feature S-4 will be 50 feet (50') in all directions.

SPECIAL CONDITIONS

I. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

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

III. As indicated in the application, future development within the site will require the submission and approval of WPAP modifications prior to initiating regulated activities.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall

be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

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

<u>During Construction:</u>

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the

executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

13. There are no wells on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.

16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.

19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer Protection Plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer Protection Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

21. An Edwards Aquifer Protection Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer Protection Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. Ricardo A. Macias of the Edwards Aquifer Protection Program, San Antonio Regional Office at (210) 403-4065.

Sincerely,

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

LMB/RAM/eg

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

cc: Mr. Benjamin Bunker, P.E., KFW Engineers
Mr. James C. Klein, P.E., New Braunfels City Engineer
Mr. Thomas H. Horseth, P.E., Comal County Engineer
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

ATTACHMENT "B"
NARRATIVE OF PROPOSED MODIFICATION

The purpose of this modification is to permit the proposed impervious cover for a new car wash and coffee shop with associated parking and drives. The reason for this modification is the 4.496 acre site is a portion of the overall 9.996 acre site noted in the TCEQ approval letter (under Special Conditions, Item III) as future development requiring submission and approval of Water Pollution Abatement Plan modifications prior to initiating regulated activities. This 4.496 acre project site is located approximately 1,200 feet east of the intersection of Oak Run Point and State Highway 46 in New Braunfels, Texas. The existing site is a 4.496 acre undeveloped commercial tract that is part of an overall 9.996 acre site, which consists of a 5.50 acre tract and this 4.496 acre tract, that was approved by TCEQ letter dated February 9, 2015. The 5.50 acre lot (Lot 2A1 – Oakrun Commercial Reserve 2) was developed into a Memory Care facility and the remaining 4.496 acre tract (previously Lot 2A2) is now being developed in accordance with the TCEQ approval letter with less than 85% impervious cover being proposed. The 4.496 acre tract was recently re-platted into three lots (Oakrun Commercial Reserve 2 - Lots 2A2-1R, 2A2-2R and 2A2-3R) which drains from the east to the west towards the existing 5.50 acre tract/Memory Care facility and the existing batch detention basin (the approved permanent Best Management Practice for the entire 9.996 acre development). The project site is located in the Blieder's Creek drainage basin but is not located in a FEMA 100 yr. flood plain according to FEMA FIRM Map 48091C0435F (effective 9/2/2009).

This proposed 4.496 acre site will consist of one building containing a car wash and coffee shop along with associated parking/sidewalk areas. The runoff from the roofs, associated parking areas and sidewalks will be treated by the existing batch detention basin located on the 5.50 acre Memory Care facility lot in accordance with the TCEQ approval letter dated February 9, 2015.

Per the TCEQ approval letter, this 4.496 acre site was approved for 85% impervious cover and the impervious cover being proposed is 1.422 acres (31.63%). Additionally, per the approval letter, the overall 9.996 acre site is approved for 6.033 acres (60.35%) impervious cover and the resulting total impervious cover for the overall site will be 3.623 acres (36.24%). The 4.496 acre site runoff will be conveyed to the existing batch detention basin via two existing storm drains that were constructed with the development of the 5.50 acre tract.

ATTACHMENT "C"

CURRENT SITE PLAN

LOT 50
OAK RUN SUBDIVISION UNIT 16
(DOC. #200406003682, MPRCCT)

LOT 42
OAK RUN SUBDIVISION UNIT 16
(DOC. #200406003682, MPRCCT)

LOT 41
OAK RUN SUBDIVISION UNIT 16
(DOC. #200406003682, MPRCCT)

LOT 40
OAK RUN SUBDIVISION UNIT 16
(DOC. #200406003682, MPRCCT)

LOT 31, BLOCK 1
OAKRUN SUBDIVISION UNIT 1
(VOL. 8, PG. 4, MPRCCT)

EXISTING BATCH DETENTION BASIN (PER OAK RUN COMMERCIAL RESERVE 2) (WPAP APPROVED FEBRUARY 9, 2015)

EXISTING 36" STORM DRAIN CONVEYS RUNOFF TO EXISTING BATCH DETENTION BASIN

LOT 2A1, BLOCK 1,
(5.50 AC.)
OAKRUN COMMERCIAL RESERVE 2
(DOC. #201406014858)

LOT 2A2-1R, BLOCK 1,
(2.651 AC.)
OAKRUN COMMERCIAL RESERVE 2
(DOC. #202006052551)

LOT 2A2-3R, BLOCK 1,
(0.871 AC.)
OAKRUN COMMERCIAL RESERVE 2
(DOC. #202006052551)

LOT 2A2-2R, BLOCK 1,
(0.974 AC.)
OAKRUN COMMERCIAL RESERVE 2
(DOC. #202006052551)

4.496 ACRE SITE

LOT 4, BLOCK 1
OAKRUN COMMERCIAL RESERVE SUBDIVISION
(DOC. #201706052211)

EXISTING 24" STORM DRAIN CONVEYS RUNOFF TO EXISTING BATCH DETENTION BASIN

37.5' DRAINAGE EASEMENT & UTILITY EASEMENT (DOC. NO. 201406014858, MPRCCT)

20' UTILITY EASEMENT (DOC. #202006052551, MPRCCT)

30' ACCESS EASEMENT (DOC. #202006052551, MPRCCT)

10' UTILITY EASEMENT (DOC. #202006052551, MPRCCT)

15' UTILITY EASEMENT (DOC. NO. 201406014858, MPRCCT)

1.0' NON-VEHICULAR ACCESS EASEMENT (DOC. #202006052551, MPRCCT)

STATE HIGHWAY 46

40 0 20 40
(IN FEET)
1 inch = 40 ft.

NOTES:

1. EXISTING SITE IMPROVEMENTS SHOWN ARE BASED ON SURVEY INFORMATION PROVIDED BY D.A. MAWYER LAND SURVEYING TO P&M INC. ON 4/20/2021. AERIAL MAP INFORMATION WAS USED WHERE SURVEY INFORMATION WAS NOT AVAILABLE.

2. EXISTING APPROVED SITE = 9.996 AC. (TOTAL)
   5.50 AC. (LOT 2A1) AND
   4.496 AC. (PREVIOUSLY LOT 2A2, NOW LOTS 2A2-1R, 2A2-2R, AND 2A2-3R)

   APPROVED IMPERVIOUS COVER PER TCEQ LETTER
   DATED FEBRUARY 9, 2015 = 2.213 AC (5.50 AC. TRACT)
   3.822 AC (4.496 AC. TRACT) (85% MAXIMUM IMPERVIOUS)

   EXISTING IMPERVIOUS COVER = 2.201 AC. < 2.213 AC (5.50 AC. TRACT)

ATTACHMENT "C"
CURRENT SITE PLAN
FOR

OAKRUN COMMERCIAL RESERVE 2 - BIG LEAGUE CAR WASH #3
NEW BRAUNFELS, TEXAS

PAWELEK & MOY, INC.
CIVIL ENGINEERING & CONSULTING SERVICES
130 W. JAHN STREET
NEW BRAUNFELS, TX 78130
TEL: (830) 629-2563
FIRM No. F-9862

DRAWN BY:	D.G. III	DATE:	SEPTEMBER 2021
CHECKED BY:	J.J.M.	JOB NO.:	1402.01

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: John J. Moy, Jr.

Date: 9/21/21

Signature of Customer/Agent:

Regulated Entity Name: Oakrun Commercial Reserve 2 - Big League Car Wash #3

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property): 4.496 ac.

3. Estimated projected population: Estimated Average of 6 employees

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

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	5,612	÷ 43,560 =	0.129
Sidewalks/Parking/Drives	56,326	÷ 43,560 =	1.293
Other paved surfaces	-	÷ 43,560 =	-
Total Impervious Cover	61,938	÷ 43,560 =	1.422

Total Impervious Cover 1.422 ÷ **Total Acreage** 4.496 **X 100 =** 31.63 **% Impervious Cover**

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

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

For Road Projects Only

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

7. Type of project:

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

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

   [ ] Concrete
   [ ] Asphaltic concrete pavement
   [ ] Other: _____

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

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

10. Length of pavement area: _____ feet.

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

11. [ ] A rest stop will be included in this project.

    [ ] A rest stop will not be included in this project.

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

100 % Domestic	5,250 Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day
TOTAL gallons/day 5,250	

15. Wastewater will be disposed of by:

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

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

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

☒ Sewage Collection System (Sewer Lines):

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

☒ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS. (TCEQ/SCS APPROVAL LETTER DATED JUNE 25, 2021)

☐ The SCS was previously submitted on_____.

☐ The SCS was submitted with this application.

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

[X] The sewage collection system will convey the wastewater to the Gruene Road Water Recycling Center (name) Treatment Plant. The treatment facility is:

[X] Existing.
[ ] Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 40 '.

18. 100-year floodplain boundaries:

[ ] Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
[X] No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRM MAP PANEL NO. 48091C0435F, Effective date 09/02/2009

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

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

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

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

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

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

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

[ ] All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
[X] No sensitive geologic or manmade features were identified in the Geologic Assessment.
[ ] **Attachment D - Exception to the Required Geologic Assessment.** A request and justification for an exception to a portion of the Geologic Assessment is attached.

22. [X] The drainage patterns and approximate slopes anticipated after major grading activities.

23. [X] Areas of soil disturbance and areas which will not be disturbed.

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

25. [X] Locations where soil stabilization practices are expected to occur.

26. [X] Surface waters (including wetlands).

    [ ] N/A

27. [X] Locations where stormwater discharges to surface water or sensitive features are to occur.

    [ ] There will be no discharges to surface water or sensitive features.

28. [X] Legal boundaries of the site are shown.

Administrative Information

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

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

WATER POLLUTION ABATEMENT PLAN APPLICATION

5. Attachment A – Factors Affecting Water Quality

The potential sources of contamination on the proposed project include, but are not limited to, hydrocarbons, such as oil and grease, vehicle/machinery fluid leaks, trash or debris, and fertilizers and soil runoff.

All construction equipment will be fueled off-site, and no hazardous materials shall be utilized for the construction of the proposed improvements. Portable toilets will be placed on site for use by construction workers during construction activities. All waste will be hauled off site daily, as generated.

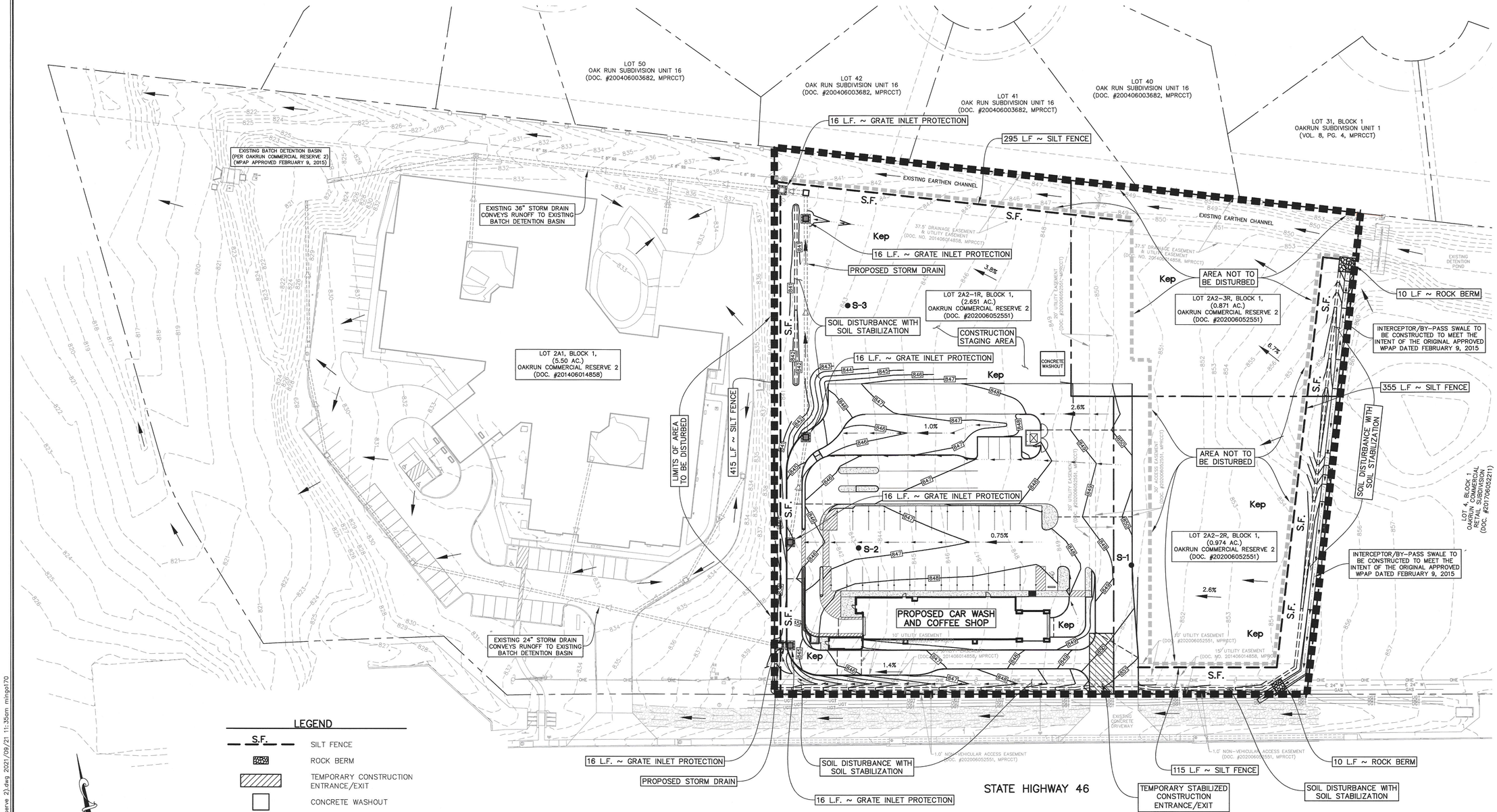
Prior to any construction activity, stormwater pollution prevention controls shall be installed and these controls include: silt fence along the rear of lot 2A2-1R, along the west side of Lot 2A2-1R and the east side of Lots 2A2-2R and 2A2-3R, rock berms on the downstream end of the proposed interceptor/by-pass channels along the east side, and the installation of a stabilized construction entrance/exit to reduce sediment removal from the site. The construction contractor will be responsible for the installation, repair and upkeep of all control measures.

After construction is complete and the site has been built, the factors affecting water quality will include runoff from the roofs, paved areas, sidewalks and greenbelt areas. Chemicals that may be present include pesticides and fertilizers for the greenbelt areas as well as miscellaneous oils or fuels from vehicles utilizing the drives. However, the stormwater runoff from these areas will be treated by the existing batch detention basin located on Lot 2A1 which is the Memory Care facility lot, see Site Plan, Sheet S1 in the rear of this section.

13. Attachment B – Volume and Character of Stormwater

The stormwater runoff generated from this site will consist of runoff from the roofs, paved areas, sidewalks and greenbelt areas. The runoff may contain small amounts of suspended solids, fertilizers/pesticides for the greenbelt areas or oils/fuel that would be associated with vehicles entering or exiting the site. The average runoff coefficient for the site is $C_{10pre} = 0.38$ and the average Post-Construction runoff coefficient is $C_{10post} = 0.52$. Therefore, the estimated runoff for the existing 10 yr. storm event is $Q_{10exist(site)} = 12.93$ cfs and the estimated runoff for the post conditions 10 yr. storm event is $Q_{10post(site)} = 17.7$ cfs. The stormwater runoff from this 4.496 ac. site will be conveyed via two existing storm drains to the existing batch detention basin located on the adjoining Memory Care lot that was designed in accordance with the TCEQ Technical Guidance Manual where the stormwater will be treated prior to exiting the overall site.

SITE PLAN



LEGEND

- S.F. — SILT FENCE
- ROCK BERM
- TEMPORARY CONSTRUCTION ENTRANCE/EXIT
- CONCRETE WASHOUT
- GRATE INLET PROTECTION
- EXISTING FLOW DIRECTION
- 100 — EXISTING CONTOURS
- 100 — PROPOSED CONTOURS
- WPAP MODIFICATION LIMITS
- PROPERTY LINE
- S-# — SITE FEATURES
- Kep — LOWER CRETACEOUS PERSON FORMATION

40 0 20 40
(IN FEET)
1 inch = 40 ft.

SOIL STABILIZATION NOTE

IN ALL AREAS TO BE DISTURBED OUTSIDE OF THE BUILDING PAD/PARKING/SIDEWALK AREAS, ETC., VEGETATIVE STABILIZATION IN ACCORDANCE WITH RG-348 COMPLYING WITH THE EDWARDS AQUIFER RULES, ITEM 1.3.8-TEMPORARY VEGETATION, ITEM 1.3.9-BLANKETS AND MATTING, ITEM 1.3.10-HYDRAULIC MULCH AND/OR ITEM 1.3.11 SOD SHALL BE IMPLEMENTED. THE AREAS TO BE VEGETATED SHALL BE WATERED SUFFICIENTLY TO ESTABLISH 70% STABILIZATION.

FLOODPLAIN NOTE

ACCORDING TO FEMA FIRM MAP PANEL No. 48091C0435F, EFFECTIVE DATE 9/2/2009, THE PROPOSED DEVELOPMENT LIES OUTSIDE THE 100 YR FLOODPLAIN.

LOTS 2A2-1R, 2A2-2R AND 2A2-3R IMPERVIOUS COVER SUMMARY (4.496 ACRES)

LOT #	ACREAGE	IMPERVIOUS COVER (AC.)	PERCENT OF IMPERVIOUS (%)
LOT 2A2-1R	2.651	1.316	49.64
LOT 2A2-2R	0.974	0.094	9.65
LOT 2A2-3R	0.871	0.012	1.38
TOTAL	4.496	1.422	31.63

31.63% < 85% MAXIMUM ALLOWABLE IMPERVIOUS COVER PER OAK RUN COMMERCIAL RESERVE 2 WPAP PER TCEQ APPROVAL LETTER DATED FEBRUARY 9, 2015

IMPERVIOUS COVER SUMMARY (4.496 AC. SITE)

IMPERVIOUS COVER OF PROJECT SITE	Sq. Ft.	Sq. Ft./Acre	Acres
STRUCTURES/ROOFTOPS	5,612	÷ 43,560 =	0.129
SIDEWALKS/PARKING/DRIVES	56,326	÷ 43,560 =	1.293
OTHER PAVED SURFACES	0	÷ 43,560 =	0.000
TOTAL IMPERVIOUS COVER	61,938	÷ 43,560 =	1.422
TOTAL IMPERVIOUS COVER ÷ TOTAL ACREAGE x 100 =			31.63 %

TOTAL PROJECT SITE ACREAGE = 4.496 Ac.

NOTE:
31.63% < 85% MAXIMUM ALLOWABLE IMPERVIOUS COVER PER OAK RUN COMMERCIAL RESERVE 2 WPAP PER TCEQ APPROVAL LETTER DATED FEBRUARY 9, 2015

P&M
PAWELEK & MOY, INC.
CIVIL ENGINEERING & CONSULTING SERVICES
130 W. JAHN STREET
NEW BRAUNFELS, TX 78130
TEL: (830) 629-2563
FIRM No. F-9862
STATE OF TEXAS
JOHN J. MOY JR.
87835
LICENSED PROFESSIONAL ENGINEER
9/21/21

SITE PLAN FOR OAKRUN COMMERCIAL RESERVE 2 - BIG LEAGUE CAR WASH #3

NEW BRAUNFELS, TEXAS

REVISIONS

DESCRIPTION	DATE

DRAWN BY: D.G. III
CHECKED BY: J.J.M.
DATE: SEPTEMBER 2021
JOB NO.: 2004.01

S1 OF 2

F:\2004.01 - Oakrun Com Res 2 McCutchen\ST-MOD (McCutchens OakRun Commercial Reserve 2).dwg 2021/09/21 11:35am mlingo170

Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.

2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

3. If any sensitive feature(s) (caves, solution cavity, sink hole, etc.) is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. Construction activities may not be resumed until the TCEQ has reviewed and approved the appropriate protective measures in order to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality.

4. No temporary or permanent hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.

5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the approved plans and manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.

7. Sediment must be removed from the sediment traps or sedimentation basins not later than when it occupies 50% of the basin's design capacity.

8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.

9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.

10. If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.

11. The following records shall be maintained and made available to the TCEQ upon request:
   - the dates when major grading activities occur;
   - the dates when construction activities temporarily or permanently cease on a portion of the site; and
   - the dates when stabilization measures are initiated.

12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

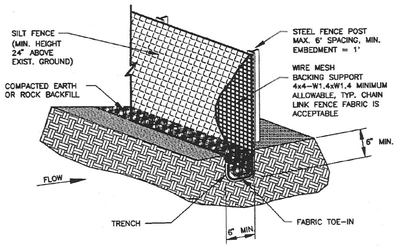
   A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

   B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;

   C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.



ISOMETRIC PLAN VIEW
N.T.S.

Materials:

(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in², ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.

(2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Y-bar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft², and Brindell hardness exceeding 140.

(3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

Installation:

(1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.

(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.

(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.

(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.

(5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.

(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

SILT FENCE DETAIL
N.T.S.

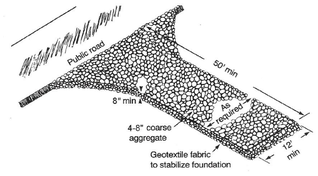
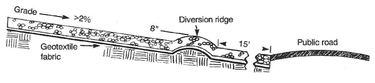


Figure 1-24 Schematic of Temporary Construction Entrance/Exit (after NC, 1993)



Materials:

(1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.

(2) The aggregate should be placed with a minimum thickness of 8 inches.

(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd², a mullen burst rating of 140 lb/in², and an equivalent opening size greater than a number 50 sieve.

(4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rock should be included in the plans. Divert wastewater to a sediment trap or basin.

Installation: (North Carolina, 1993)

(1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.

(2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.

(3) The construction entrance should be at least 50 feet long.

(4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.

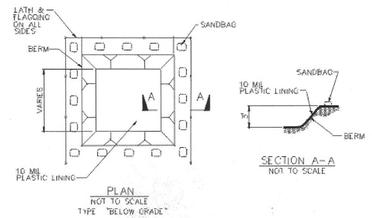
(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.

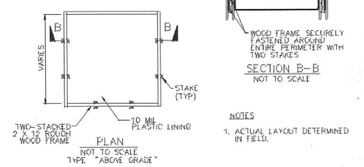
(6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.

(7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.

(8) Install pipe under pad as needed to maintain proper public road drainage.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT DETAIL
N.T.S.





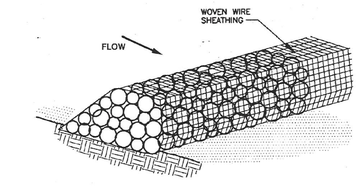
NOTES
1. ACTUAL LAYOUT DETERMINED IN FIELD.

FOR ONSITE WASHOUT:

1. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE.
2. WASH OUT WASTES INTO THE TEMPORARY PIT WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED OF PROPERLY.
3. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
4. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF PROPERLY. MATERIALS USED TO CONSTRUCT THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF PROPERLY.
5. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.
6. SEE TCEQ RG-348 SECTION 1.4.18 CONCRETE WASHOUT AREAS FOR ANY ADDITIONAL INFORMATION.

CONCRETE WASHOUT DETAIL
N.T.S.

CROSS SECTION
N.T.S.



ISOMETRIC PLAN VIEW
N.T.S.

Materials:

(1) The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.

(2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

Installation:

(1) Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.

(2) Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.

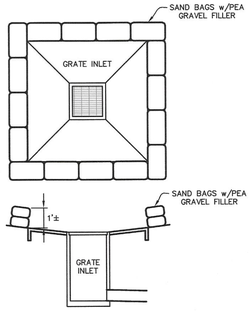
(3) Place the rock along the sheathing as shown in the diagram (Figure 1-28), to a height not less than 18".

(4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.

(5) Berm should be built along the contour at zero percent grade or as near as possible.

(6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

ROCK BERM DETAIL
N.T.S.



INSPECTION AND MAINTENANCE GUIDELINES:

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY CONTRACTOR.
2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3". REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. CHECK PLACEMENT DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING
5. STRUCTURE SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

GRAVEL GRATE INLET PROTECTION
N.T.S.

P&M
PAWELEK & MOY, INC.
CIVIL ENGINEERING & CONSULTING SERVICES
130 W. JAHN STREET
NEW BRAUNFELS, TX 78130
TEL.: (830) 629-2563
FIRM No. F-9862

STATE OF TEXAS — JOHN J. MOY JR. — 87335 — LICENSED PROFESSIONAL ENGINEER — 09/21/21

WATER POLLUTION ABATEMENT PLAN GENERAL NOTES AND DETAILS FOR

OAKRUN COMMERCIAL RESERVE 2 - BIG LEAGUE CAR WASH #3
NEW BRAUNFELS, TEXAS

REVISIONS		
	DESCRIPTION	DATE

DRAWN BY:	D.G. III
CHECKED BY:	J.J.M.
DATE:	SEPTEMBER 2021
JOB NO.:	2004.01

S2 OF 2

F:\2004.01 – Oakrun Com Res 2 McCutchen\S2-MOD (McCutchens OakRun Commercial Reserve 2).dwg 2021/09/17 11:55am mingo170

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: John J. Moy, Jr.

Date: 9/21/21

Signature of Customer/Agent:

Regulated Entity Name: Oakrun Commercial Reserve 2 - Big League Car Wash #3

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: ____

   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: Tributary of Blieders 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:

[X] 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.

[X] 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.

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

[X] 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. [X] 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.

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

9. [X] **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. [X] **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.

[X] 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.

    [X] N/A

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

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

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

18. [X] 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. [X] Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

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

21. [X] 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. [X] 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.

TEMPORARY STORMWATER SECTION

2. Attachment A – Spill Response Actions

Regarding spill prevention and control of a spill that may occur on this 4.496 acre site, found directly behind this sheet is copy of Section 1.4.16 of the Texas Commission on Environmental Quality (TCEQ) "Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices, pages 1-118 through 1-121, Spill Prevention and Control which covers necessary procedures for spill prevention and control. In the event of a significant or hazardous spill (per the attached TCEQ criteria and guidelines) the contractor or construction personnel shall 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.

(See Spill Prevention and Control information on the following sheets)

RG-348
Revised July 2005

Complying with the Edwards Aquifer Rules

Technical Guidance on Best Management Practices

Field Operations Division

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

printed on recycled paper

1.4.16 Spill Prevention and Control

The objective of this section is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

The following steps will help reduce the stormwater impacts of leaks and spills:

Education

(1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spill must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.

(2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.

(3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).

(4) Establish a continuing education program to indoctrinate new employees.

(5) Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

(1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.

(2) Store hazardous materials and wastes in covered containers and protect from vandalism.

(3) Place a stockpile of spill cleanup materials where it will be readily accessible.

(4) Train employees in spill prevention and cleanup.

(5) Designate responsible individuals to oversee and enforce control measures.

(6) Spills should be covered and protected from stormwater runon during rainfall to the extent that it doesn't compromise clean up activities.

(7) Do not bury or wash spills with water.

(8) Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.

(9) Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.

(10) Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.

(11) Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.

(12) Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

(1) Clean up leaks and spills immediately.

(2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.

(3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

(1) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.

(2) Use absorbent materials on small spills rather than hosing down or burying the spill.

(3) Absorbent materials should be promptly removed and disposed of properly.

(4) Follow the practice below for a minor spill:

(5) Contain the spread of the spill.

(6) Recover spilled materials.

(7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:

(1) Contain spread of the spill.

(2) Notify the project foreman immediately.

(3) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.

(4) If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.

(5) If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

(1) 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.

(2) 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.

(3) Notification should first be made by telephone and followed up with a written report.

(4) 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.

(5) Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

More information on spill rules and appropriate responses is available on the TCEQ website at: http://www.tnrcc.state.tx.us/enforcement/emergency_response.html

Vehicle and Equipment Maintenance

(1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.

(2) Regularly inspect onsite vehicles and equipment for leaks and repair immediately

(3) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.

(4) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.

(5) Place drip pans or absorbent materials under paving equipment when not in use.

(6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.

(7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.

(8) Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.

(9) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

(1) If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.

(2) Discourage "topping off" of fuel tanks.

(3) Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

4. Attachment B – Potential Sources of Contamination

Potential Sources of contamination may include items such as: Hydrocarbons from paving operations, construction vehicles tracking sediment onto public roads and litter/debris that is produced from the general construction site. It will be the contractor's responsibility to maintain erosion/sedimentation controls to limit/prevent contaminants from escaping the site and also to pick up general litter/debris across the site.

5. Attachment C – Sequence of Major Activities

The following is a sequence of major activities which will involve soil disturbance along with an estimate of the area of the site to be disturbed by each activity:

Sequence No.	Description of Soil Disturbing Activity	Estimated Area to be Disturbed by each Activity (Acres ~ Total)	Temporary Control Measure
1	Prior to Construction	-	1. Temporary Construction Entrance/Exit Installation 2. Installation of Concrete Washout area. 3. Silt Fence Installation along west property line of Lot 2A2-1R, the rear of Lot 2A2-1R, along the east side of Lots 2A2-2R and 2A2-3R, and along the front of Lot 2A2-2R. 4. Grate inlet protection around 2 existing grate inlets.
2	Clearing/Grubbing/Construction Staging (For Proposed Building and Parking Areas, Drives and Sidewalks)	3.2 ac	1. Maintain Silt Fences 2. Maintain Grate Inlet Protection 3. Maintain Construction Entrance/Exit
3	Excavation and Grading (Proposed Building, interceptor/by-pass swales, storm drains, Sidewalks, Parking, Drives)	3.2 ac	1. Install rock berms regarding interceptor/by-pass swales. 2. Maintain Silt Fences. 3. Maintain Construction Entrance/Exit 4. Maintain Grate Inlet Protection
4	Final Paving and Sidewalks. Final Stabilization.	3.2 ac	1. Maintain rock berms. 2. Maintain silt fences. 3. Final stabilization of disturbed areas. 4. Removal of temporary controls upon final stabilization.

7. Attachment D – Temporary Best Management Practices and Measures

The Temporary Best Management Practices (TBMPs) that will be used for this development are rock berms, silt fences, grate inlet protection, a concrete washout area and a temporary construction entrance/exit in accordance with the Site Plan. The temporary controls (i.e. rock berms, grate inlet protection, silt fences, temporary construction entrance/exit and the concrete washout area) shall be in place prior to construction activities and will be maintained by the contractor during construction. The controls shall be removed by the contractor when vegetation is established on all exposed or disturbed areas.

a. The area upgradient of the site is an existing commercial lot which will be allowed to enter the site. This area will then be conveyed around the perimeter of the site via interceptor swales/channels just inside the property line. The area along the east side of Lot 2A2-2R will be conveyed to the SH 46 ditch and the area along the east side of Lot 2A2-3R will be conveyed to the existing earthen channel along the rear of Lots 2A2-1R and 2A2-3R. This drainage pattern is what was depicted/planned for in the original WPAP and therefore is getting implemented now to be consistent with approved WPAP. This stormwater will be controlled and filtered by rock berms on the down gradient side of the disturbed areas.
b. The stormwater that originates on-site will be controlled and filtered by grate inlet protection and silt fences on the down gradient side of the areas of disturbance. The grate inlet protection and silt fences will reduce the velocity of the water and allow the sediment to settle out and be trapped by the control device. After a significant rainfall event, it will be the contractor's responsibility to remove the sediment and debris that is captured.
c. The BMPs will prevent pollutants from entering surface streams, sensitive features (no sensitive features present on this site), or the aquifer by capturing the silts and sediments through the utilization of the previously mentioned control devices such as silt fence and rock berms. These devices are located such that they capture the silts and sediment prior to entering the surface streams, etc. where they would otherwise be carried downstream. The settlement of the silts and sediment is due to the reduction of the velocity of the water.
d. There were no sensitive features located on the site. However, previously described temporary measures will be maintained and incorporated where necessary to prevent contamination of stormwater runoff. In the event a sensitive feature is discovered during construction, the contractor or construction personnel shall 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. At that point an assessment will be made with the TCEQ as to how to best protect what was discovered.

9. Attachment F – Structural Practices

The structural practices that will be used for temporary erosion/sediment control for this development are rock berms, grate inlet protection, silt fences, a temporary construction entrance/exits and a concrete washout area. The rock berms, grate inlet protection and silt fence will allow the silts and sediment to settle out prior to discharging into surface streams or sensitive features (no sensitive features present on this site).

10. Attachment G – Drainage Area Map

The drainage area map can be found at the end of this section.

12. Attachment I – Inspection and Maintenance for BMP's

A. Rock Berm Inspection and Maintenance Guidelines:

1) Inspection shall be made weekly and after each rainfall by the contractor.
2) All debris and sediment shall be removed when buildup reaches 6 inches and this accumulated debris/sediment shall be disposed in an approved site and in a manner as to not introduce additional siltation.
3) Any loose wire sheathing shall be repaired.
4) During the inspection, the berm shall be reshaped as needed.
5) The berm shall be replaced when the structure does not function as intended due to silt accumulation, construction traffic, etc.
6) The rock berm shall be left in place until all upstream disturbed areas are stabilized and the accumulated silt has been removed.

B. Silt Fence Inspection and Maintenance Guidelines:

1) Inspection shall be made weekly and after each rainfall by the contractor.
2) All sediment shall be removed when buildup reaches 6 inches.
3) Any torn fabric shall be replaced or a new line of fencing shall be installed parallel to the torn section.
4) Replace or repair areas of silt fence that have been damaged due to construction activity, vehicular access, etc. and if the silt fence is located in an area of high construction traffic, relocate to an area that will provide equal protection but will not obstruct vehicular movements.

C. Temporary Construction Entrance/Exit:

1) The entrance shall be maintained in a way that will prevent tracking of sediment onto the public right-of-way.
2) Any sediment dropped, spilled, washed or tracked on to the public right of way shall be immediately removed by the contractor.
3) When applicable, wheels shall be washed to remove sediment prior to exiting the construction site.
4) When washing is required it shall be performed in an area that is stabilized/protected to prevent sediment from entering any public right of ways, streams or sensitive areas.

D. Concrete Washout Area Inspection and Maintenance Guidelines:

1) Inspection shall be made weekly and after each rainfall by the contractor.
2) When concrete accumulates 6 inches in depth, the concrete shall be broken up, removed and disposed of properly.
3) All controls around the perimeter of the washout area shall be checked, maintained and repaired as needed.
4) Upon completion of construction, the concrete washout area shall be cleaned and all concrete shall be removed and disposed of properly. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facility shall be backfilled and repaired.

E. Inlet Protection Inspection and Maintenance Guidelines:

1) Inspection shall be made weekly and after each rainfall by the contractor. Repair or replacement shall be made promptly as needed by the contractor.
2) Remove sediment when buildup reaches a depth of 3 inches. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
3) Check placement of device to prevent gaps between the bags.
4) Inspect filter fabric and patch or replace if torn or missing.
5) Structures shall be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

F. Documentation and Recordkeeping:

All scheduled inspection and maintenance measures made to the temporary BMPs must be documented clearly on the Inspection Forms included for the respective BMP, showing inspection/maintenance measure performed, date and person responsible for inspection and maintenance. Any changes made to the location of type of controls shown on the accepted plans, due to onsite conditions, shall be documented on the site plan that is part of this Water Pollution Abatement Plan(WPAP). No other changes shall be made unless approved by TCEQ and the Design Engineer. Documentation shall clearly show changes made, date, person responsible for the change, and the reason for the change. All documentation and recordkeeping shall be retained onsite with the WPAP.

***Person or Firm Responsible for Erosion/Sedimentation Control Maintenance:**

Company: _____

Contact: _____

Phone: _____

Address: _____

Signature of Responsible Party: _____

(*This information shall be filled out and signed by the responsible party prior to construction)

TEMPORARY CONSTRUCTION ENTRANCE/EXIT
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes

1) Stone Size – 4 to 8 inches crushed rock
2) Length – as effective, but not less than 50 feet.
3) Thickness – not less than 8 inches.
4) Width – not less than 12 feet.
5) Washing – when necessary, wheels shall be cleaned to remove sediment prior to access onto the public roadway. When washing is required, it shall be done so that no sediment leaves the site/development. All unfiltered sediment shall be prevented from entering any storm drain, ditch or watercourse.
6) Maintenance – the entrance shall be maintained in a condition which will prevent tracking of sediment onto the public roadways. This may require periodic addition of stones as necessary, repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto the public roadway must be removed immediately.
7) Drainage – the entrance must be properly graded to prevent runoff from leaving the construction site.

	Yes	No	Comment
Is sediment present on the roadway?			
Is the gravel clean and working properly (relatively free of mud/sediment)?			
Does all traffic use the stabilized entrance to leave the site?			

Maintenance Required for Temporary Construction Entrance/Exit:

_____

_____

_____

_____

To Be Performed by:_____ On or Before:_____

SILT FENCE
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

1) The steel posts which support the silt fence shall be installed on a slight angle toward the anticipated runoff source. Posts must be embedded a minimum of one foot deep and spaced not more than 6 feet on center.
2) The toe of the silt fence shall be trenched in with a spade or mechanical trencher.
3) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled and compacted.
4) Silt fence should be securely fastened to each steel support post and to woven wire, which in turn is attached to the steel fence post. There shall be a 3 foot double overlap, securely fastened where ends of fabric meet.
5) Silt fence shall be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.
6) Accumulated silt shall be removed when it reaches a depth of 6 inches. The silt shall be disposed of in an approved site and in such a manner as to not contribute additional silt.

	Yes	No	Comment
Is the bottom of the fabric still buried/secured?			
Is the fabric torn, missing or sagging?			
Are the post tipped over?			
How deep is the sediment?			

Maintenance Required for Silt Fence:

_____

_____

_____

_____

To Be Performed by:_____ On or Before:_____

ROCK BERMS
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

1) The woven wire sheathing shall be perpendicular to the flow line and the sheathing shall be 20 gauge woven wire mesh with 1 inch openings.
2) The berm shall have a top width of 24 inches with side slopes being 2:1 (H:V) or flatter.
3) Placement of the rock along the sheathing shall not be less than 18 inches.
4) The wire sheathing shall be wrapped around the rock and secured with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
5) The berm shall be built along the contour at zero percent grade or as near as possible.
6) The ends of the berm shall be tied into the existing upslope grade and the berm shall be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

	Yes	No	Comment
Is the berm a minimum of 18 inches high?			
Does the berm have a top width of 24 inches?			
Is the level of sediment/silt greater than 6 inches?			
Does the rock berm need repair?			

Maintenance Required for Rock Berms:

_____
_____
_____
_____

To Be Performed by:_____ On or Before:_____

CONCRETE WASHOUT AREA
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

1) The concrete washout shall be located at least 50 feet from sensitive features, storm drains, open ditches or water bodies.
2) The containment area shall be maintained such that there is no concrete or sediment escaping the containment area and shall be lined with 10 mil plastic.
3) Concrete wash out wastes shall be allowed to set, be broken up, and then disposed of properly.

	Yes	No	Comment
Is the concrete washout located near any sensitive features, storm drains, open ditches or water bodies?			
Is the containment area secured and working properly?			
Is there a plastic lining?			
Does the washout area need to be cleaned from too much old concrete?			

Maintenance Required for Concrete Washout Area:

_____
_____
_____
_____

To Be Performed by:_____ On or Before:_____

INLET PROTECTION
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

1) Accumulated sediment shall be removed when it reaches a depth of 3 inches.
2) Check placement of the bags of sand around perimeter of inlet.
3) Inspect filter fabric and patch or replace if torn or missing.

	Yes	No	Comment
Are the bags still arranged correctly around the perimeter of the inlet?			
Is the fabric torn or missing?			
Is there debris in the inlet?			
Is the sediment 3 inches deep?			

Maintenance Required for Silt Fence:

_____
_____
_____
_____

To Be Performed by:_____ On or Before:_____

17. Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

A. Temporary Stabilization

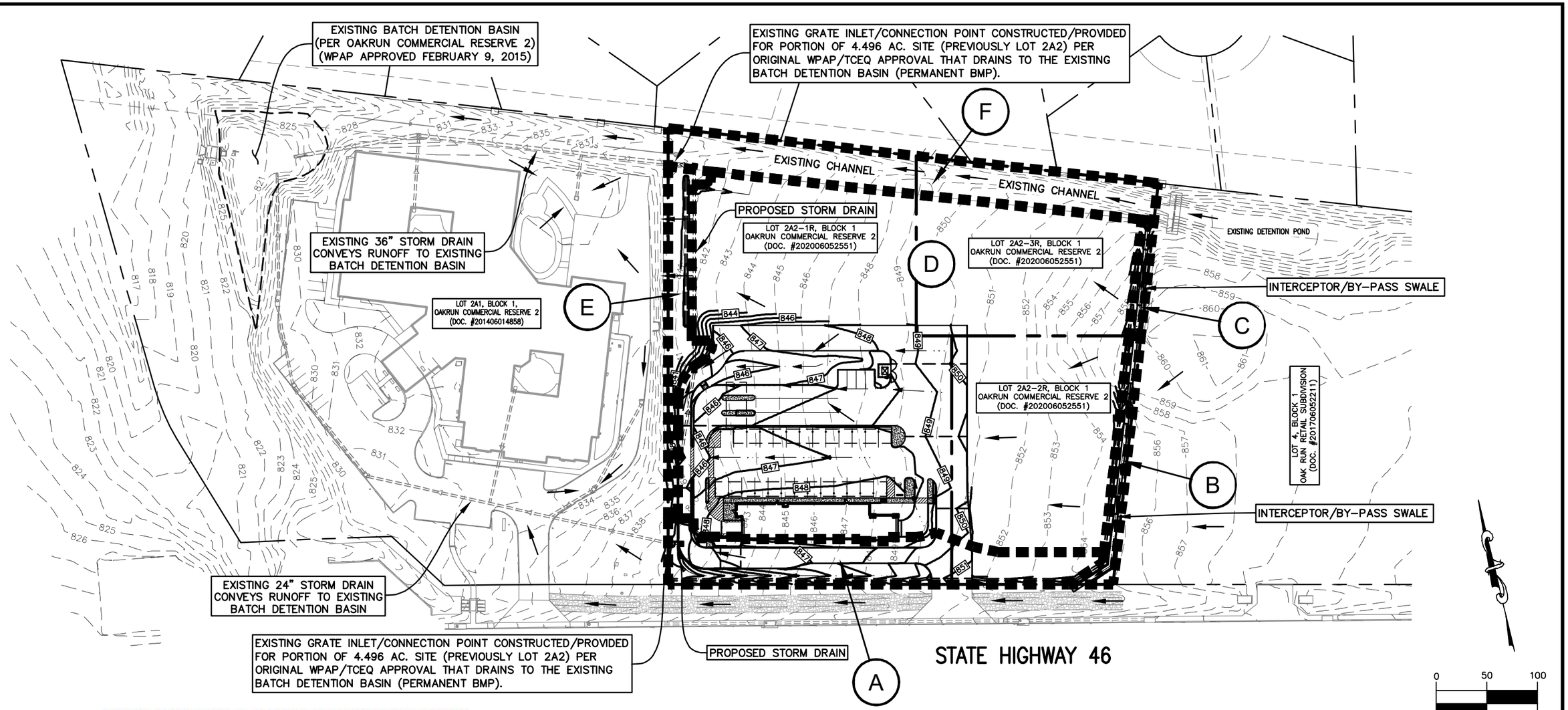
No bare ground exposed during construction will be left to stabilize naturally. Any disturbed area where construction activities have ceased, permanently or temporarily, the contractor shall initiate temporary stabilization of the area by the use of seeding and mulching within 14 days, except in areas where construction activities are scheduled to resume within 21 days. The temporary seeding will consist of Buffalograss, Green Sprangletop and Bermuda Grass with straw or cedar mulch applied on final layer in accordance with TxDOT Item 164 – Seeding for Erosion Control. Based on the growing season at the time of construction, mixture and application rates may be modified by the engineer.

B. Permanent Stabilization

All disturbed portions of the site where construction activity permanently ceases shall be stabilized with permanent seed no later than 14 days after the last construction activity. The permanent seed mix shall consist of Bermuda Grass, Green Sprangletop and Buffalo Grass with straw or cedar mulch applied on the final layer in accordance with TxDOT Item 164 – Seeding for Erosion Control. Depending on the growing season at the time of construction, the mixture and application rates may be modified. It shall be the contractor's responsibility to sufficiently water the areas to be vegetated to achieve 70% stabilization.

ATTACHMENT G

DRAINAGE AREA MAP



F:\2004.01 – Oakrun Com Res 2 McCutchen\Attachment G (McCutchens OakRun Commercial Reserve 2).dwg 2021/09/21 9:51am mingo170

OAKRUN COMMERCIAL RESERVE 2 - BIG LEAGUE CAR WASH #3

DRAINAGE AREA DESIGNATION	DRAINAGE AREAS (acres)
A	0.412
B	0.076
C	0.032
D	3.399
E	0.157
F	0.420

*Values Applied to C_{10} to Determine C_{25} & C_{100}	
K_{10}	1.00
K_{25}	1.10
K_{100}	1.25

RATIONAL METHOD (Q=KCIA)

DRAINAGE NODE POINT	CONTRIBUTING DA's	DRAINAGE AREA (acres)	C_2	C_{10}	$*C_{25}$	$*C_{100}$	Tc (min)	I_2 (in/hr)	I_{10} (in/hr)	I_{25} (in/hr)	I_{100} (in/hr)	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
Site(exist)	A+B+C+D+E+F	4.496	0.38	0.38	0.42	0.48	10	4.96	7.57	9.07	11.90	8.47	12.93	17.13	25.88
Site(post)	A+B+C+D+E+F	4.496	0.52	0.52	0.57	0.65	10	4.96	7.57	9.07	11.90	11.60	17.70	23.24	34.78

PAWELEK & MOY, INC.
CIVIL ENGINEERING & CONSULTING SERVICES
130 W. Jahn Street tel: (830) 629-2563
New Braunfels, Texas 78130 fax: (830) 629-2564

ATTACHMENT "G"
DRAINAGE AREA MAP EXHIBIT
FOR
OAKRUN COMMERCIAL RESERVE 2 - BIG LEAGUE CAR WASH #3

TECHNICIAN:	D.G. III	DATE:	SEPTEMBER 2021
JOB NO.	2004.01	SHEET:	D1

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: John J. Moy Jr.

Date: 9/21/21

Signature of Customer/Agent

Regulated Entity Name: Oakrun Commercial Reserve 2 - Big League Car Wash #3

Permanent Best Management Practices (BMPs)

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

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

   [ ] N/A

2. [X] 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.

   [X] The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site. (PER TCEQ APPROVAL LETTER DATED FEBRUARY 9, 2015,THE BATCH DETENTION BASIN WAS DESIGNED IN ACCORDANCE WITH "COMPLYING WITH THE EDWARDS AQUIFER RULES: TECHNICAL GUIDANCE ON BEST MANAGEMENT PRACTICES (2005)).

☐ 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 ATTACHED AT THE END OF THIS SECTION IS A COPY OF THE ENGINEER OF RECORD BMP CERTIFICATION LETTER AND THE TCEQ APPROVAL LETTER DATED FEBRUARY 09, 2015. THIS 4.496 ACRE SITE WAS APPROVED FOR A MAXIMUM OF 85% IMPERVIOUS COVER AND DRAINS INTO TWO EXISTING STORM DRAINS MASTERPLANNED FOR THIS SITE WHICH DRAIN TO THE EXISTING BATCH DETENTION BASIN (PERMANENT BMP). THE TCEQ CONSTRUCTION NOTES FOR THIS SITE ARE INCLUDED ON SHEET S2 OF 2 IN THE WATER POLLUTION ABATEMENT PLAN SECTION OF THIS SUBMITTAL.

11. [X] **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:

[X] Prepared and certified by the engineer designing the permanent BMPs and measures

[X] Signed by the owner or responsible party

[X] Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit

[X] A discussion of record keeping procedures

COPIES OF INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN FROM APPROVED WPAP HAVE BEEN INCLUDED ALONG WITH THE JOINT FACILITIES AGREEMENT.

[ ] 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.

[X] N/A

13. [X] **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. [X] 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. [X] 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

PERMANENT STORMWATER SECTION

5. Attachment A- 20% or Less Impervious Cover Waiver

Not Applicable.

6. Attachment B- BMP's for Upgradient Stormwater

The area upgradient of the site, east of Lots 2A2-2R and 2A2-3R, is an existing commercial lot under different ownership and a portion of the upgradient water will be intercepted and by-passed around the site to an existing earthen channel located along the rear of Lot 2A2-3R and the other portion will be by-passed to the existing SH 46 ditch which meets the intent/drainage pattern of the approved WPAP by TCEQ letter dated February 09, 2015.

7. Attachment C- BMP's for On-Site Stormwater

There are no permanent BMP's located on the actual 4.496 acre site as this 4.496 acre site is part of a master planned/approved batch detention basin best management practice located on the neighboring 5.50 acre lot (Lot 2A1 – existing Memory Care Facility). With the previous construction, two storm drains were constructed for the purpose of connecting the 4.496 acre site to the existing batch detention basin. This existing batch detention basin will treat the runoff from the buildings/parking areas/sidewalks, etc. During construction, temporary bmp's will treat the runoff prior to entering the two existing storm drains.

8. Attachment D- BMP's for Surface Streams

There are no sensitive features located on this site. The existing approved batch detention basin captures the runoff with contaminants/pollutants and filters this water prior to exiting the site. This existing batch detention basin prevents the pollutants from entering the surface streams, sensitive features (no sensitive features on this site), or the aquifer. Per the TCEQ approval letter dated February 09, 2015, the batch detention basin was designed to remove 80% of the increase in the annual mass loading of Total Suspended Solids (TSS) for the site.

10. Attachment F – Construction Plans

Not Applicable.

A copy of the Engineer of Record BMP Certification letter dated March 21, 2016 for the batch detention basin and the TCEQ approval letter dated February 09, 2015 are attached directly behind this page. This 4.496 acre site was approved for a maximum of 85% impervious cover and this site drains into two existing storm drains master planned for this site which drain to the existing batch detention basin (Permanent BMP).

EDQ_COMAL_OAK RUN COMMERCIAL RESERVE 2_CO_20160323_BMP CERTIFICATION

13-14082104 RN1076955892

KFW ENGINEERS

March 21, 2016

RECEIVED
MAY 04 2016
TCEQ
CENTRAL FILE ROOM

Edwards Section
TCEQ-San Antonio Regional Office
14250 Judson Road
San Antonio, TX 78233-4480

Re: Permanent BMP Certification Letter
Oak Run Commercial Reserve 2
Water Pollution Abatement Plan – Investigation No. 1192266; Regulated Entity No. RN107695892; Additional ID No. 13-14082104

To Whom It May Concern,

Oak Run Commercial Reserve 2 is a commercial site located approximately 1,100 feet east of the intersection of Oak Run Point and TX Hwy 46, New Braunfels, Texas. A batch detention basin was specified in the above referenced WPAP as a means to reduce TSS output from the site.

The batch detention basin was generally installed according to plan upon field verification.

If you should have any further questions or require additional information, please contact our office.

Sincerely,
KFW Engineers

Benjamin D. Bunker, P.E.
Project Manager

STATE OF TEXAS
BENJAMIN D. BUNKER
105512
LICENSED
PROFESSIONAL ENGINEER
3/21/2016

RECEIVED
MAR 24 2016
By

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 9, 2015

Mr. Darren Bueche
II DB Holding LP
451 Fallen Oak
New Braunfels, Texas 78132-3780

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Oak Run Commercial Reserve 2; Located 1,100 feet east of the intersection of Oak Run Point and TX Hwy 46, New Braunfels, Texas

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

Investigation No. 1192266; Regulated Entity No. RN107695892; Additional ID No. 13-14082104

Dear Mr. Bueche:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the above-referenced project submitted to the San Antonio Regional Office by KFW Engineers on behalf of II DB Holding LP on August 21, 2014. Final review of the WPAP was completed after additional material was received on December 3, December 31, 2014, January 9, 2015, January 16, 2015 and February 2, 2015. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial development project will have an area of approximately 9.996 acres. The tract will be split between 5.50 acres and 4.496 acres. The first 5.50 acres will be developed into a Memory Care America facility and the remaining 4.496 acres will be developed in the future with up to 85% impervious cover. It will include 0.002 acres of existing impervious cover, 1.005 acres of parking and other paved surfaces, 0.101 acres of

concrete sidewalks, curbs and dumpster pads, and 1.105 acres of structures/rooftops. The resulting total impervious cover will be 6.033 acres (60.35 percent). Project wastewater will be disposed of by conveyance to the existing Gruene Wastewater Treatment Plant operated by New Braunfels Utilities (NBU).

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one batch detention basin, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 5,414 pounds of TSS generated from the 6.033 acres of impervious cover. The provided TSS removal is 6,295 pounds of TSS. The total capture volume of the basin is 28,562 cubic feet (27,765 cubic feet required). The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the geologic assessment included with the application, the site is located within the Lower Cretaceous Person Formation, the upper member of the Edwards Group. The San Antonio Regional Office site assessment conducted on November 18, 2014 revealed the site was generally as described in the geologic assessment. One sensitive feature, a fault identified as feature S-4, was noted in the geologic assessment. The natural buffer for feature S-4 will be 50 feet (50') in all directions.

SPECIAL CONDITIONS

I. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

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

III. As indicated in the application, future development within the site will require the submission and approval of WPAP modifications prior to initiating regulated activities.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall

be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

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

<u>During Construction:</u>

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the

executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

13. There are no wells on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.

16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.

19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer Protection Plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer Protection Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

21. An Edwards Aquifer Protection Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer Protection Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. Ricardo A. Macias of the Edwards Aquifer Protection Program, San Antonio Regional Office at (210) 403-4065.

Sincerely,

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

LMB/RAM/eg

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625

Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Benjamin Bunker, P.E., KFW Engineers

Mr. James C. Klein, P.E., New Braunfels City Engineer

Mr. Thomas H. Horseth, P.E., Comal County Engineer

Mr. Roland Ruiz, Edwards Aquifer Authority

TCEQ Central Records, Building F, MC 212

11. Attachment G- Inspection, Maintenance, Repair and Retrofit Plan

The Permanent Best Management Practices Inspection, Maintenance, Repair and Retrofit Plan are attached directly behind this page from the approved WPAP along with the Joint Facilities Agreement.

PERMANENT BEST MANAGEMENT PRACTICES INSPECTION AND MAINTENANCE PLAN

The attached inspection and maintenance plan outlines the procedures necessary to maintain the performance of the Permanent Best Management Practices for this project. It should be noted that the plan provides guidelines that may have to be adjusted dependent on site specific and weather related conditions.

It is the responsibility of the owner to contract with a representative to provide the inspections and maintenance as outlined in the plan for the duration of the project. The owner will maintain this responsibility until it is assumed or transferred to another entity in writing. If the property is leased or sold, the responsibility for the maintenance will be required to be transferred through the lease agreement, binding covenants, closing documents, or other binding legal instrument.

I, the owner, have read and understand the requirements of the attached Inspection and Maintenance Plan for the proposed Permanent Best Management Practices for my project. I acknowledge that I will maintain responsibility for the implementation and execution of the plan until the responsibility is transferred to or assumed by another party in writing through a binding legal instrument.
MC-New Braunfels, TX-1-UT, LLC
By: Embree Asset Group, Inc., Member

Owner: Rocky Hardin, CFO 8-14-14
Date

Attachment G

MAINTENANCE GUIDELINES FOR BATCH DETENTION BASINS

Batch detention basins may have somewhat higher maintenance requirements than an extended detention basin since they are active stormwater controls. The maintenance activities are identical to those of extended detention basins with the addition of maintenance and inspections of the automatic controller and the valve at the outlet.

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

Mowing. The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

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

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

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

Structural Repairs and Replacement. With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

Sediment Removal. A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

Logic Controller. The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

JOINT FACILITIES DEVELOPMENT AGREEMENT

This Joint Facilities Development Agreement (Agreement) is entered into by and among **II DB HOLDINGS, L.P.** (Seller), **MC-New Braunfels, TX-1-UT, LLC,** a Utah limited liability company (Buyer), and **NEW BRAUNFELS TITLE COMPANY** (Escrow Agent) pursuant to a Purchase and Sale Agreement dated effective December 6, 2013 (Sales Contract) by and between Seller and Buyer.

RECITALS

A. Pursuant to the Sales Contract, Seller has this date sold and conveyed to Buyer, Lot 2A1, Block 1, Oak Run Commercial Reserve 2, as per the plat recorded as Document #201406014858, Official Public Records of Comal County, Texas (Buyer's Tract).

B. Seller owns Lot 2A2, Block 1, Oak Run Commercial Reserves 2 as per the plat recorded as Document #201406014858, Official Public Records of Comal County, Texas (Seller's Tract).

C. Pursuant to the terms of the Sales Contract, Buyer is responsible for the costs of construction of certain Joint Facilities as described therein and herein for the benefit of both the Seller's Tract and the Buyer's Tract, and must deposit the costs of construction into escrow with the Escrow Agent.

D. Escrow Agent has agreed to act as escrow agent under this Agreement.

AGREEMENT

NOW, THEREFORE, for and in consideration of the mutual agreements and covenants contained in this Agreement, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Definitions. Unless the context otherwise specifies or requires, the following words and phrases when used herein have the following meanings:

   (a) *Costs of Construction* means and refers to the cost of all engineering, planning, designing, permits and approvals, construction, inspection and all other hard and soft costs associated with the initial construction of the Joint Facilities.

(b) *Engineer* means KFW Engineers & Surveying, 14603 Huebner Road, Building 40, San Antonio, TX 78230, or such other engineering firm licensed to do business in the State of Texas as Buyer may elect.

(c) *Joint Facilities* means (i) the water quality filtration basin to be constructed by Buyer on Buyer's Tract meeting all requirements of the City of New Braunfels (City), the Texas Commission on Environmental Quality (TCEQ) and the Edwards Aquifer Authority (EAA) adequate to serve both Buyer's Tract and Seller's Tract as fully developed with 85% impervious cover, (ii) no more than two storm water conveyance facilities to be constructed by Buyer from Seller's Tract to the water quality filtration basin to be constructed on Buyer's Tract, and (iii) a minimum 8" diameter wastewater line to be constructed by Buyer meeting all requirements of the TCEQ and New Braunfels Utilities (NBU) within the existing utility easement along Oak Run Subdivision, extending from an existing wastewater line on Buyer's Tract and terminating at a manhole to be constructed within Seller's Tract.

2. Water Pollution Abatement Plan. Buyer is responsible for applying for and obtaining approval of a water pollution abatement plan (WPAP) for Buyer's Tract and Seller's Tract by the TCEQ and/or EAA within 120 days from the Closing Date. Buyer acknowledges that in connection with seeking approval of the WPAP, it must develop a site plan for Buyer's Tract in order to locate the water quality filtration basin and must assume 85% impervious cover for Seller's Tract.

3. Costs. Buyer and Seller estimate that the Costs of Construction of the Joint Facilities is $295,750.00 and the cost of obtaining approval of the WPAP is $5,650.00, all of which is Buyer's obligation and responsibility to pay.

4. Construction. All aspects of the engineering, designing, planning, permitting and construction of the Joint Facilities and obtaining the WPAP (collectively, the Work), including, without limitation, developing plans, obtaining approval from the City, TCEQ, EAA, NBU, and any other governmental entities or agencies with jurisdiction, hiring contractors and subcontractors, overseeing construction, managing the construction contract or contracts, evaluating the construction progress, determining and providing final approval of the contractors' and subcontractors' Work, and paying the Costs of the Work will be the responsibility of the Buyer. Within 60 days from the date of this Agreement, Buyer will cause Engineer to prepare plans and specifications for the Work (Plans) and submit such Plans to Seller for approval, which will not be unreasonably withheld, delayed or conditioned. Once Seller has approved the Plans, Buyer must secure the appropriate governmental and regulatory approvals of the Plans (Approvals). Seller agrees to cooperate with Buyer in obtaining these Approvals. Buyer will

commence construction of the Work within 30 days from the date of the last of the Approvals and complete such construction no later than 180 days from commencement, subject to delays for force majeure.

5. Escrow. Concurrently with the execution of this Agreement, Buyer is depositing with Escrow Agent the sum of $301,400.00, or the latest estimate of the Costs of Construction and obtaining the WPAP, whichever is higher. The Escrow Agent is authorized and directed to establish a Construction Escrow Account for such funds and pay the escrowed funds to Buyer in draws as progress of the Work occurs as set out in this paragraph. The Construction Escrow Account must at all times have a balance sufficient to pay the entire cost of the remaining Work. When the contractor or contractors performing the Work submit draw requests to Buyer, Buyer will forward such draw requests that have been approved by Buyer to the Escrow Agent and Seller. Escrow Agent will pay the requested construction draw to Buyer, or at Buyer's request, to the contractor or contractors requesting the draw. Escrow Agent must provide Seller copies of all checks and disbursements out of the Construction Escrow Account. Escrow Agent may make the final disbursement out of the Construction Escrow Account to Buyer, provided that Buyer provides to Seller and Escrow Agent (i) evidence that the Work has been completed and inspected and approved by all appropriate governmental authorities, and (ii) an affidavit of bills paid with respect to the Work.

6. Joint Facilities Easements. Buyer hereby grants and conveys to Seller as an appurtenance to Seller's Tract, an easement on, over, under and across those portions of Buyer's Tract which are the locations of the Joint Facilities for the purpose of drainage and utilities and for reasonable access to repair and maintain those portions of the Joint Facilities which serve Seller's Tract in order that Seller and its successors and assigns may fully enjoy and use the Joint Facilities. This easement is permanent and irrevocable. Buyer may have the areas burdened with such easement surveyed at Buyer's cost, and Seller will join Buyer in a separate easement agreement to be recorded at Buyer's expense in the Official Public Records of Comal County, Texas, which defines the easement properties. In addition to the Joint Facilities easements described above, in the deed conveying Buyer's Tract to Buyer, Seller will retain and reserve a drainage easement running along the north property line of Lot 2A, Block 1, Oakrun Commercial Reserve 2, according to the plat recorded in Volume 14, Page 207, Map and Plat Records of Comal County, Texas, the terms and conditions of which easement will be consistent with the easement agreement dated June 5, 2008, recorded as Document #200806022950, Official Public Records of Comal County, Texas.

7. Events of Default. The following events are deemed events of default by Buyer or Seller under this Agreement:

(a) Buyer or Seller fail to comply with any term, provision or covenant of this Agreement and fails to cure the failure within 30 days after written notice from the other party; provided, however, if the nature of the obligation is such that more than 30 days are required for its performance, then the non-performing party shall not be in default under this Agreement if it commences such performance within such 30 day period and thereafter diligently pursues the same to completion;

(b) Buyer becomes insolvent, makes a transfer in fraud of creditors or makes an assignment for the benefit of creditors;

(c) Buyer commences proceedings in bankruptcy, for reorganization, or for readjustment or arrangement of Buyer's debts, whether under the Bankruptcy Act of the United States or under any other law, whether state or federal, now or subsequently existing for the relief of debtors, or there shall be commenced any analogous state proceedings involving Buyer.

8. Remedies. The non-defaulting party may terminate this Agreement or exercise any legal or equitable remedy allowed by law upon the occurrence of an asserted event of default, the expiration of the required notice period and the failure of the defaulting party to cure the asserted default. Without limiting Seller's rights for Buyer's default in failing to timely perform the Work and pay the costs thereof, Seller may (but without any obligation) complete the Work and make such draws on the Construction Escrow Account to pay the costs of the Work as it progresses. Buyer will be liable for any shortfall in the cost of the Work.

9. Notices. All notices required or permitted to be given hereunder must be in writing, be sent via U.S. first class mail, postage prepaid, and will be deemed given 48 hours after mailed, or by alternative private overnight delivery services and will be deemed given one business day after prepaid receipted delivery to such service, to the respective parties as follows:

If to Seller:

II DB HOLDINGS, L.P.
Attn: Darren D. Bueche
451 Fallen Oak
New Braunfels, TX 78132
Cell Phone: 830-237-9648
Email: dbd@gvtc.com

With a copy to:	REAGAN BURRUS PLLC Attn: John T. Dierksen 401 Main Plaza, Suite 200 New Braunfels, TX 78130 Telephone: 830-358-7479 Email: jdierksen@reaganburrus.com
If to Buyer:	MC-New Braunfels, TX-1-UT, LLC c/o Embree Aset Group, Inc. 4747 Williams Drive Georgetown, TX 78633
With a copy to:	Steve Schreiber Embree Asset Group, Inc. Director – Real Estate Legal 4747 Williams Drive Georgetown, TX 78633 Telephone: 512-819-4738 Email: sschreiber@embreegroup.com
If to Escrow Agent:	NEW BRAUNFELS TITLE COMPANY Attn: Nile Riedel 243 S. Seguin Avenue New Braunfels, TX 78130 Telephone: 830-625-7553 Email: nile@nbtitle.com

10. Agreement of Escrow Agent. Escrow Agent agrees to hold the funds in accordance with the provisions of this Agreement. Escrow Agent will receive no fee for performance of the services called for under this Agreement. Seller and Buyer agree that Escrow Agent has no responsibility under this Agreement except for the safekeeping and handling of the funds deposited with Escrow Agent. Escrow Agent is not liable for any act or thing done by it relating to this Agreement, except for the negligence or willful misconduct of Escrow Agent. If conflicting demands are made on Escrow Agent by Seller and Buyer, Escrow Agent may withhold its performance under the terms of this Agreement until such demands are withdrawn or the rights of the parties making the demands are settled by a court of competent jurisdiction.

11. Resignation of Escrow Agent. Escrow Agent may resign as Escrow Agent by giving 10 days written notice to Seller and Buyer of its resignation. Escrow Agent must then deliver the funds it is holding under the terms of this Agreement in

accordance with the joint written instructions given it by Seller and Buyer. If no such instructions are given to Escrow Agent within the stated time period, then Escrow Agent is authorized to deposit all of the funds into the registry of a court of competent jurisdiction.

12. Removal of Escrow Agent. Seller and Buyer may remove Escrow Agent with or without cause, and appoint a substitute escrow agent by giving joint written notice to Escrow Agent. Escrow Agent must then deliver the funds as directed in the notice within 10 days of its date.

BUYER:

MC-New Braunfels, TX-1-UT, LLC
A Utah limited liability company
By Embree Asset Group, Inc., a
Texas corporation, its Manager

By: _____
Name: Philip H. Annis
Title: President

ESCROW AGENT:

NEW BRAUNFELS TITLE COMPANY

By: _____
Name: _____
Title: _____

SELLER:

II DB HOLDINGS, L.P.
By II DB Holdings GP, L.L.C.,
Its General Partner

By: _____
Name: Darren D. Bueche
Title: Member

accordance with the joint written instructions given it by Seller and Buyer. If no such instructions are given to Escrow Agent within the stated time period, then Escrow Agent is authorized to deposit all of the funds into the registry of a court of competent jurisdiction.

12. Removal of Escrow Agent. Seller and Buyer may remove Escrow Agent with or without cause, and appoint a substitute escrow agent by giving joint written notice to Escrow Agent. Escrow Agent must then deliver the funds as directed in the notice within 10 days of its date.

BUYER:

MC-New Braunfels, TX-1-UT, LLC
A Utah limited liability company
By Embree Asset Group, Inc., a
Texas corporation, its Manager

By: _____
Name: Philip H. Annis
Title: President

ESCROW AGENT:

NEW BRAUNFELS TITLE COMPANY

By: _____
Name: _____
Title: _____

SELLER:

II DB HOLDINGS, L.P.
By II DB Holdings GP, L.L.C.,
Its General Partner

By: _____
Name: Darren D. Bueche
Title: Member

New Braunfels Title Co.
G.F.# NBT-825-2020
KO

Notice of confidentiality rights: If you are a natural person, you may remove or strike any or all of the following information from any instrument that transfers an interest in real property before it is filed for record in the public records: your Social Security number or your driver's license number.

SPECIAL WARRANTY DEED WITH VENDOR'S LIEN

Effective Date: November 24, 2020

Grantor: LANDMARK PROPERTY HOLDINGS, LLC,
a Texas limited liability company
451 Fallen Oak
New Braunfels, TX 78132

Grantee: WATERFALL KID, LLC,
a Texas limited liability company
723 Deer Run Way
New Braunfels, TX 78132

Consideration: Cash and a note of even date executed by Grantee and payable to the order of Grantor (the "Note"). The Note is secured by a first and superior vendor's lien and superior title retained in this deed in favor of Grantor and by a first lien deed of trust of even date from Grantee to John T. Dierksen, Trustee.

Property (including any improvements): Lot 2A2-1R, Block 1, Replat of Oak Run Commercial Reserve 2, a subdivision in Comal County, Texas, according to plat recorded under Document No. 202006052551 of the Map and Plat Records, Comal County, Texas.

Grantor's Property: Lot 2A2-2R and Lot 2A2-3R, Block 1, Replat of Oak Run Commercial Reserve 2, a subdivision in Comal County, Texas, according to the plat recorded under Document No. 202006052551 of the Map and Plat Records, Comal County, Texas.

Easement Property: A 15 foot wide strip of land being centered on a 24 inch Storm Sewer Line as subsequently constructed pursuant to a Joint Facilities Development Agreement between Grantor and Grantee of even date herewith, on, over and across the Property located approximately where depicted on ***Exhibit A*** attached hereto. Upon completion of the 24 inch Storm Sewer Line, Grantee will cause the Easement Property to be defined by a registered professional licensed surveyor, and Grantor and Grantee will execute an agreement defining the Easement Property.

Easement Purpose: The purpose of the Easement is for the construction and maintenance for an underground, enclosed storm sewer line, 24 inches in diameter (the "Storm Sewer Line") in, under and across the Easement Property.

Reservations from Conveyance: For Grantor and Grantor's successors and assigns, a reservation of an easement on, under and across the Easement Property for the Easement Purpose, and for the benefit of the Grantor Property, and portions thereof, together with all and singular the rights and appurtenances thereto in accordance with the terms and conditions set forth below.

Exceptions to Conveyance and Warranty:

1. Standby fees and taxes for 2021 and subsequent years, the payment of which Grantee assumes.

2. Restrictive covenants recorded in Volume 904, Page 918 of the Official Public Records of Comal County, Texas.

3. Restrictive covenants recorded in Document No. 201406029539 of the Official Public Records of Comal County, Texas, which addresses maintenance obligations for drainage facilities on the Property, the Grantor's Property and the adjacent Lot 2A1 of Oak Run Commercial Reserve 2 as shown on the plat recorded in Document No. 201406014858 of the Map and Plat Records of Comal County, Texas. Grantor and Grantee stipulate that the proportionate share of maintenance expense is as follows:

Lot	Acreage	Percentage Share
2A1	5.5	55.0%
2A2-1R	2.651	26.5%
2A2-2R	0.871	8.7%
2A2-3R	0.974	9.8%

4. Restrictive covenants recorded in Document No. 201406029540 of the Official Public Records of Comal County, Texas, which restricts use of the Property for an assisted living facility or for provision of services to those with Alzheimer's disease or dementia.

5. Restrictive covenants recorded in Document No. 202006002284, Official Public Records of Comal County, Texas.

6. Restrictive covenants stated on the plat recorded in Document No. 202006052551 of the Map and Plat Records of Comal County, Texas.

7. Property lies within the Edwards Water District as reflected upon the tax rolls.

8. Easement and Right of Way in favor of San Antonio Public Service Company as set out in Volume 72, Page 279 of the Deed Records of Comal County, Texas.

9. Easement to New Braunfels Utilities as set out in Volume 406, Page 546 of the Official Public Records of Comal County, Texas, and as shown on plat recorded under Document No. 201406014858 of the Map and Plat Records of Comal County, Texas.

10. Easement for electric and water lines by The Episcopal Church Corporation in West Texas to New Braunfels Utilities as set out in instrument recorded June 5, 2001 under Document No. 200106017987 of the Official Public Records of Comal County, Texas. Partial abandonment of Easement dated August 11, 2020, filed for record under Document No. 202006034344, Official Public Records of Comal County, Texas.

11. Terms and conditions of Easement Agreement recorded June 11, 2008, under Document No. 200806022950 of the Official Public Records of Comal County, Texas, by and between II DB Holdings, L.P. and New Braunfels Investment Joint Venture, a Texas Joint Venture.

12. Utility Easement by II DB Holdings, LP to New Braunfels Utilities recorded August 6, 2010, under Document No. 201006025755 of the Official Public Records of Comal County, Texas, and being shown as a 70' electric and water line right-of-way on plat recorded under Document No. 201406014858.

13. 15' utility easement along State Highway 46 as shown on plat recorded under Document No. 201406014858 and a 10' utility easement as shown on plat recorded under Document No. 202006052551 of the Map and Plat Records of Comal County, Texas.

14. Utilities will possess a 5' wide service easement to the dwelling along the service line to the service entrance as recited on plat recorded under Document No. 202006052551 of the Map and Plat Records of Comal County, Texas.

15. Access regulation as recited in deed to the State of Texas recorded under Document No. 200906016883 of the Official Public Records of Comal County, Texas.

16. 20' side utility easement and portion of 30' side utility easement as shown on plat recorded in Document No. 202006052551 of the Map and Plat Records of Comal County, Texas.

17. 37.5' drainage and utility easement along rear lot line as shown on plat recorded in Document No. 202006052551 of the Map and Plat Records of Comal County, Texas.

The following terms and conditions apply to the Easement reserved herein:

1. *Character of Easement*. The Easement is appurtenant to and runs with Grantor's Property, and portions thereof, whether or not the Easement is referenced in any conveyance of Grantor's Property and/or portions thereof.

2. *Duration of Easement*. The Easement is perpetual and irrevocable.

3. *Non-Exclusive Easement*. The Easement is non-exclusive, provided that Grantor may not convey any other easement or conflicting rights within the Easement Property without the express consent of Grantee, which consent may not be unreasonably withheld, delayed or conditioned.

4. *Easement Improvements*. The Storm Sewer Line will be constructed in accordance with the terms of the Joint Facilities Development Agreement between Grantor and Grantee dated effective as of the date of this deed. The Storm Sewer Line constructed within the Easement Property will be the property of Grantor upon construction.

5. *Maintenance*. The owner or owners of Grantor's Property are obligated for repair and maintenance of the Storm Sewer Line. Any damage done to the surface of the Easement Property as a result of maintenance or repair of the Storm Sewer Line must be promptly repaired by the party who caused the damages and the surface restored to its condition prior to the damage.

6. *Right of Enforcement*. If there is any breach or threatened breach of this Easement by any party or their successors or assigns, and the default or threat continues after the claiming party gives the defaulting party notice of the claim of default and a reasonable opportunity to cure the default (if the default is capable of being cured), then the claiming party may enforce the terms of this Easement by restraining order and by temporary and permanent injunction, prohibiting such breach and commanding the offending party to comply with all of the terms of the Easement. Restraining orders and injunctions will be obtainable upon proof of the existence of any breach or threatened breach, and without the necessity of proof of inadequacy of legal remedies or irreparable harm, and shall be obtainable only by the parties hereto or those benefitted hereby; provided, however, that the act of obtaining an injunction or restraining order will not be deemed to be an election of remedies or a waiver of any other rights or remedies available at law or in equity.

7. *Attorney's Fees*. Any party who is the prevailing party in any legal proceeding against any other party brought under or in connection with this agreement or the subject matter hereof, is additionally entitled to recover reasonable attorney's fees, expert fees, and all other litigation expenses.

8. *Effect of Waiver or Consent*. No waiver or consent, express or implied, by any party to this Easement agreement of any breach by any party in the performance by such party of its obligations hereunder shall be deemed or construed to be a consent to or waiver of any other breach in the performance by such party of the same or any other obligations of such party hereunder. Failure on the part of a party to complain of any act of any party or to declare any party in default, irrespective of how long such failure continues, shall not constitute a waiver by such party of its rights hereunder until the applicable statute of limitation period has run.

9. *General Provisions*.

   (a) This agreement is binding upon and inures to the benefit of the parties hereto and their respective successors and assigns, as well as the future other owners of the Property and Grantor's Property and their respective heirs, successors and assigns.

   (b) This agreement and the Joint Facilities Development Agreement contain the complete agreement of the parties and cannot be varied except by written agreement of the parties. The parties agree that there are no oral agreements, representations or warranties that are not expressly set forth in this agreement or the Joint Facilities Development Agreement.

(c) This agreement is subject to and governed by the laws of the State of Texas, excluding any conflicts-of-law rule or principle that might refer the construction or interpretation of this agreement to the laws of another state. Each party hereby submits to the jurisdiction of the state and federal courts in the State of Texas and to venue in Comal County, Texas.

(d) This agreement may be executed in any number of counterparts with the same effect as if all signatory parties had signed the same document. All counterparts will be construed together and constitute one and the same instrument.

(e) No waiver or consent, express or implied, by any party to or of any breach or default by any party in the performance by such party of its obligations hereunder may be deemed or construed to be a consent or waiver to or of any other breach or default in the performance by such party of the same or any other obligations of such party hereunder. Failure on the part of a party to complain of any act or any party or to declare any party in default, irrespective of how long such failure continues, will not constitute a waiver by such party of its rights hereunder until the applicable statute of limitation period has run.

(f) In connection with this agreement as well as all transactions contemplated by this agreement, each signatory party hereto agrees to execute and deliver such additional documents and instruments and to perform such additional acts as may be necessary or appropriate to effectuate, carry out and perform all of the terms, provisions and conditions of this agreement and all such transactions.

(g) In case any one or more of the provisions contained in this agreement is for any reason found to be invalid, illegal or unenforceable in any respect, to the extent such invalidity or unenforceability does not destroy the basis of the bargain among the parties, such invalidity, illegality or unenforceability will not affect any other provision hereof and this agreement will be construed as if such invalid, illegal or unenforceable provision had never been contained herein. Whenever required by the context, as used in this agreement, the singular number includes the plural and the neuter includes the masculine or feminine gender, and vice versa. The section headings appearing in this agreement are for convenience of reference only and are not intended, to any extent or for any purpose, to limit or define the text of any section. This agreement may not be construed more or less favorably between the parties by reason of authorship or origin of language.

(h) Any notice or communication required or permitted hereunder will be deemed to be delivered, whether actually received or not, when deposited in the United States mail, postage fully prepaid, registered or certified mail, and addressed to the intended recipient at the address shown herein, and if not so shown, then at the last known address according to the records of the party delivering the notice. Notice given in any other manner will be effective only if and when received by the addressee. Any address for notice may be changed by written notice delivered as provided herein.

(i) In the event of any interference or threatened interference with this Easement, this Easement may be enforced by restraining orders and injunctions (temporary or permanent) prohibiting such interference and commanding compliance hereof, which restraining orders and injunctions will be obtainable upon proof of the existence of such interference or threatened interference, and without the necessity of proof of inadequacy of legal remedies or irreparable harm, and will be obtainable only by the parties hereto or those benefited hereby; provided, however, nothing herein may be deemed to be an election of remedies or a waiver of any other rights or remedies available at law or in equity.

Grantor, for the Consideration and subject to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty, grants, sells and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any wise belonging, to have and hold it to Grantee and Grantee's successors and assigns forever. Grantor binds Grantor and Grantor's successors and assigns to warrant and forever defend all and singular the Property to Grantee and Grantee's successors and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the Reservations from Conveyance and Exceptions to Conveyance and Warranty, when the claim is made by, through or under Grantor, but not otherwise.

The vendor's lien against and superior title to the Property are retained until each Note described is fully paid according to its terms, at which time this deed shall become absolute.

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

Grantor:

LANDMARK PROPERTY HOLDINGS, LLC

By: _____
Name: Darren Bueche
Title: Member

Accepted and agreed by Grantee:

WATERFALL KID, LLC

By: _____
Name: Daniel McCutchen
Title: Member

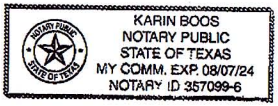
By: _____
Name: Sarah McCutchen
Title: Member

[acknowledgment page follows]

THE STATE OF TEXAS §

COUNTY OF COMAL §

This instrument was acknowledged before me on November 24, 2020, by DARREN BUECHE, Member of LANDMARK PROPERTY HOLDINGS, LLC, a Texas limited liability company, on behalf of same and in the capacity herein stated.

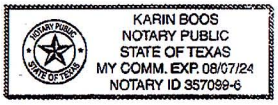


Notary Public, State of Texas

THE STATE OF TEXAS §

COUNTY OF COMAL §

This instrument was acknowledged before me on November 24, 2020, by DANIEL McCUTCHEN, Member of WATERFALL KID, LLC, a Texas limited liability company, on behalf of same and in the capacity herein stated.

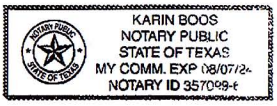


Notary Public, State of Texas

THE STATE OF TEXAS §

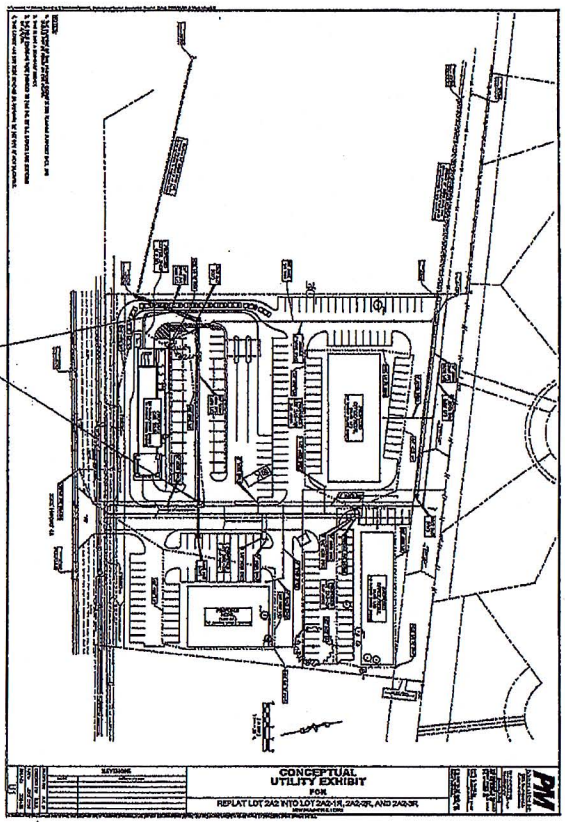
COUNTY OF COMAL §

This instrument was acknowledged before me on November 24, 2020, by SARAH McCUTCHEN, Member of WATERFALL KID, LLC, a Texas limited liability company, on behalf of same and in the capacity herein stated.



Notary Public, State of Texas

EXHIBIT A


Storm Sewer Line Easement
CONCEPTUAL
UTILITY EXHIBIT
FOR
REPLAT LOT 2A2 INTO LOT 2A2-1R, 2A2-2R, AND 2A2-3R

After Recording Return to:

New Braunfels title Company

243 S. Seguin Ave

New Braunfels, TX 78130

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
12/02/2020 08:51:29 AM
CHRISTY 9 Pages(s)
202006054139

Bobbie Koepp

New Braunfels Title Co.
G.F.# 81967 KB

201406029539 08/22/2014 03:27:05 PM 1/6

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

6
7C

SPECIAL WARRANTY DEED

THE STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF COMAL §

THAT the undersigned, **II DB HOLDINGS, L.P.** (the "Grantor"), whose mailing address is 451 Fallen Oak, New Braunfels, TX 78132, for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00), and other good and valuable consideration to the Grantor in hand paid by **MC-NEW BRAUNFELS, TX-1-UT, LLC**, a Utah limited liability company (the "Grantee"), whose mailing address is c/o Embree Asset Group, Inc., 4747 Williams Drive, Georgetown, Texas 78633, the receipt and sufficiency of which is hereby acknowledged, has, subject to the exceptions hereinafter set forth, GRANTED, SOLD and CONVEYED, and by these presents does GRANT, SELL and CONVEY, unto the Grantee, all that certain lot, tract or parcel of land, located in Comal County, Texas (the "Land"), described on ***Exhibit "A"*** attached hereto and made a part hereof by reference for all purposes, together with all improvements lying and situated on the Land, all easements, hereditaments and appurtenances belonging to or inuring to the benefit of the Grantor and pertaining to the Land, if any, and all right, title and interest of the Grantor in and to any land lying in the bed of any street, road or access way, open or proposed, in front of, at a side of or adjoining the Land to the centerline thereof (such Land, improvements and other interests being collectively referred to as the "Property").

THIS CONVEYANCE IS MADE by the Grantor and accepted by the Grantee subject to the matters described on ***Exhibit "B"*** attached hereto (the "Permitted Exceptions") and the easements reserved as provided in ***Exhibit "C"*** attached hereto (the "Reservations"). The current ad valorem taxes on the Property having been prorated, the Grantee assumes payment of all taxes for the current year.

TO HAVE AND TO HOLD the Property, together with all and singular the rights and appurtenances thereto in anywise belonging unto the Grantee, its successors and assigns, as the case may be, forever; and the Grantor does hereby bind Grantor and Grantor's successors and

assigns, as the case may be, to WARRANT AND FOREVER DEFEND, subject to the Permitted Exceptions and the Reservations, all and singular the Land unto the Grantee, its successors and assigns, as the case may be, against every person whomsoever lawfully claiming, or to claim the same, or any part hereof, when the claim is made by, through or under the Grantor, but not otherwise.

EXECUTED on August 21, 2014.

II DB HOLDINGS, L.P.
By II DB Holdings GP, L.L.C.,
Its General Partner

By: _____
Name: Darren D. Bueche
Title: Member

THE STATE OF TEXAS §

COUNTY OF COMAL §

This instrument was acknowledged before me on August 21, 2014, by DARREN D. BUECHE, Member of II DB HOLDINGS GP, L.L.C., a Texas limited liability company, the General Partner of II DB HOLDINGS, L.P., a Texas limited partnership, on behalf of same and in the capacity herein stated.

_____
Notary Public, State of Texas

KARIN BOOS
Notary Public, State of Texas
My Commission Expires
AUGUST 7, 2016

EXHIBIT "A"
Property Description

Lot 2A1, Block 1, Replat of 2A, Block 1, OAKRUN COMMERCIAL RESERVE 2 Establishing Lot 2A1 and Lot 2A2, OAKRUN COMMERCIAL RESERVE 2, a subdivision in Comal County, Texas, according to plat recorded under Document No. 201406014858, Map and Plat Records, Comal County, Texas.

EXHIBIT "B"
Permitted Exceptions

1. Covenants, conditions and restrictions recorded in Volume 904, Page 918 and Document No. 2014060_____ of the Official Public Records of Comal County, Texas, and Document No. 201406014858 of the Map and Plat Records of Comal County, Texas.

2. Easement and Right of Way in favor of San Antonio Public Service Company as set out in Volume 72, Page 279 of the Deed Records of Comal County, Texas.

3. Easement to New Braunfels Utilities as set out in Volume 406, Page 546 of the Official Public Records of Comal County, Texas, and as shown on plat recorded under Document No. 201406014858, Map and Plat Records of Comal County, Texas.

4. Easement for electric and water lines by The Episcopal Church Corporation in West Texas to New Braunfels Utilities as set out in instrument recorded June 5, 2001, under Document No. 200106017987 of the Official Public Records of Comal County, Texas.

5. Terms and conditions of Easement Agreement recorded June 11, 2008, under Document No. 200806022950 of the Official Public Records of Comal County, Texas, by and between II DB Holdings, L.P. and New Braunfels Investment Joint Venture, a Texas Joint Venture.

6. Utility Easement by II DB Holdings, L.P. to New Braunfels Utilities recorded August 6, 2010, under Document No. 201006025755 of the Official Public Records of Comal County, Texas, and being shown as a 70' electric and water line right-of-way on plat recorded under Document No. 201406014858, Map and Plat Records of Comal County, Texas.

7. 50 foot building setback line and 15 foot utility easement along State Hwy. No. 46, 100' utility and drainage easement alongside property line, and 37.5' drainage and utility easement along rear property line as shown on plat recorded under Volume 14, Page 207 of the Map and Plat Records of Comal County, Texas (Document No. 200206041402 and on plat recorded under Document No. 201406014858, Map and Plat Records of Comal County, Texas.

8. 20' utility easement along State Highway 46 as shown on plat recorded under Document No. 201406014858, Map and Plat Records of Comal County, Texas.

9. Utilities will possess a 5' wide service easement to the dwelling along the service line to the service entrance and recited on plat recorded under Document No. 201406014858, Map and Plat Records of Comal County, Texas.

10. Access regulation as recited in Deed to the State of Texas recorded under Document No. 200906016883, Official Public Records, Comal County, Texas.

EXHIBIT "C"
Reservations

For Grantor and Grantor's successors and assigns, in common with Grantee and Grantee's successors and assigns, a reservation of the following easements (the "Easements"):

1. An easement on, over, under and across those portions of the Property which are the locations of the Joint Facilities (defined below) for the purpose of drainage and utilities and for reasonable access to repair and maintain those portions of the Joint Facilities which serve Lot 2A2 ("Lot 2A2") as shown on the plat of Lot 2A1 and Lot 2A2, Oakrun Commercial Reserve 2 recorded as Document #201406014858 of the Map and Plat Records of Comal County, Texas, in order that Grantor and Grantor's successors and assigns, as owner of Lot 2A2, may fully use and enjoy the Joint Facilities (the "Joint Facilities Easement"). For the purposes of this Joint Facilities Easement, the term "Joint Facilities" means (i) the water quality filtration basin to be constructed by Grantee on the Property meeting all requirements of the City of New Braunfels, the Texas Commission on Environmental Quality ("TCEQ") and the Edwards Aquifer Authority adequate to serve the Property and Lot 2A2 as fully developed with 85% impervious cover, (ii) no more than two storm water conveyance facilities to be constructed by Grantee extending from Lot 2A1 to the water quality filtration basin to be constructed by Grantee on the Property and (iii) a minimum 8 inch diameter wastewater line to be constructed by Grantee meeting all requirements of the TCEQ and New Braunfels Utilities within the existing utility easement along Oak Run Subdivision, extending from an existing wastewater line on the Property and terminating at a manhole to be constructed within Lot 2A2. The Joint Facilities are to be constructed by Grantee, pursuant to the terms of the Joint Facilities Development Agreement of even date herewith between Grantor, Grantee and New Braunfels Title Company as escrow agent. Grantee may define this Joint Facilities Easement by having it surveyed at Grantee's cost. Grantor agrees to join Grantee in a separate easement agreement to be recorded in the Official Public Records of Comal County, Texas, at Grantor's expense which defines the Joint Facilities Easement.

2. An easement for drainage and utilities 37.5 feet in width, on, over, under and across the area along the north boundary line of the Property as shown on the plat recorded as Document #201406014858 of the Map and Plat Records of Comal County, Texas (the "Drainage Easement").

3. The following terms and conditions also apply to the Easements:

   A. The Easements are appurtenant to and run with Lot 2A2, and portions thereof, whether or not such Easements are referenced in any conveyance of Lot 2A2 and/or portion thereof.

   B. The Easements are perpetual and irrevocable.

C. The Easements are non-exclusive and Grantor reserves for Grantor and Grantor's successors and assigns the right to convey the same or other rights and/or easements to others.

D. With respect to the Drainage Easement, the following terms and conditions apply, consistent with the terms and conditions set out in the easement agreement dated June 5, 2008, recorded as Document #200806022950 of the Official Public Records of Comal County, Texas (the "Easement Agreement"):

1. The Drainage Easement is subject to the terms of the Easement Agreement. Grantor and Grantee and their respective successors and assigns who use the Drainage Easement must bear their proportionate costs of improving and maintaining the Drainage Easement and any drainage improvements made thereon.

2. As the Drainage Easement is non-exclusive and intended to serve both the Dominant Estate Property (defined in the Easement Agreement), the Property and Lot 2A2, any improvements and maintenance of the property subject of the Drainage Easement must be made with the prior written approval of Grantee and Grantor, which approval may not be unreasonably withheld, delayed or conditioned. Installation and maintenance of improvements benefiting only the Dominant Estate Property will be the sole expense and liability of the owner thereof. Installation and maintenance of improvements benefiting only the Property or Lot 2A2 will be the sole expense and liability of the owner thereof. It is contemplated that the owner of the Dominant Estate Property, Grantee and Grantor may agree to collaborate on improvements that will be mutually beneficial, to be set out in a written agreement among them to be recorded in the Official Public Records of Comal County, Texas.

Filed and Recorded
Official Public Records
Joy Streater, County Clerk
Comal County, Texas
09/22/2014 03:27:05 PM
KELLI 6 Page(s)
201406029539

Joy Streater

12. Attachment H- Pilot-Scale Field Testing Plan

Not Applicable.

The existing BMP for this site, the batch detention basin, was designed in accordance with the TCEQ Technical Guidance Manual.

13. Attachment I – Measures for Minimizing Surface Stream Contamination

As mentioned previously, there is an existing/approved batch detention basin BMP for this site. During the construction phase, temporary BMP's such as silt fence, rock berms, a stabilized construction entrance and gravel inlet protection will be installed to prevent pollutants from leaving the site. The permanent batch detention basin BMP treats the pollutants from the impervious cover and per the approved WPAP, the discharge methods were designed per the velocity limits of the New Braunfels Drainage Manual to prevent erosion.

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Oakrun Commercial Reserve 2 - Big League Car Wash #3
Regulated Entity Location: 2010 State Highway 46 W, New Braunfels, Texas 78132
Name of Customer: Waterfall Kid, LLC
Contact Person: Daniel McCutchen Phone: (405) 413-4982
Customer Reference Number (if issued):CN 605884535
Regulated Entity Reference Number (if issued):RN 111252805

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	4.496 Acres	$ 4000.00
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: 9/21/21

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

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

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

I Daniel McCutchen,
Print Name

Owner,
Title - Owner/President/Other

of Waterfall Kid, LLC,
Corporation/Partnership/Entity Name

have authorized John J. Moy, Jr.
Print Name of Agent/Engineer

of Pawelek & Moy, Inc.
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

09-07-2021
Date

THE STATE OF Texas §

County of Comal §

PRESTON THARP
Notary Public, State of Texas
My Commission expires
June 22, 2024
ID No. 13253321-2

BEFORE ME, the undersigned authority, on this day personally appeared Daniel McCutchen 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 9th day of September, 2021.

NOTARY PUBLIC

Preston Tharp
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: June 22nd 2024

Owner Authorization Form

Texas Commission on Environmental Quality
for Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

Land Owner Authorization

I, Darren Bueche of Landmark Property Holdings, LLC
Land Owner Signatory Name — Land Owner Name (Legal Entity or Individual)

am the owner of the property located at
Oak Run Commercial Reserve 2, Block 1, Lot 2A2-2R and Lot 2A2-3R
Legal description of the property referenced in the application

and am duly authorized in accordance with §213.4(c)(2) and §213.4(d)(1) or §213.23(c)(2) and §213.23(d) relating to the right to submit an application, signatory authority, and proof of authorized signatory.

I do hereby authorize Waterfall Kid, LLC
Applicant Name (Legal Entity or Individual)

to conduct Driveway Construction in the Shared Access Easement
Description of the proposed regulated activities

at the west side of Lots 2A2-2R and 2A2-3R of the Oakrun Commercial Reserve 2 Subdivision.
Precise location of the authorized regulated activities

Land Owner Acknowledgement

I understand that Landmark Property Holdings, LLC
Land Owner Name (Legal Entity or Individual)

Is ultimately responsible for compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation even if the responsibility for compliance and the right to possess and control the property referenced in the application has been contractually assumed by another legal entity. I further understand that any failure to comply with any condition of the executive director's approval is a violation is subject to administrative rule or orders and penalties as provided under §213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

Land Owner Signature

Land Owner Signature

9-8-2021
Date

THE STATE OF § Texas

County of § Comal

BEFORE ME, the undersigned authority, on this day personally appeared Darren Bruche 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 8 day of September, 2021

NOTARY PUBLIC

LONDIE BYRD
Notary Public
State of Texas
ID # 230650-6
My Comm. Expires 09-18-2021

Londie Byrd
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 9-18-2021

Attached: (Mark all that apply)

- ☐ Lease Agreement
- ☐ Signed Contract
- ☐ Deed Recorded Easement
- ■ Other legally binding document (Subdivision Plat Attached)

Applicant Acknowledgement

I, Daniel McCutchen of Waterfall Kid, LLC
Applicant Signatory Name — Applicant Name (Legal Entity or Individual)

acknowledge that Landmark Property Holdings, LLC
Land Owner Name (Legal Entity or Individual)

has provided Waterfall Kid, LLC
Applicant Name (Legal Entity or Individual)

with the right to possess and control the property referenced in the Edwards Aquifer protection plan.

I understand that Waterfall Kid, LLC
Applicant Name (Legal Entity or Individual)

is contractually responsible for compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation. I further understand that failure to comply with any condition of the executive director's approval is a violation is subject to administrative rule or orders and penalties as provided under §213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

Applicant Signature

Applicant Signature

09-07-2024
Date

THE STATE OF § Texas

County of § Comal

BEFORE ME, the undersigned authority, on this day personally appeared Daniel McCutchen 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 9th day of September

NOTARY PUBLIC

Preston Tharp
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: June 22nd 2024

PRESTON THARP
Notary Public, State of Texas
My Commission expires
June 22, 2024
ID No. 13253321-2

#202006052551

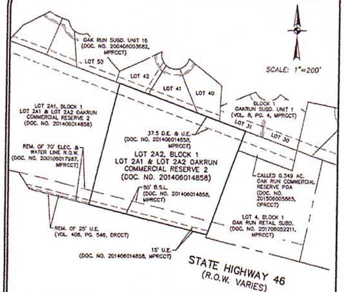
A FINAL PLAT ESTABLISHING

RECORDED

LOT 2A2-1R & LOT 2A2-2R & LOT 2A2-3R, OAKRUN COMMERCIAL RESERVE 2

BEING A REPLAT OF LOT 2A2, BLOCK 1, LOT 2A1 & LOT 2A2 OAKRUN COMMERCIAL RESERVE 2

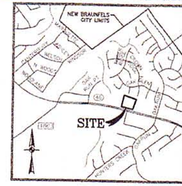
BEING 4.496 ACRES OF LAND AND BEING ALL OF LOT 2A2, BLOCK 1, LOT 2A1 & LOT 2A2 OAKRUN COMMERCIAL RESERVE 2, AS RECORDED IN DOCUMENT NO. 201406014858, OF THE MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS.



AREA TO BE REPLATTED - EXISTING LOT 2A2, BLOCK 1, LOT 2A1 & LOT 2A2 OAKRUN COMMERCIAL RESERVE 2

NOTES:

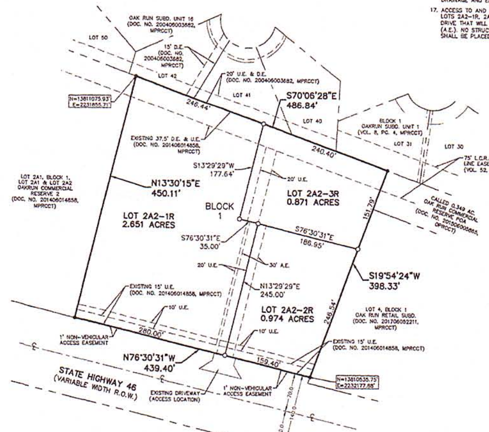
1. ALL LOTS WITHIN THE SUBDIVISION WILL BE PROVIDED WATER, SEWER AND ELECTRIC BY NEW BRAUNFELS UTILITIES. TELEPHONE SERVICE FOR THE SUBDIVISION WILL BE PROVIDED BY AT&T COMMUNICATIONS. CABLE TV SERVICE WILL BE PROVIDED BY SPECTRUM. GAS SERVICES PROVIDED BY CENTERPOINT ENERGY.
2. ALL BEARINGS AND COORDINATES SHOWN HEREON ARE IN GRID BASED UPON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATUM OF 1983. DISTANCES SHOWN HEREON ARE SURFACE USING COMBINED SCALE FACTOR OF 1.00015.
3. MONUMENTS WERE FOUND OR SET AT EACH CORNER OF THE SURVEY BOUNDARY OF THE SUBDIVISION. MONUMENTS AND LOT MARKERS WILL BE SET WITH 1/2" IRON PINS WITH PLASTIC CAP LABELED "DAM #5348 PROP. COR." AFTER COMPLETION OF UTILITY INSTALLATION AND STREET CONSTRUCTION UNLESS NOTED OTHERWISE.
4. THE LOT 2A2-1R & LOT 2A2-2R & LOT 2A2-3R, OAKRUN COMMERCIAL RESERVE 2 IS WITHIN THE CITY LIMITS OF THE CITY OF NEW BRAUNFELS.
5. THE SUBDIVISION IS WITHIN THE NEW BRAUNFELS INDEPENDENT SCHOOL DISTRICT.
6. THE SUBDIVISION IS WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
7. 5' WIDE SIDEWALKS ARE EXISTING ALONG STATE HIGHWAY 46.
8. NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING, FENCES, OR OTHER TYPE OF MODIFICATIONS WHICH ALTER THE CROSS SECTIONS OF THE DRAINAGE EASEMENTS OR DECREASES THE HYDRAULIC CAPACITY OF THE EASEMENT, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE CITY ENGINEER. THE CITY OF NEW BRAUNFELS SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER GRANTORS ADJACENT PROPERTY TO REMOVE ANY OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENTS AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENTS.
9. THE FINISHED FLOOR ELEVATION SHALL BE A MINIMUM OF 10 INCHES ABOVE FINAL ADJACENT GRADE AND THE LOT SHALL BE GRADED IN ACCORDANCE WITH THE APPROVED GRADING PLAN AND IN ACCORDANCE WITH SEC. 118-30(k).
10. FUTURE DEVELOPMENT IS SUBJECT TO CHAPTER 114 (STREETS, SIDEWALKS AND OTHER PUBLIC SPACES) OF THE NEW BRAUNFELS CODE OF ORDINANCES.
11. NO STRUCTURES IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO A PUBLIC WATER SYSTEM WHICH HAS BEEN APPROVED BY NEW BRAUNFELS UTILITIES.
12. THE PURPOSE OF THIS REPLAT IS TO ESTABLISH 3 COMMERCIAL LOTS.
13. NO PORTION OF THE COMMERCIAL LOTS WITHIN THIS SUBDIVISION ARE LOCATED WITHIN THE EXISTING SPECIAL FLOOD HAZARD ZONE A, 100-YEAR FLOOD BOUNDARY, AS DEFINED BY THE COMAL COUNTY, TEXAS COMMUNITY PANEL 48091C0435F, EFFECTIVE SEPTEMBER 2, 2009 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
14. NON-RESIDENTIAL USE SUBDIVISIONS ARE NOT SUBJECT TO PARK LAND DEDICATION AND DEVELOPMENT REQUIREMENTS. HOWEVER, AT SUCH TIME THAT ANY DWELLING UNITS ARE CONSTRUCTED, THE OWNER OF THE LOT SHALL CONTACT THE CITY AND COMPLY WITH THE ORDINANCE FOR EACH DWELLING UNIT.
15. MAINTENANCE OF DRAINAGE EASEMENTS DESIGNATED WITHIN A LOT SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
16. PERMANENT WATER QUALITY CONTROLS ARE REQUIRED FOR THIS SUBDIVISION PLAT IN ACCORDANCE WITH THE CITY OF NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL.
17. ACCESS TO AND FROM THE PUBLIC RIGHT-OF-WAY OF S.H. 46 FOR LOTS 2A2-1R, 2A2-2R AND 2A2-3R IS PROVIDED BY THE PRIVATE DRIVE THAT WILL BE CONSTRUCTED WITHIN THE 30' ACCESS EASEMENT (A.E.). NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF THE ACCESS EASEMENT.



LOCATION MAP
NOT TO SCALE

LEGEND:

DRCCT = DEED RECORDS OF COMAL COUNTY, TEXAS
OPRCCT = OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS
MPRCCT = MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS
B.S.L. = BUILDING SETBACK LINE
U.E. = UTILITIES EASEMENT
D.E. = DRAINAGE EASEMENT
A.E. = ACCESS EASEMENT
R.O.W. = RIGHT-OF-WAY
○ = 1/2" IRON PIN SET
● = IRON PIN FOUND
℄ = CENTERLINE R.O.W.



TXDOT NOTES:

1. FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE RIGHT-OF-WAY, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SETBACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.
2. OWNER/DEVELOPER IS RESPONSIBLE FOR PREVENTING ANY ADVERSE IMPACT TO EXISTING DRAINAGE SYSTEM WITHIN THE HIGHWAY RIGHT-OF-WAY. FOR PROJECTS IN THE EDWARDS AQUIFER RECHARGE OR CONTRIBUTING ZONES, OUTFALLS FOR WATER QUALITY AND/OR DETENTION PONDS TREATING IMPERVIOUS COVER RELATED TO THE DEVELOPMENT, WILL NOT ENCROACH BY STRUCTURE OR GRADING INTO STATE R.O.W. PLACEMENT OF PERMANENT STRUCTURAL BEST MANAGEMENT PRACTICE DEVICES OR VEGETATIVE FILTER STRIPS WITHIN STATE R.O.W. WILL NOT BE ALLOWED.
3. MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY TXDOT'S "ACCESS MANAGEMENT MANUAL". THE LOCATION OF THE EXISTING DRIVEWAY IS SHOWN AND IS THE ONLY APPROVED ACCESS POINT TO STATE HIGHWAY 46. LOT 2A2-1R, LOT 2A2-2R AND LOT 2A2-3R ARE NOT ELIGIBLE FOR ANY ADDITIONAL ACCESS TO STATE HIGHWAY SYSTEM.
4. IF SIDEWALKS ARE REQUIRED BY APPROPRIATE CITY ORDINANCE, A SIDEWALK PERMIT MUST BE APPROVED BY TXDOT, PRIOR TO CONSTRUCTION WITHIN STATE RIGHT-OF-WAY. LOCATIONS OF SIDEWALKS WITHIN STATE RIGHT-OF-WAY SHALL BE AS DIRECTED BY TXDOT.
5. ANY TRAFFIC CONTROL MEASURES (LEFT-TURN LANE, RIGHT-TURN LANE SIGNAL, ETC.) FOR ANY ACCESS FRONTING A STATE MAINTAINED ROADWAY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.

STATE OF TEXAS
COUNTY OF COMAL

I, THE UNDERSIGNED OWNER OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS LOT 2A2-1R & LOT 2A2-2R & LOT 2A2-3R, OAKRUN COMMERCIAL RESERVE 2, TO THE CITY OF NEW BRAUNFELS, COUNTY OF COMAL, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

by [signature]
LANDMARK PROPERTY HOLDING, LLC (OWNER)
451 FALLEN OAK
NEW BRAUNFELS, TX 78132

STATE OF TEXAS
COUNTY OF GUADALUPE

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS 14th DAY OF OCTOBER 2020,
BY DARREN BUECHE

[signature]
NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES: MARCH 19, 2021

MANDI MAWYER
Notary ID # 129359451
My Commission Expires
March 19, 2021

D·A·MAWYER
LAND SURVEYING
5151 W. SH 46
NEW BRAUNFELS, TX 78132
PH: 830.730.4449
DATE: JULY 2020 JOB: P&M169

CERTIFIED TO BE A TRUE AND CORRECT COPY.
BOBBIE KOEPP, County Clerk
Comal County

NEW BRAUNFELS UTILITIES NOTES:

1. MAINTENANCE OF DEDICATED UTILITY EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNER. ANY USE, OF AN EASEMENT, OR ANY PORTION OF IT, INCLUDING LANDSCAPING OR DRAINAGE FEATURES, IS SUBJECT TO AND SHALL NOT CONFLICT WITH THE TERMS AND CONDITIONS IN THE EASEMENT, MUST NOT ENDANGER OR INTERFERE WITH THE RIGHTS GRANTED BY THE EASEMENT TO NEW BRAUNFELS UTILITIES, ITS SUCCESSORS AND ASSIGNS, AND SHALL BE SUBJECT TO APPLICABLE PERMIT REQUIREMENTS OF THE CITY OF NEW BRAUNFELS OR ANY OTHER GOVERNING BODY. THE PROPERTY OWNER MUST OBTAIN, IN ADVANCE, WRITTEN AGREEMENT WITH THE UTILITIES TO UTILIZE THE EASEMENT, OR ANY PART OF IT.
2. UTILITIES WILL POSSESS A 5-FOOT WIDE SERVICE EASEMENT TO THE BUILDING STRUCTURE ALONG THE SERVICE LINE TO THE SERVICE ENTRANCE. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF BUILDING STRUCTURE AND SERVICE.
3. UTILITIES SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARD AND METER LOCATIONS SHALL NOT BE LOCATED WITHIN A FENCED AREA.
4. EACH LOT MUST HAVE ITS OWN WATER AND SEWER SERVICE AT THE OWNER/DEVELOPER'S EXPENSE.
5. DO NOT COMBINE ANY NEW UTILITY EASEMENTS (U.E.) WITH DRAINAGE EASEMENTS (D.E.) OR MAKE CHANGES IN GRADE WITHIN THE UTILITY EASEMENTS (U.E.) WITHOUT WRITTEN APPROVAL FROM NEW BRAUNFELS UTILITIES.
6. NBU IS NOT RESPONSIBLE FOR DAMAGES TO PROPERTY IMPROVEMENTS (I.E. LANDSCAPING, TREES, PAVEMENT, SIGNS, DRAINAGE STRUCTURES, PRIVATE UTILITIES, ETC.) THAT ARE PLACED IN ANY TYPE OF UTILITY EASEMENT. TO ENSURE NO CONFLICT EXISTS WITH UTILITY INFRASTRUCTURE IN THE EASEMENT, ALL SUCH IMPROVEMENTS PLACED IN ANY TYPE OF UTILITY EASEMENT MUST BE REVIEWED AND APPROVED THROUGH THE NBU EASEMENT ENCROACHMENT PROCESS. NBU DEVELOPMENT SERVICES FACILITIES THE EASEMENT ENCROACHMENT APPLICATION PROCESS.

STATE OF TEXAS
COUNTY OF COMAL
I certify this to be a true and correct copy of the record FILED & RECORDED in the Official Public Records of Comal County on the date and time stamped thereon.
Bobbie Koepp
[signature] 11-20-20

KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED, DREW A. MAWYER, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE UNDER MY SUPERVISION AND IN COMPLIANCE WITH CITY AND STATE SURVEY REGULATIONS AND LAWS AND MADE ON THE GROUND AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY SUPERVISION.

[signature]
DREW A. MAWYER
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5348
D.A. MAWYER LAND SURVEYING
5151 W. SH 46, NEW BRAUNFELS, TX 78132

STATE OF TEXAS REGISTERED DREW A. MAWYER 5348 PROFESSIONAL LAND SURVEYOR

APPROVED THIS THE 7TH DAY OF OCTOBER 2020, BY THE PLANNING COMMISSION OF THE CITY OF NEW BRAUNFELS, TEXAS.

11/9/20 [signature]
DATE CHAIRMAN (D. Lee Edwards)

APPROVED FOR ACCEPTANCE:

11/13/20 [signature]
DATE PLANNING AND DEVELOPMENT SERVICES DIRECTOR

11/13/2020 [signature]
DATE CITY ENGINEER

11/12/2020 [signature]
DATE NEW BRAUNFELS UTILITIES

STATE OF TEXAS
COUNTY OF COMAL

I, Bobbie Koepp DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT WAS FILED FOR RECORD IN THE MAP AND PLAT RECORDS, DOC. # 202006052551 OF COMAL COUNTY ON THE 20th DAY OF November 2020 AT 1:48 PM.

WITNESS MY HAND AND OFFICIAL SEAL THIS THE 20th DAY OF November A.D. 2020

COUNTY CLERK, COMAL COUNTY, TEXAS

[signature]
DEPUTY

COUNTY COURT OF COMAL COUNTY, TEXAS

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. Customer Reference Number *(if issued)*: CN 605884535

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

3. Regulated Entity Reference Number *(if issued)*: RN 111252805

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:

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:

City State ZIP ZIP + 4

16. Country Mailing Information *(if outside USA)*

17. E-Mail Address *(if applicable)*

18. Telephone Number ( ) -

19. Extension or Code -

20. Fax Number *(if applicable)* ( ) -

SECTION III: Regulated Entity Information

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

☒ 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.)*

Oakrun Commercial Reserve 2 - Big League Car Wash #3

23. Street Address of the Regulated Entity: *(No PO Boxes)*	Not Assigned						
	City		State		ZIP		ZIP + 4	
24. County	Comal						

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	1,200 feet east of the intersection of Oak Run Point and S.H. Hwy 46.

26. Nearest City	State	Nearest ZIP Code
New Braunfels	TX	78130

27. Latitude (N) In Decimal:	29.722134		28. Longitude (W) In Decimal:	98.170250	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	43	20	98	10	13

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)
7542		811192	

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

Drive thru car wash.

34. Mailing Address:	723 Deer Run Way							
	City	New Braunfels	State	TX	ZIP	78132	ZIP + 4	4194
35. E-Mail Address:	cutch82@gmail.com							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(405) 413-4982	-	( ) -

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
		WPAP - Modification		
☐ 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:	John J. Moy, Jr., P.E.	41. Title:	Civil Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830) 629-2563	-	(830) 629-2564	johnmoy711@sbcglobal.net

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:	Pawelek & Moy, Inc.	Job Title:	Project Engineer
Name *(In Print)*:	John J. Moy, Jr.	Phone:	(830) 629- 2563
Signature:	John J Moy Jr	Date:	9/21/21

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. Customer Reference Number *(if issued)*: CN

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

3. Regulated Entity Reference Number *(if issued)*: RN 111252805

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)*: Landmark Property Holdings LLC

If new Customer, enter previous Customer below:

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
802029148	32054642064	465-19-2830	

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:								
	451 Fallen Oaks							
	City	New Braunfels	State	TX	ZIP	78132	ZIP + 4	3780

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

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(830) 237-9648	-	( ) -

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.)*

Oakrun Commercial Reserve 2 - Big League Car Wash #3

23. Street Address of the Regulated Entity: *(No PO Boxes)*	Not Assigned							
	City		State		ZIP		ZIP + 4	
24. County	Comal							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	1,200 feet east of the intersection of Oak Run Point and S.H. Hwy 46.

26. Nearest City	State	Nearest ZIP Code
New Braunfels	TX	78130

27. Latitude (N) In Decimal:	29.722134	28. Longitude (W) In Decimal:	98.170250

Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	43	20	98	10	13

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)
6552		237210	

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

Real Estate Brokerage Services.

34. Mailing Address:	451 Fallen Oaks							
	City	New Braunfels	State	TX	ZIP	78132	ZIP + 4	3780
35. E-Mail Address:	darren@landmarksales.com							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(830) 237-9648	-	( ) -

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
		WPAP - Modification		
☐ 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:	John J. Moy, Jr., P.E.	41. Title:	Civil Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830) 629-2563	-	(830) 629-2564	johnmoy711@sbcglobal.net

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:	Pawelek & Moy, Inc.	Job Title:	Project Engineer
Name *(In Print)*:	John J. Moy, Jr.	Phone:	(830) 629- 2563
Signature:	John J. Moy	Date:	9/21/21

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 9, 2015

Mr. Darren Bueche
II DB Holding LP
451 Fallen Oak
New Braunfels, Texas 78132-3780

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Oak Run Commercial Reserve 2; Located 1,100 feet east of the intersection of Oak Run Point and TX Hwy 46, New Braunfels, Texas

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

Investigation No. 1192266; Regulated Entity No. RN107695892; Additional ID No. 13-14082104

Dear Mr. Bueche:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the above-referenced project submitted to the San Antonio Regional Office by KFW Engineers on behalf of II DB Holding LP on August 21, 2014. Final review of the WPAP was completed after additional material was received on December 3, December 31, 2014, January 9, 2015, January 16, 2015 and February 2, 2015. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial development project will have an area of approximately 9.996 acres. The tract will be split between 5.50 acres and 4.496 acres. The first 5.50 acres will be developed into a Memory Care America facility and the remaining 4.496 acres will be developed in the future with up to 85% impervious cover. It will include 0.002 acres of existing impervious cover, 1.005 acres of parking and other paved surfaces, 0.101 acres of

concrete sidewalks, curbs and dumpster pads, and 1.105 acres of structures/rooftops. The resulting total impervious cover will be 6.033 acres (60.35 percent). Project wastewater will be disposed of by conveyance to the existing Gruene Wastewater Treatment Plant operated by New Braunfels Utilities (NBU).

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one batch detention basin, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 5,414 pounds of TSS generated from the 6.033 acres of impervious cover. The provided TSS removal is 6,295 pounds of TSS. The total capture volume of the basin is 28,562 cubic feet (27,765 cubic feet required). The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the geologic assessment included with the application, the site is located within the Lower Cretaceous Person Formation, the upper member of the Edwards Group. The San Antonio Regional Office site assessment conducted on November 18, 2014 revealed the site was generally as described in the geologic assessment. One sensitive feature, a fault identified as feature S-4, was noted in the geologic assessment. The natural buffer for feature S-4 will be 50 feet (50') in all directions.

SPECIAL CONDITIONS

I. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

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

III. As indicated in the application, future development within the site will require the submission and approval of WPAP modifications prior to initiating regulated activities.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall

be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

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

<u>During Construction:</u>

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the

executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

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

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

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regioual Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer Protection Plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer Protection Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

21. An Edwards Aquifer Protection Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer Protection Plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. Ricardo A. Macias of the Edwards Aquifer Protection Program, San Antonio Regional Office at (210) 403-4065.

Sincerely,

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

LMB/RAM/eg

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625

Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Benjamin Bunker, P.E., KFW Engineers

Mr. James C. Klein, P.E., New Braunfels City Engineer

Mr. Thomas H. Horseth, P.E., Comal County Engineer

Mr. Roland Ruiz, Edwards Aquifer Authority

TCEQ Central Records, Building F, MC 212

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 25, 2014

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

Re: Edwards Aquifer, Comal County
PROJECT NAME: Oakrun Commercial Reserve 2, located 1100 feet east of the intersection of Oak Run Parkway and Highway 46, New Braunfels, Texas

PLAN TYPE: Application for Approval of Water Pollution Abatement Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP Additional ID: 13-14082104

Dear Mr. Hornseth:

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

Please forward your comments to this office by September 25, 2014.

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

Sincerely

Todd Jones
Water Section Work Leader
San Antonio Regional Office

TJ/eg

Comal County.

KFW ENGINEERS

WATER POLLUTION ABATEMENT PLAN

OAKRUN COMMERCIAL RESERVE 2

LOCATION: 1,100 feet east of the intersection of Oak Run Point and TX Hwy 46 New Braunfels, TX 78132

FIRM #: 9513
KFW JOB#: 358-01-01
DATE: SUBMITTED: AUGUST 2014

STATE OF TEXAS
BENJAMIN D BUNKER
108512
LICENSED
PROFESSIONAL ENGINEER

TCEQ-R13
AUG 21 2014
SAN ANTONIO

8/18/2014

By: Benjamin D. Bunker, P.E.

14603 Huebner, Bldg. 40 San Antonio, Texas 78216 · Phone: (210) 979-8444 · Fax: (210) 979-8441 · www.kfwengineers.com

August 18, 2014

Edwards Aquifer Group
TCEQ Region 13
14250 Judson Rd.
San Antonio, TX 78233-4480

Re: Oakrun Commercial Reserve 2
Water Pollution Abatement Plan Application

To Whom It May Concern:

Attached are one (1) original and four (4) copies of the Water Pollution Abatement Plan Application for " Oakrun Commercial Reserve 2" including the appropriate review fees ($5,000). This application has been prepared according to the guidelines set forth in 30 TAC Chapter 213 Subchapter B. Please review the application for completeness and compliance with the applicable regulations for development over the Recharge Zone of the Edwards Aquifer. Upon acceptance, we request that written approval be provided to our office.

Thank you for your time and consideration in this matter. Should you have any questions or need further information please feel free to contact our office.

Sincerely,
KFW Engineers

Benjamin Bunker, P.E.
Project Manager

Attachments:
1-Original Water Pollution Abatement Plan Application
4-Copies of Water Pollution Abatement Plan Application

14603 Huebner Rd., Bldg #40 San Antonio, Texas 78230 • Phone: (210) 979-8444 • Fax: (210) 979-8441 • www.kfwengineers.com

KFW
ENGINEERS

GENERAL INFORMATION SECTION

KFW ENGINEERS

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

REGULATED ENTITY NAME: Oakrun Commercial Reserve 2
COUNTY: COMAL STREAM BASIN: BLIEDERS CREEK

EDWARDS AQUIFER: _X_ RECHARGE ZONE
__ TRANSITION ZONE

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

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: DARREN BUECHE
Entity: II DB HOLDINGS LP
Mailing Address: 451 FALLEN OAK
City, State: NEW BRAUNFELS, TX Zip:78132-3780
Telephone: (830) 237-9648 FAX:

Agent/Representative (If any):

Contact Person: BENJAMIN BUNKER, P.E.
Entity: KFW ENGINEERS
Mailing Address: 14603 HUEBNER RD. BLDG. 40
City, State: SAN ANTONIO, TEXAS Zip: 78230
Telephone: (210) 979-8444 FAX: (210) 979-8441

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

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

1,100 feet east of the intersection of Oak Run Point and TX Hwy 46, New Braunfels, TX 78312. Lot 2A1 and Lot 2A2 Oakrun Commercial Reserve 2, Block 1

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

5. _X_ **ATTACHMENT B - USGS / EDWARDS RECHARGE ZONE MAP**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached behind this sheet. The map(s) should clearly show:

_X_ Project site.

_X_ USGS Quadrangle Name(s).
_X_ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
_X_ Drainage path from the project to the boundary of the Recharge Zone (Soil Conservation Service Site 3 Reservoir is ending point of drainage path)

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

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

8. Existing project site conditions are noted below:
__ Existing commercial site
__ Existing industrial site
__ Existing residential site
__ Existing paved and/or unpaved roads
__ Undeveloped (Cleared)
_X_ Undeveloped (Undisturbed/Uncleared)
__ Other: _____

PROHIBITED ACTIVITIES

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

(1) waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
(2) new feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
(3) land disposal of Class I wastes, as defined in 30 TAC §335.1;
(4) the use of sewage holding tanks as parts of organized collection systems; and
(5) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

10. _N/A_ I am aware that the following activities are prohibited on the **Transition Zone** and are not proposed for this project:

(1) waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
(2) land disposal of Class I wastes, as defined in 30 TAC §335.1; and
(3) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

ADMINISTRATIVE INFORMATION

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

_X_ For a Water Pollution Abatement Plan and Modifications, the total acreage of the site where regulated activities will occur.
__ For an Organized Sewage Collection System Plans and Modifications, the total linear

footage of all collection system lines.

___ For a UST Facility Plan or an AST Facility Plan, the total number of tanks or piping systems.

___ A request for an exception to any substantive portion of the regulations related to the protection of water quality.

___ A request for an extension to a previously approved plan.

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

___ TCEQ cashier

___ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)

_X_ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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

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

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

Benjamin D. Bunker
Print Name of Customer/Agent

Signature of Customer/Agent

8/18/2014
Date

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

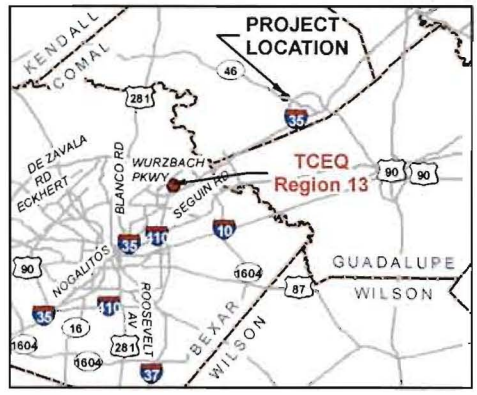
Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

N

SCALE: 1" = 500'

0 500 1,000 1,500

FEET



LOCATION MAP
(N.T.S.)

KFW ENGINEERS & SURVEYING
FIRM# 9513
14603 HUEBNER RD, BLDG. 40
SAN ANTONIO, TEXAS 78230
PHONE (210) 979-8444
FAX (210) 979-8441

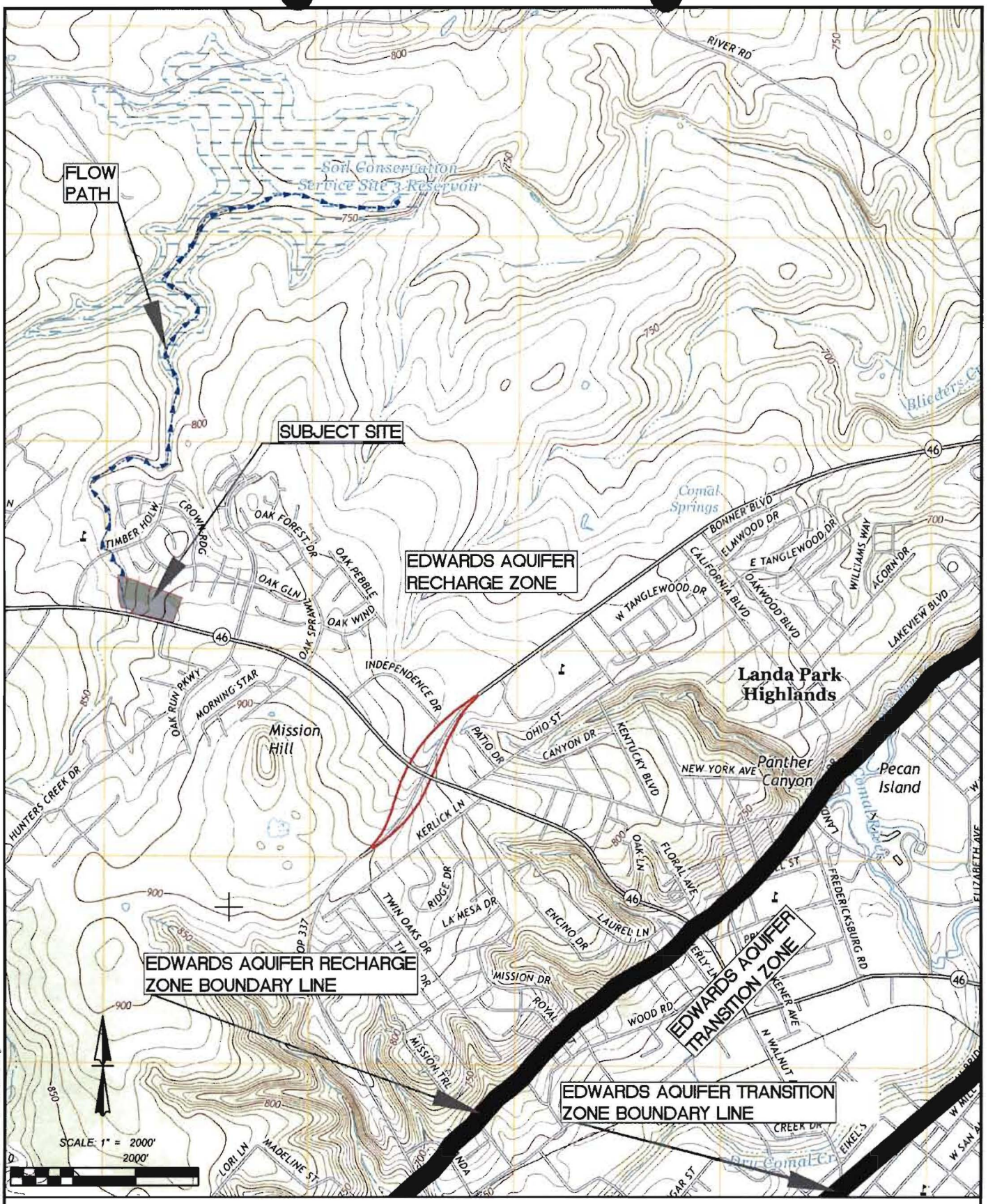
OAKRUN COMMERCIAL RESERVE 2

GENERAL INFORMATION
AERIAL & LOCATION MAP

REVISIONS	ISSUE DATE:

JOB NO. 358-01-01
DATE: July 2014 DESIGNER:
DRAWN: J.J. CHECKED: J.S

SHEET: ATT-A



KFW ENGINEERS & SURVEYING
Firm# 9513
14603 HUEBNER RD, BLDG. 40
SAN ANTONIO, TEXAS 78230
PHONE (210) 979-8444
FAX (210) 979-8441

OAKRUN COMMERCIAL RESERVE 2
WPAP
NEW BRAUNFELS WEST USGS QUADRANGLE

REVISIONS:	ISSUE DATE:
JOB NO. 358-01-01	
DATE: JULY 2014	DESIGNER: -
DRAWN: JS	CHECKED: BB

SHEET: ATT-B

Date: Jul 16, 2014, 3:19pm User ID: jspencer
File: P:\358\01\01\Design\Exhibits\WPAP\EX140714 - USGS_AQUIFER.dwg

PROJECT DESCRIPTION

Oakrun Commercial Reserve 2 is an undeveloped 9.996 acre tract that will be split between 5.50 acres and 4.496 acres. The 5.50 acres will be developed into a Memory Care America facility and the 4.496 acres will be developed in the future with up to 85% impervious cover. It lies within the City of New Braunfels, in Comal County. The project is located entirely in the Edwards Aquifer Recharge Zone, and within the Blieders Creek Watershed.

Currently the project has a total of 0.002 acres of impervious cover; and will have a net increase of 6.031 acres of impervious cover from existing conditions for a total of 6.033 acres (60.35%) of impervious cover. The proposed impervious cover increase will consist of approximately 1.005 acres of parking and other paved surfaces, and 1.105 acres of structures/rooftops. 3.822 acres of the 4.496 acre lot 2A2 will be impervious for future development. The permanent BMP that will treat and release site runoff will be a batch detention basin. All 6.033 acres of impervious runoff will be treated with the batch detention basin and the removal efficiency of the proposed runoff will meet the required overall removal of 80% of increase in TSS.

The whole project will be disturbed during construction activities. These activities will be subject to TPDES requirements. A Storm Water Pollution Prevention Plan will be maintained for the site and temporary BMP's will be implemented to prevent erosion and sedimentation until completion of the permanent BMP. All areas not covered by the building footprint, sidewalks, or pavement will be stabilized with either sod or landscaping when construction is complete and before the removal of temporary BMPs.

There will not be any storage of regulated quantities of hazardous materials. New Braunfels Utilities will supply potable water. Wastewater will be collected and treated by New Braunfels Utilities.

KFW
ENGINEERS

GEOLOGIC ASSESSMENT SECTION

KFW ENGINEERS

psi Information To Build On
Engineering • Consulting • Testing

GEOLOGIC ASSESSMENT

For the

MCA APPROXIMATE 10-ACRE TRACT
HIGHWAY 46
NEW BRAUNFELS, COMAL COUNTY, TEXAS

Prepared for

MEMORY CARE AMERICA, LLC
4009 HILLSBORO ROAD, SUITE 211
NASHVILLE, TENNESSEE, TEXAS 37215

Prepared by

Professional Service Industries, Inc.
7400 Blanco Road, Suite 257
San Antonio, Texas 78216
Telephone (210) 616-2119

PSI PROJECT NO.: 435- 1669

February 18, 2014

PSI Information To Build On
Engineering • Consulting • Testing

February 18, 2014

Memory Care America, LLC
4009 Hillsboro Road, Suite 211
Nashville, TN 37215

Attn: Mr. J. Michael Gould, Chairman/CEO

Re: Geologic Assessment
MCA Approximate 10-Acre Tract
Highway 46
New Braunfels, Comal County, Texas
PSI Project No. 435-1669

Dear Mr. Gould:

Professional Service Industries, Inc. (PSI) has completed a geologic recharge assessment for the above referenced project in compliance with the Texas Commission on Environmental Quality (TCEQ) requirements for regulated developments located on the Edwards Aquifer Recharge Zone (EARZ). The purpose of this report is to describe surficial geologic units and identify the locations and extent of significant recharge features present in the development area.

AUTHORIZATION

Authorization to perform this assessment was given by a signed copy of PSI Proposal No. 114810 between Memory Care America, LLC and PSI dated January 29, 2014.

PROJECT DESCRIPTION

The subject site is located on the north side of Highway 46, approximately 0.16 miles east of Oak Run Point, in New Braunfels, Comal County, Texas. The MCA Tract is approximately 10-acres in size, and is a rectangular shaped tract of undeveloped land, that has historically been undeveloped or range land. The site vegetation consists primarily of native grasses, with ashe juniper and live oak trees, and mountain laurel, agarita, and prickly pear cactus.

REGIONAL GEOLOGY

Physiography

Comal County lies within two physiographic provinces, the Edwards Plateau and the Blackland Prairie. Most of Comal County lies within the Edwards Plateau, which is characterized by rugged and hilly terrain, with elevations in excess of 1,400' feet above sea level in the northwestern portion of the county. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones

Fault Zone extends northeast-southwest across Comal County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 650 feet to 1100 feet above sea level. The regional dip of the lower Cretaceous rocks in Comal County is 15 feet per mile towards the southeast. The faults are predominantly normal, down-to-the Gulf Coast, with near vertical throws. Elevations at the MCA Tract site range from approximately 860 feet MSL in the eastern portion to approximately 830 feet MSL on the west side of the tract. The topographic slope of the site is to the west, towards an unnamed tributary to Blieder's Creek on the western property boundary.

Stratigraphy and Structure

Based on the United States Geologic Survey (USGS) "Geologic Map of the Edwards Aquifer Recharge Zone, South-Central Texas (2005), rocks at the site are mapped as the Lower Cretaceous Person Formation. The site is covered with a fairly thick soil horizon, with limited rock outcrops. According to "The Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County Texas" written by the USGS, the Person Formation ranges between 180 and 224 feet thick and forms the upper member of the Edwards Group, beneath the Georgetown Formation which compromises the Edwards Aquifer, a federally-designated sole source aquifer for the region.

Other than streambed feature S-4, no other sensitive features scoring more than 40 points on the F-0585 form were observed on the subject tract. Notable rock outcrops were sparse, and the predominantly clay covered areas of the subject tract did not have potential recharge features. Features S-1, S-2 and S-3 were small closed depressions on the east side of the site. Features S-6 and S-7 were sanitary sewer manholes on the west side of the tract.

SITE INVESTIGATION

The site investigation was performed by systematically traversing the subject tract, and mapping fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration. The results of the site investigation are included in the attached TCEQ report format.

SUMMARY

Streambed feature S-4 is a sensitive recharge feature based on the location in a streambed and proximity to a mapped fault. Features S-1, S-2 and S-3 were small closed depressions with limited subsurface interconnection potential, and no indications of associated solution cavities or sinkholes. Feature S-5 is a mapped fault that traverses the western portion of the site. Please note that subtle features, buried or obscured from view, may be present on the tract. It is possible that clearing/construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If additional caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.

We appreciate this opportunity to be of service to you. If you have any questions, please do not hesitate to contact our office.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

John Langan, P.G.
Environmental Department Manager

WARRANTY

The field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for a general geological recharge assessment of this site. PSI warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted geologic methods, only for the site described in this report. These methods have been developed to provide the client with information regarding apparent indications of existing or potential conditions relating to the subject site and are necessarily limited to the conditions observed at the time of the site visit and research. This report is also limited to the information available at the time it was prepared. In the event additional information is provided to PSI following the report, it will be forwarded to the client in the form received for evaluation by the client. There is a possibility that conditions may exist which could not be identified within the scope of the assessment or which were not apparent during the site visit. PSI believes that the information obtained from others during the review of public information is reliable; however, PSI cannot warrant or guarantee that the information provided by others is complete or accurate.

This report has been prepared for the exclusive use of Memory Care America, LLC for the site discussed herein. Reproductions of this report cannot be made without the expressed approval Memory Care America, LLC. The general terms and conditions under which this assessment was prepared apply solely to Memory Care America, LLC. No other warranties are implied or expressed.

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

REGULATED ENTITY NAME: Oakrun Commercial Reserve 2

TYPE OF PROJECT: _X_ WPAP __ AST __ SCS __ UST

LOCATION OF PROJECT: _X_ Recharge Zone __ Transition Zone __ Contributing Zone within the Transition Zone

PROJECT INFORMATION

1. _X_ Geologic or manmade features are described and evaluated using the attached **GEOLOGIC ASSESSMENT TABLE**.

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

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Rumple-Comfort association, undulating (RUD)	C	1-3

* Soil Group Definitions (Abbreviated)

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

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

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

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

3. _X_ A **STRATIGRAPHIC COLUMN** is attached at the end of this form that shows formations, members, and thicknesses. The outcropping unit should be at the top of the stratigraphic column.

4. _X_ A **NARRATIVE DESCRIPTION OF SITE SPECIFIC GEOLOGY** is attached at the end of this form. The description must include a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure, and karst characteristics of the site.

5. _X_ Appropriate **SITE GEOLOGIC MAP(S)** are attached:

The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1" : 400'

Applicant's Site Plan Scale 1" = 50 '
Site Geologic Map Scale 1" = 50 '
Site Soils Map Scale (if more than 1 soil type) 1" = _____ '

6. Method of collecting positional data:
   - X Global Positioning System (GPS) technology.
   - ___ Other method(s).

7. X The project site is shown and labeled on the Site Geologic Map.

8. X Surface geologic units are shown and labeled on the Site Geologic Map.

9. X Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
   - ___ Geologic or manmade features were not discovered on the project site during the field investigation.

10. X The Recharge Zone boundary is shown and labeled, if appropriate.

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

   - ___ There is ____(#) well 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 well is not in use and will be properly abandoned.
     - ___ The wells are in use and comply with 16 TAC Chapter 76.
   - X There are no wells or test holes of any kind known to exist on the project site.

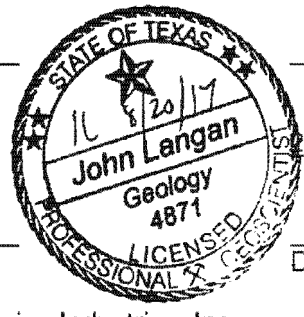
ADMINISTRATIVE INFORMATION

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

Date(s) Geologic Assessment was performed: February 5, 2014
Date(s)

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

John Langan
Print Name of Geologist



210/616-2119
Telephone

210/342-9401
Fax

Signature of Geologist

August 20, 2014
Date

Representing: Professional Service Industries, Inc.
(Name of Company)

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

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

STRATIGRAPHIC COLUMN

MCA Tract
Highway 46
New Braunfels, Comal County, Texas

FORMATION	THICKNESS	LITHOLOGIC DESCRIPTION
Georgetown Formation	2-20'	Light tan limestone identified by proximity to Del Rio clay and diagnostic marker fossil: *waconella wacoensis* brachiopod; low porosity and permeability development.
Person Formation	180-224'	Limestones and dolomites, extensive porosity development in "honeycomb sections, interbedded with massive recrystallized limestones with more limited permeabilities (especially Regional Dense Member separating the Person and Kainer Formations.
Kainer Formation	260-310'	Hard, miliolid limestones, overlying calcified dolomites and dolomite. Leached evaporitic "Kirschberg" zone of very porous and permeable collapse breccia formed by the dissolution of gypsum. Overlies the basal nodular (Walnut) bed.
Glen Rose Limestone (upper)	350-500	Yellowish-tan thinly bedded limestone and marl. Alternating beds of varying hardness erodes to "stairstep" topography. Marine fossils common.

SOILS NARRATIVE

According to the Soil Survey of Comal County, published by the United States Department of Agriculture, Soil Conservation Service, in cooperation with the Texas Agricultural Extension Service, reissued in 1984, the soils beneath the subject property have been classified as Rumple-Comfort association, undulating (RUD).

Rumple-Comfort association soils are shallow to moderately deep soils on uplands in the Edwards Plateau. The surface layer is a dark reddish brown cherty clay loam about 10 inches thick, and overlies a subsoil of reddish brown cherty clay with abundant limestone fragments to a depth of 28 inches. The underlying parent material is an indurated limestone. The soil is well drained, with medium surface runoff, moderately slow permeability, and very low available water capacity. The soil is not suited for cropland, or cultivation, but is used as range land and habitat for wildlife.

SITE GEOLOGIC NARRATIVE

Physiography

Comal County lies within two physiographic provinces, the Edwards Plateau and the Blackland Prairie. Most of Comal County lies within the Edwards Plateau, which is characterized by rugged and hilly terrain, with elevations in excess of 1,400' feet above sea level in the northwestern portion of the county. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Comal County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 650 feet to 1100 feet above sea level. The regional dip of the lower Cretaceous rocks in Comal County is 15 feet per mile towards the southeast. The faults are predominantly normal, down-to-the Gulf Coast, with near vertical throws. Elevations at the MCA Tract site range from approximately 860 feet MSL in the eastern portion to approximately 830 feet MSL on the west side of the tract. The topographic slope of the site is to the west, towards an unnamed tributary to Blieder's Creek on the western property boundary.

Stratigraphy and Structure

Based on the United States Geologic Survey (USGS) "Geologic Map of the Edwards Aquifer Recharge Zone, South-Central Texas (2005), rocks at the site are mapped as the Lower Cretaceous Person Formation. The site is covered with a fairly thick soil horizon, with limited rock outcrops. According to "The Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County Texas" written by the USGS, the Person Formation ranges between 180 and 224 feet thick and forms the upper member of the Edwards Group, beneath the Georgetown Formation which compromises the Edwards Aquifer, a federally-designated sole source aquifer for the region.

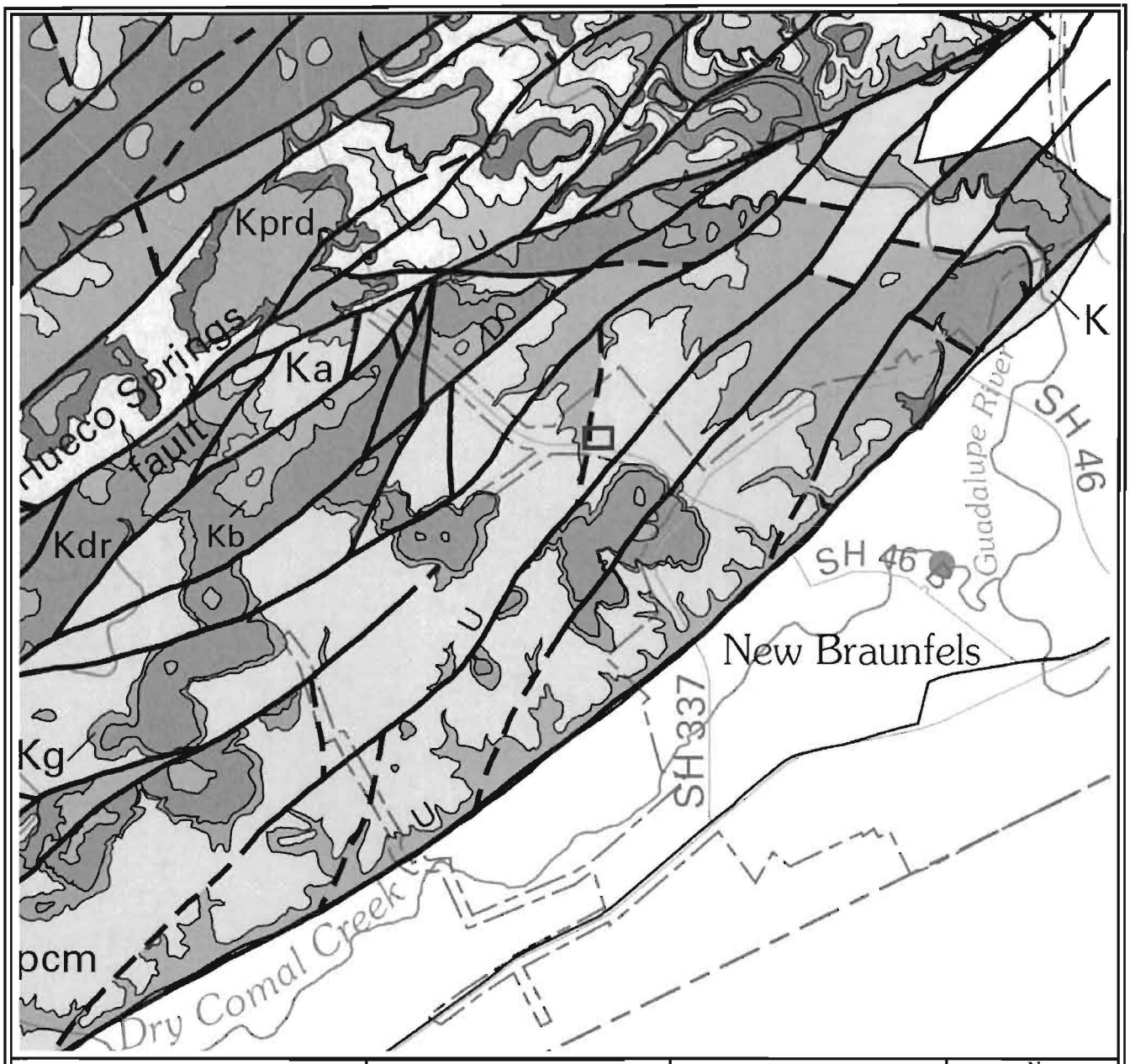
Other than streambed feature S-4, no other sensitive features scoring more than 40 points on the F-0585 form were observed on the subject tract. Notable rock outcrops were sparse, and the predominantly clay covered areas of the subject tract did not have potential recharge features. Features S-1, S-2 and S-3 were small closed depressions on the east side of the site. Features S-6 and S-7 were sanitary sewer manholes on the west side of the tract.

The site investigation was performed by systematically traversing the subject tract, and mapping fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration. The results of the site investigation are included in the attached TCEQ report format.

SUMMARY

Streambed feature S-4 is a sensitive recharge feature based on the location in a

streambed and proximity to a mapped fault. Features S-1, S-2 and S-3 were small closed depressions with limited subsurface interconnection potential, and no indications of associated solution cavities or sinkholes. Feature S-5 is a mapped fault that traverses the western portion of the site. Please note that subtle features, buried or obscured from view, may be present on the tract. It is possible that clearing/construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If additional caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.



PSI Information To Build On
Engineering • Consulting • Testing
PSI, Inc.
7400 Blanco Road, Suite 257
San Antonio, Texas 78216

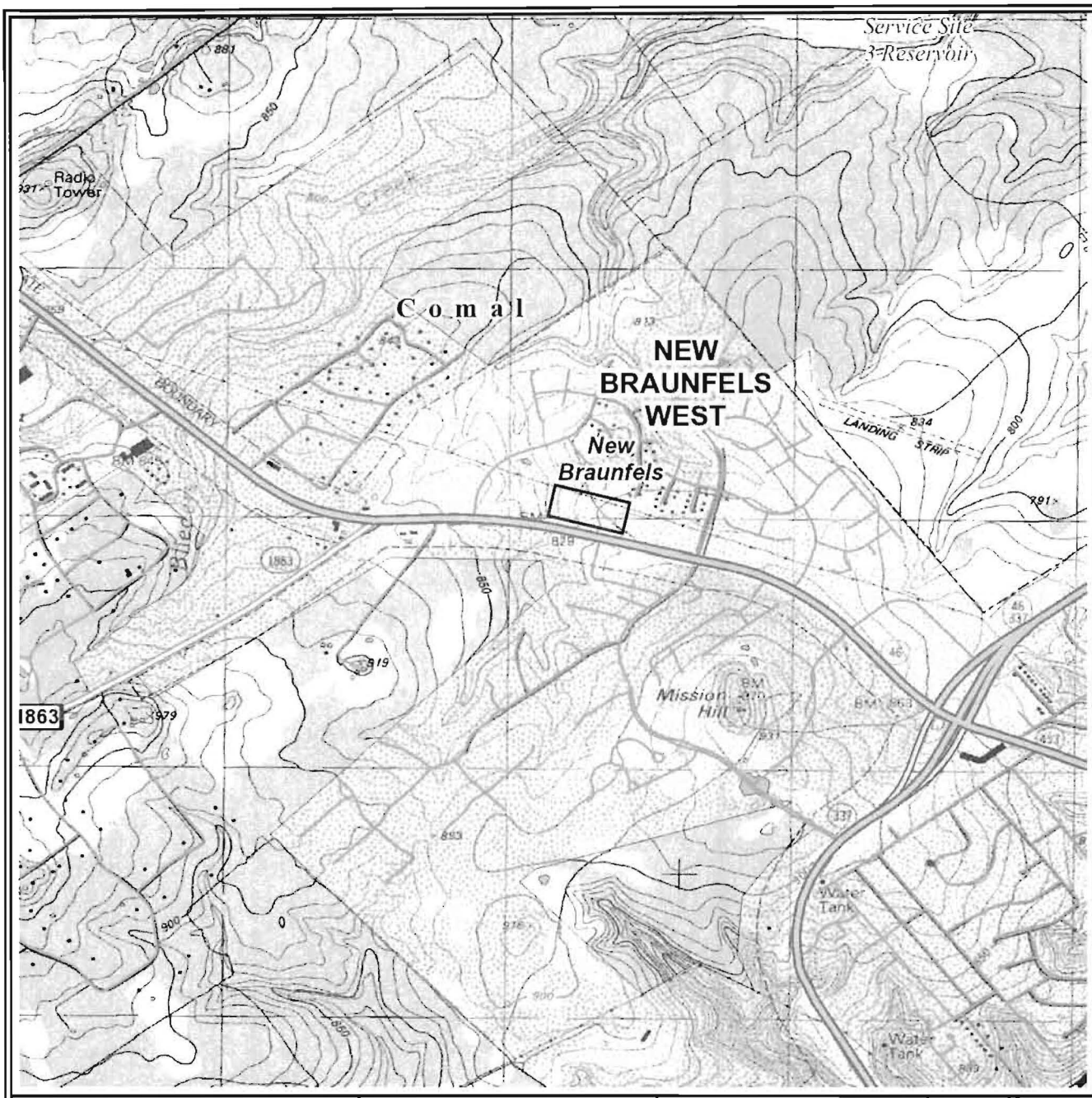
PROJECT NAME:
MCA Tract
Highway 46
Comal County,Texas

PROJECT NO.:435-1669

Geologic Map of Edwards Aquifer Recharge Zone, South-Central Texas

(USGS, 2005)

N



psi *Information To Build On*
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7400 Blanco Road, Suite 257
San Antonio, Texas 78216

PROJECT NAME:
MCA Tract
Highway 46
Comal County,Texas

PROJECT NO.:435-1669

Topographic Map
TCEQ Edwards Aquifer
Recharge Zone Mapping
Software

N

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PSI, Inc.
7400 Blanco Road, Suite 257
San Antonio, Texas 78216

PROJECT NAME:
MCA Tract
Highway 46
Comal County,Texas

PROJECT NO.:435-1669

Feature Map

N

GEOLOGIC ASSESSMENT TABLE — PROJECT NAME: Oakrun Commercial Reserve 2

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)	DIP	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	≥40	<1.6	≥1.6	
S-1	29-43-16	98-10-8.5	CD	5	Kep	1.5	1.5	0.5					F	7	12	X		X		hillside
S-2	29-43-16.3	98-10-12	CD	5	Kep	3	2	0.5					F	7	12	X		X		hillside
S-3	29-43-17.9	98-10-12.2	CD	5	Kep	2	2	0.8					F	7	12	X		X		hillside
S-4	29-43-21.3	98-10-19.2	Z	30	Kep	125	30	3					N	15	45		X		X	hillside
S-5	29-43-19.6	98-10-19.3	F	20	Kep	500	10	50					F	12	32	X			X	hillside
S-6	29-43-20.8	98-10-18.4	MB	30	Kep	3	3	5					N	5	35	X		X		hillside
S-7	29-43-18.4	98-10-18.2	MB	30	Kep	3	3	5					N	5	35	X		X		hillside

* DATUM:

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

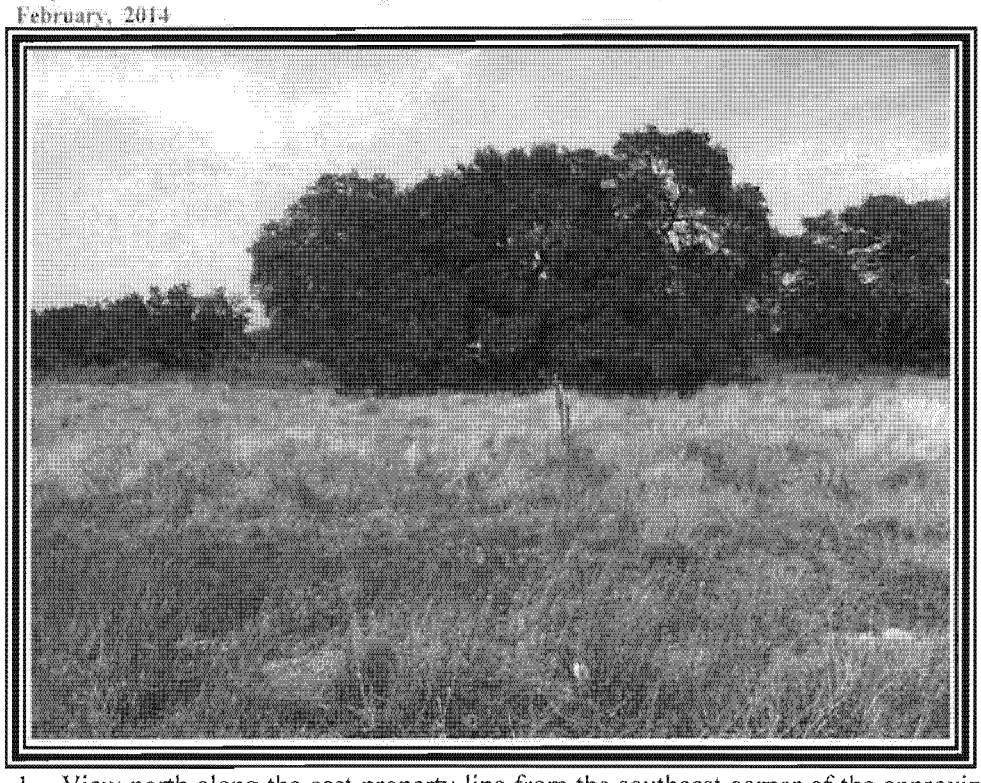
My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date: August 20, 2014

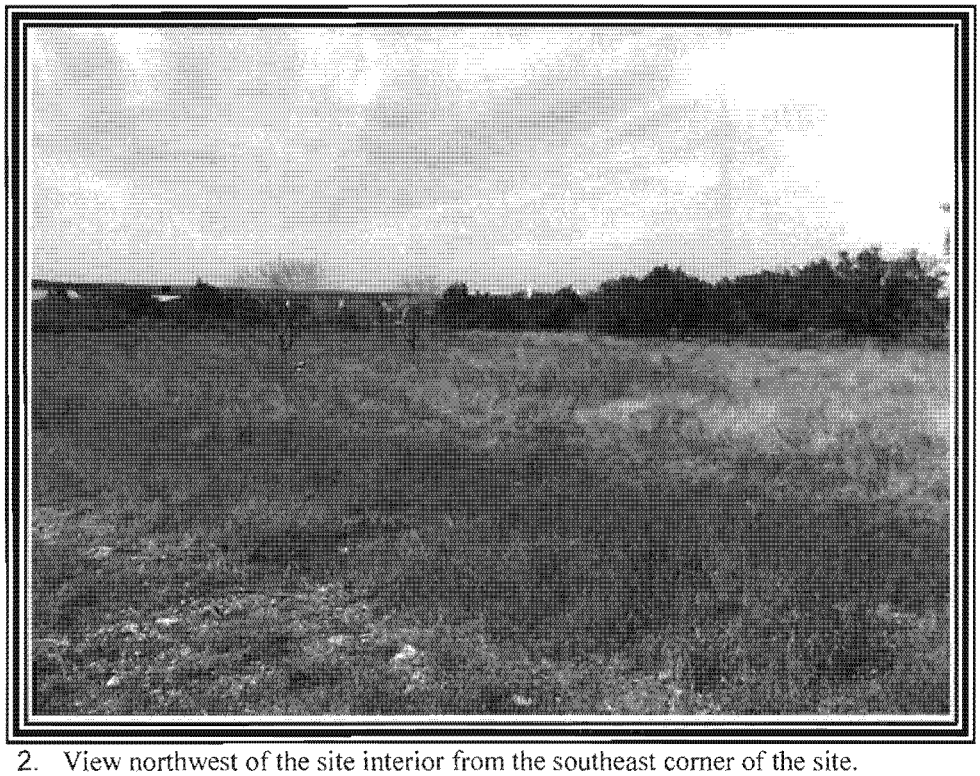
Sheet 1 of 1

STATE OF TEXAS
JL 8/20/14
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST

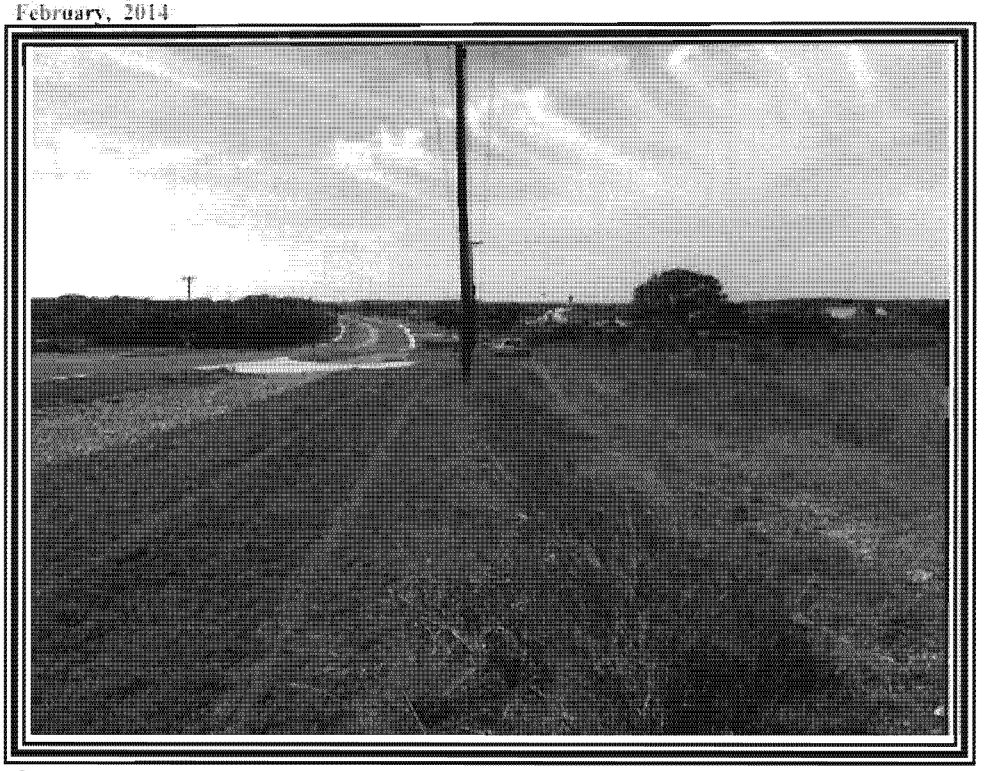
TCEQ-0585-Table (Rev. 10-01-04)



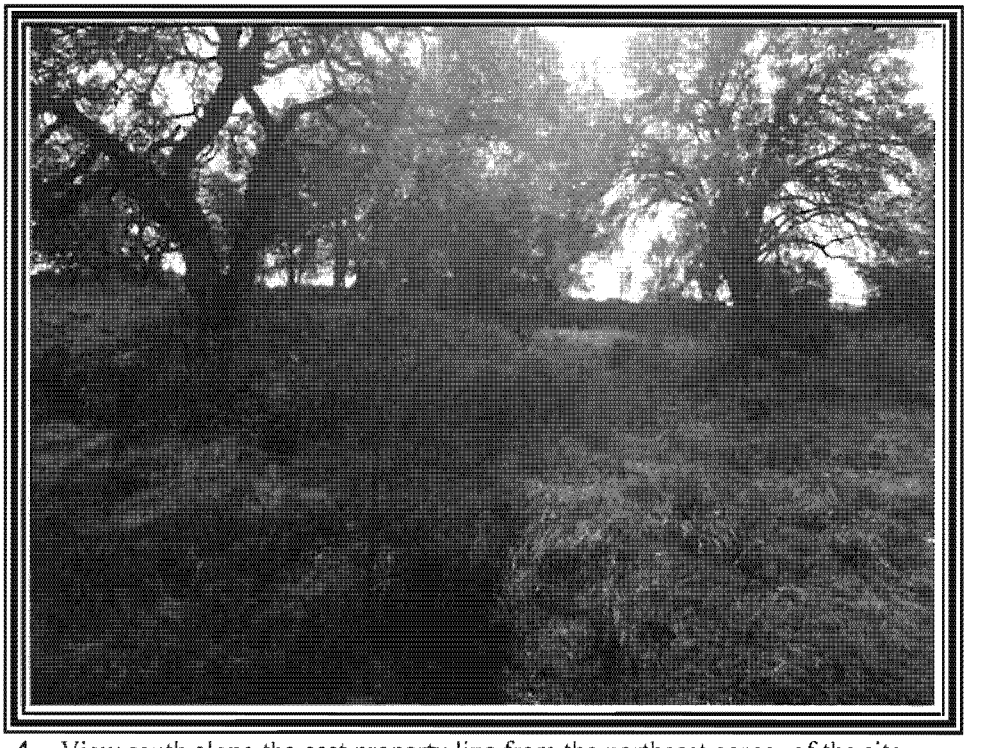
1. View north along the east property line from the southeast corner of the approximate 10-acre MCA site on Highway 46 in New Braunfels, Texas.



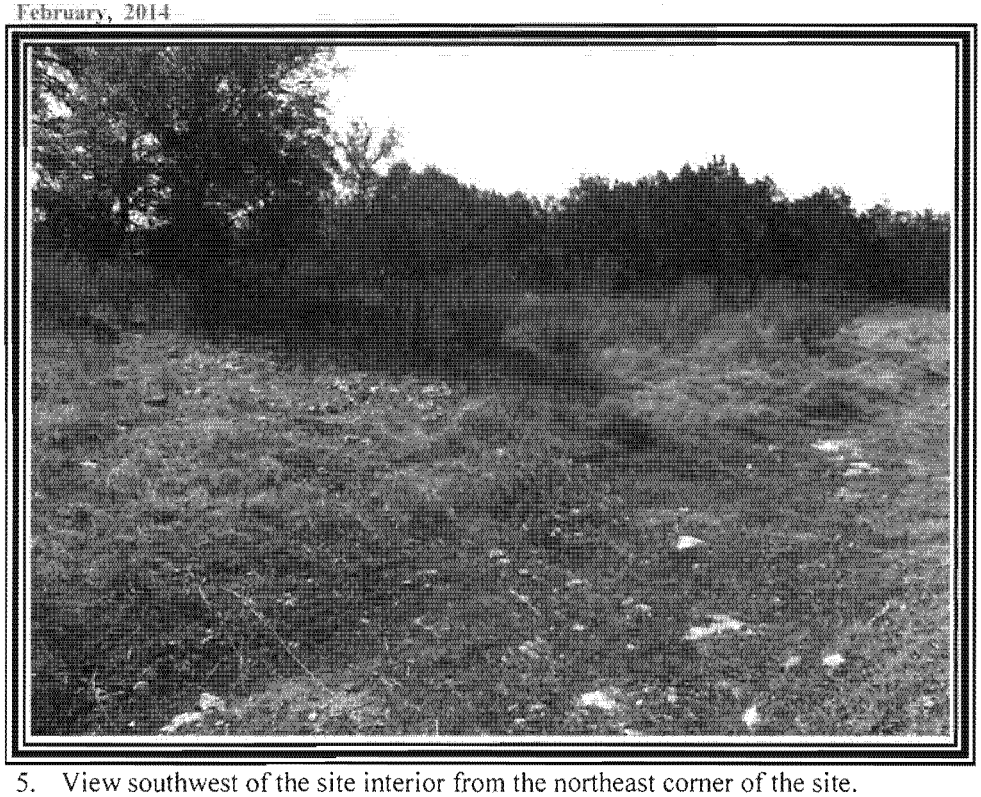
2. View northwest of the site interior from the southeast corner of the site.



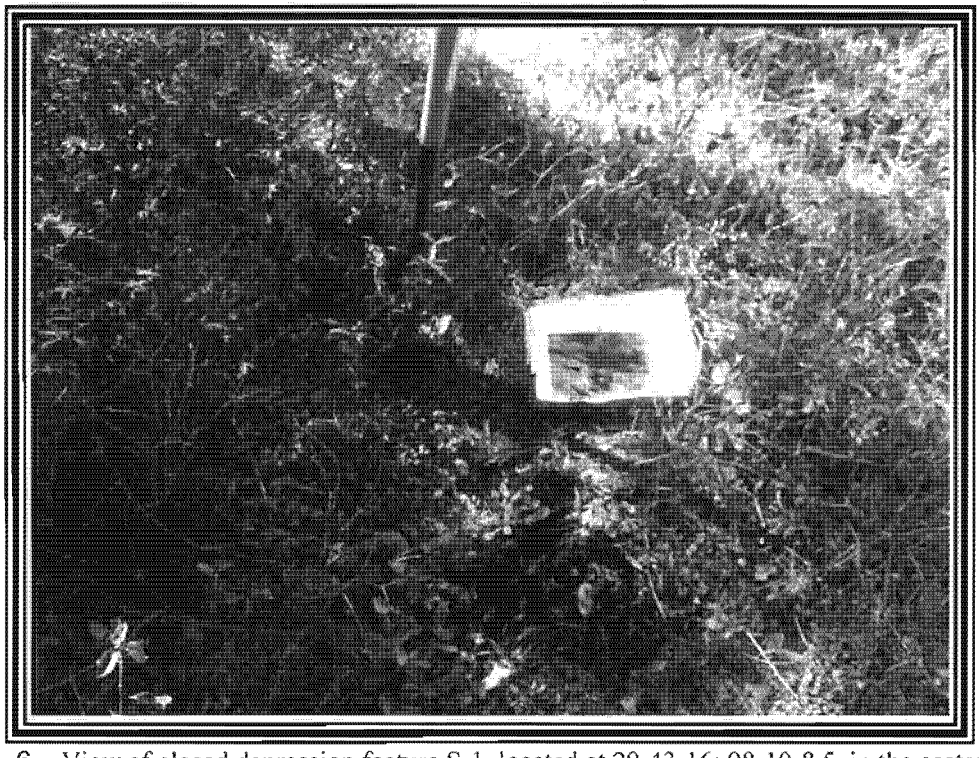
3. View west along the south property line from the southeast corner of the site. Highway 46 is on the left.



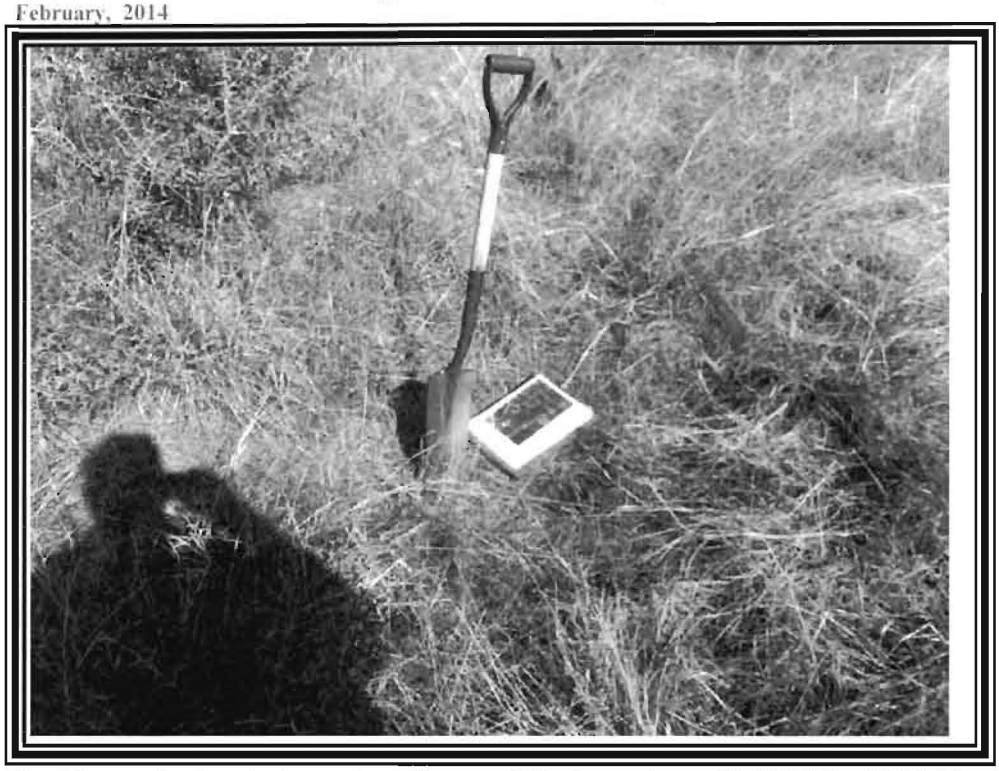
4. View south along the east property line from the northeast corner of the site.



5. View southwest of the site interior from the northeast corner of the site.

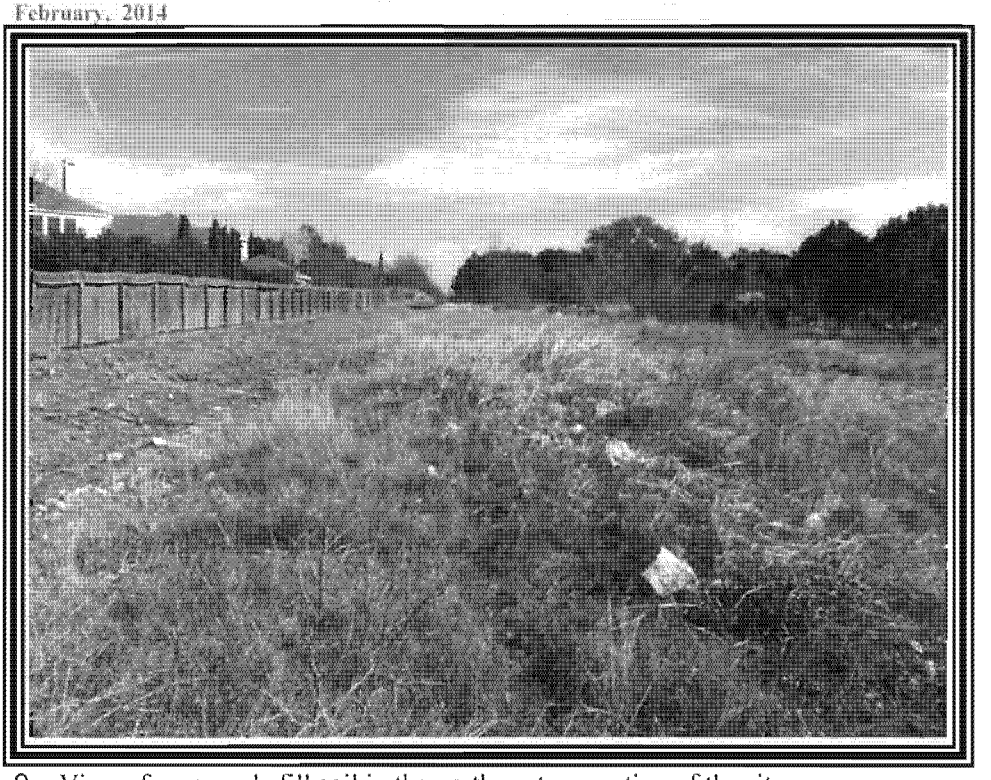


6. View of closed depression feature S-1, located at 29-43-16; 98-10-8.5, in the eastern portion of the site.

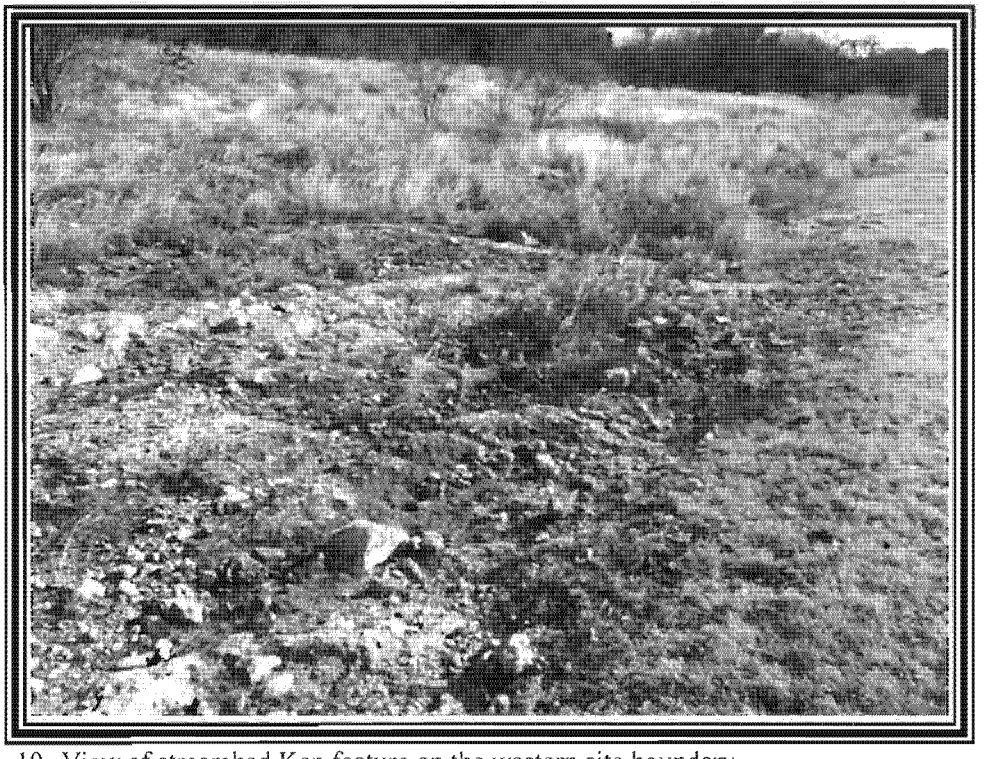


7. View of closed depression feature S-2, located at 29-43-16.3; 98-10-12, in the southeastern portion of the site.

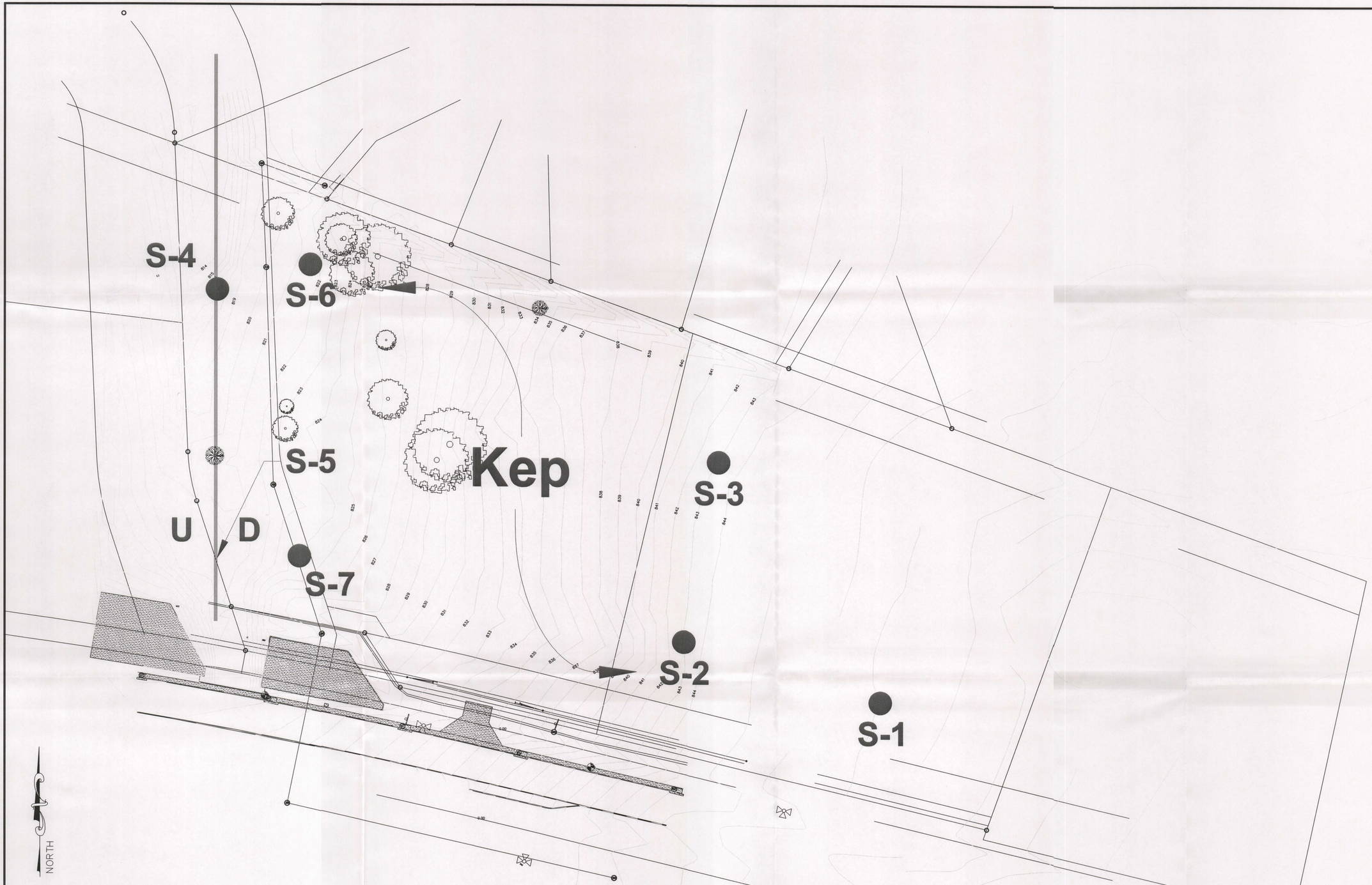
8. View of closed depression feature S-3, located at 29-43-17.9; 98-10-12.2, in the east-central portion of the site.



9. View of man-made fill soil in the northwestern portion of the site.



10. View of streambed Kep feature on the western site boundary.



SCALE: 1" = 50'

LEGEND	
Kep	- Lower Cretaceous Person Formation
S-#	- Site Feature Locations
U | D	- Fault Line Location

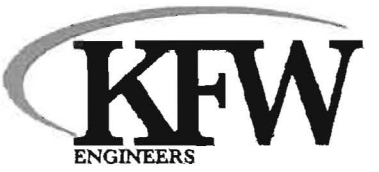
psi Information To Build On
Engineering • Consulting • Testing
7400 BLANCO ROAD, SUITE 257
SAN ANTONIO, TEXAS 78216

OAKRUN COMMERCIAL RESERVE 2

HIGHWAY 46
COMAL COUNTY, TEXAS

FEATURE MAP

DATE:	8.12.14
PROJECT #:	0435-1669
DWG. NAME:	2014-016



WATER POLLUTION ABATEMENT PLAN APPLICATION SECTION

KFW ENGINEERS

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

REGULATED ENTITY NAME: Oakrun Commercial Reserve 2

REGULATED ENTITY INFORMATION

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

2. Total site acreage (size of property): 9.996

3. Projected population: 60

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

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops/Inner Courtyard (Lot 2A1)	48,113	÷ 43,560 =	1.105
Parking (Lot 2A1)	43,778	÷ 43,560 =	1.005
Concrete Sidewalks/Curbs/Dumpster Pad (Lot 2A1)	4,394	÷ 43,560 =	0.101
Lot 2A2	166,469	÷ 43,560 =	3.822
Total Impervious Cover	262,754	÷ 43,560 =	6.033
Total Impervious Cover ÷ Total Acreage x 100 =			60.35%

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

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

FOR ROAD PROJECTS ONLY
Complete questions 7-12 if this application is exclusively for a road project.

7. Type of project:
   - ___ TXDOT road project.
   - ___ County road or roads built to county specifications.
   - ___ City thoroughfare or roads to be dedicated to a municipality.
   - ___ Street or road providing access to private driveways.

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

__ Concrete
__ Asphaltic concrete pavement
__ Other: _____

9. Length of Right of Way (R.O.W.): ____ feet.
Width of R.O.W.: ____ feet.
L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = ____ acres.

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

11. __ A rest stop will be included in this project.
__ A rest stop will **not** be included in this project.

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

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

13. _X_ **ATTACHMENT B - Volume and Character of Stormwater.** A description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is provided at the end of this form. The estimates of stormwater runoff quality and quantity should be based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

100% Domestic	5,800 gallons/day
__% Industrial	_____ gallons/day
__% Commingled	_____ gallons/day

TOTAL 5,800 gallons/day

15. Wastewater will be disposed of by:
_N/A_ **On-Site** Sewage Facility (OSSF/Septic Tank):
__ **ATTACHMENT C - Suitability Letter from Authorized Agent.** An on-site sewage facility will be used to treat and dispose of the wastewater. The appropriate licensing authority's (authorized agent) written approval is provided at the end of this form. It states that the land is suitable for the use of an on-site sewage facility or identifies areas that are not suitable.
_N/A_ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

_X_ Sewage Collection System (Sewer Lines):

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

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

__ The SCS was previously submitted on _____.

__ The SCS was submitted with this application.

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

The sewage collection system will convey the wastewater to the Gruene Wastewater Treatment Plant. The treatment facility is:

_X_ existing.

__ proposed.

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

SITE PLAN REQUIREMENTS

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

17. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 50'.

18. 100-year floodplain boundaries

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

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

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
FEMA Flood Insurance Rate Map Number 48091C0435F, dated September 2, 2009.

19. _X_ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Show lots, recreation centers, buildings, roads, etc.

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

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

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

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

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

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

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

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

_x_ All **sensitive** geologic or manmade features identified in the Geologic Assessment are shown and labeled.

__ No **sensitive** geologic or manmade features were identified in the Geologic Assessment.

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

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

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

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

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

26. _N/A_ Surface waters (including wetlands).

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

ADMINISTRATIVE INFORMATION

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

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

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **WATER POLLUTION ABATEMENT PLAN APPLICATION FORM** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Benjamin Bunker, P.E.
Print Name of Customer/Agent

Signature of Customer/Agent

8/18/2014
Date

FACTORS AFFECTING WATER QUALITY

Materials that are anticipated to be used on site that could be a potential source of contamination include the following:

During Construction:

1. Concrete and Masonry Materials
2. Wood, plastic, and metal Materials
3. Tar and hydrocarbons from paving operations
4. Oil, Grease, fuel, and hydraulic fluid from construction equipment and vehicle drippings
5. Fertilizers, Herbicides, and Pesticides
6. Cleaning solutions and detergents
7. Miscellaneous construction trash and debris
8. Soil erosion and sedimentation due to construction activity

Ultimate Use:

1. Pollutants generated from vehicles utilizing the site
2. Fertilizers, Herbicides, and pesticides used to maintain landscaping
3. Miscellaneous trash and debris generated from the public

(This is not intended to be an all inclusive list)

All practical management practices will be used to reduce the risk of spills and other exposure of any contaminant to surface or groundwater.

VOLUME AND CHARACTER OF STORMWATER

The existing condition of the 9.996 acre site is undeveloped with an average slope around 4.5%. The 9.996 acre site has a runoff coefficient of 36. All runoff flows in a western direction and will exit the site into Blieders Creek Tributary 6. The runoff for the site is 10.10 cfs (2-year), 14.97 cfs (10-year), 17.92 (25-year), & 23.43 (100-year) respectively.

The proposed project is to develop the 5.50 acre lot now and the 4.496 acre lot will be developed at a later time. After construction, the 5.50 acre lot will be fully developed and the weighted runoff coefficient for ultimate development of both lots will be 93. Due to the increase in impervious cover the runoff will increase to 32.93 cfs (2-year), 49.01 cfs (10-year), 58.61 cfs (25-year), & 76.62 cfs (100-year). Post development pervious runoff will continue to flow toward the western portion of the site and flow along the same general pattern off site. The impervious cover runoff will be collected by the storm drain system, flow to the batch detention basin and discharge into Blieders Creek Tributary 6. Drainage area maps have been provided in **Exhibit 3** at the end of this report.

SUITABILITY LETTER FROM AUTHORIZED AGENT

No On Site Sewage Facility is proposed. All wastewater lines will connect to a New Braunfels System sewer line.

EXCEPTION TO THE REQUIRED GEOLOGIC ASSESSMENT

Not applicable, Geologic Assessment is attached.

TEMPORARY STORMWATER SECTION

KFW ENGINEERS

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

REGULATED ENTITY NAME: Oakrun Commercial Reserve 2

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

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

__ Aboveground storage tanks with a cumulative storage capacity of less that 250 gallons will 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.
_X_ Fuels and hazardous substances will not be stored on-site.

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

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

4. _X_ **ATTACHMENT B - Potential Sources of Contamination.** Describe in an attachment at the end of this form any other activities or processes which may be a potential source of contamination.
__ There are no other potential sources of contamination.

SEQUENCE OF CONSTRUCTION

5. _X_ **ATTACHMENT C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is provided at the end of this form. For each activity described, an estimate of the total area of the site to be disturbed by each activity is given.

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

   _X_ TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information has been provided in the attachment at the end of this form.

   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.

   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.

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

   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.

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

   _N/A_ **ATTACHMENT E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is provided at the end of this form. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

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

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

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

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

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

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

X 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.

11. N/A **ATTACHMENT H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure has been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are provided as at the end of this form.

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

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

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

ADMINISTRATIVE INFORMATION

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

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

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

Benjamin Bunker, P.E.
Print Name of Customer/Agent

Signature of Customer/Agent

8/18/2014
Date

SPILL RESPONSE ACTIONS

If there is an accidental spill on site, the contractor shall respond with appropriate action. The contractor will be required to contact the owner and in turn the owner will contact the TCEQ in the event of a spill on site. In addition to the following guidance, reference the latest version of TCEQ's Technical Guidance Manual (TGM) RG-348 Section 1.4.16.

Cleanup

1. Clean up leaks and spills immediately.
2. Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
3. Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

1. Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
2. Use absorbent materials on small spills rather than hosing down or burying the spill.
3. Absorbent materials should be promptly removed and disposed of properly.
4. Follow the practice below for a minor spill:
   - Contain the spread of the spill.
   - Recover spilled materials.
   - Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:

1. Contain spread of the spill.
2. Notify the project foreman immediately.

3. If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
4. If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
5. If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

1. 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.
2. 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.
3. Notification should first be made by telephone and followed up with a written report.
4. 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.
5. Other agencies which may need to be consulted include, but not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

Vehicle and Equipment Maintenance

1. If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.
2. Regularly inspect onsite vehicles and equipment for leaks and repair immediately
3. Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
4. Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
5. Place drip pans or absorbent materials under paving equipment when not in use.

6. Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
7. Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
8. Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
9. Store cracked batteries in a non- leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

1. If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.
2. Discourage "topping off" of fuel tanks.
3. Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

POTENTIAL SOURCES OF CONTAMINATION

During Construction:

1. Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle dripping.
2. Hydrocarbons from paving operations.
3. Miscellaneous trash and litter from construction workers and material wrappings.
4. Construction debris.
5. Silt leaving the site.

Ultimate Use:

1. Vehicle drippings within parking lot.
2. Stormwater runoff contamination from fertilizers, herbicides, and pesticides.
3. Groundwater contamination from leakage in wastewater system.

SEQUENCE OF MAJOR ACTIVITIES

Intended Schedule or Sequence of Major Activities:

1. Installation of BMPs
2. Rough Subgrade Preparation (earthwork, grading, street and drainage excavation and embankment) (Approximately 3.53 Acres)
3. Wet and Dry Utility Construction (Approximately 0.45 Acres)
4. Final Subgrade Preparation (Approximately 3.53 Acres)
5. Installation of Base Materials (Approximately 3.53 Acres)
6. Concrete (foundations, curbs, flatwork) (Approximately 0.13 Acres)
7. Building Construction
8. Paving Activities (Approximately 1.005 Acres)
9. Topsoil, Irrigation and Landscaping (Approximately 3.2 acres)
10. Site cleanup and Removal of BMPs

TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

A: A drainage channel remains to convey runoff from the residences to the North and there should be minimal upgradient runoff from the East and it will be directed around the wall on lot 2A2 by grading of the soil.

B: Temporary BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. Inlet protection will be placed on all inlets. A temporary construction entrance will be placed on site to reduce vehicle "tracking" onto adjoining streets. A concrete washout pit will be used to collect all excess concrete during construction. A construction staging area will be used for equipment storage and vehicle maintenance.

BMPs for this project will protect surface water or groundwater from turbid water, phosphorus, sediment, oil, and other contaminants, which may mobilize in storm water flows by slowing the flow of runoff to allow sediment and suspended solid to settle out of the runoff.

Practices may also be implemented on site for interim and permanent stabilization. Stabilization practices may include but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees and vegetation, and other similar measures.

C: There is a sensitive recharge feature streambed located on the western edge of the site. The temporary onsite BMPs will be used to treat stormwater runoff before it leaves the project and prevent pollutants from entering into the surface stream or any sensitive features downgradient of the site.

D: The BMPs for this project are designed to allow water to pass through after sedimentation has occurred. Existing flow patterns will be maintained to any naturally-occurring sensitive features that are discovered during construction.

REQUEST TO TEMPORARILY SEAL A FEATURE

There will be no temporary sealing of any naturally occurring features on site.

STRUCTURAL PRACTICES

Structural BMPs will be used to limit runoff discharge of pollutants from exposed areas of the site. BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. Inlet protection will be placed on all storm water inlets to prevent pollutants from entering into the stormwater drainage system. A temporary construction entrance will be placed at the site entry/exit point to reduce tracking onto adjoining streets. A construction staging area will be used onsite to perform all vehicle maintenance and for equipment and material storage. A concrete truck washout pit will be placed on site to provide containment and easier clean up of waste from concrete operations. The location of all structural temporary BMP's is shown on the site plan (**Exhibit 1**) and details and specifications are provided in **Exhibit 2** which can be found at the end of this report under the appropriate tab.

DRAINAGE AREA MAP

A drainage area map is included with this report as **EXHIBIT 3**. This exhibit can be found at the end of this report under the appropriate tab.

TEMPORARY SEDIMENT POND(S) PLANS AND CALCULATIONS

For this project, there are no disturbed areas over 10 acres within a common drainage watershed. Therefore, no temporary sediment ponds are proposed.

INSPECTION AND MAINTENANCE FOR BMPs

MAINTENANCE

All temporary and permanent erosion and sediment control BMPs will be maintained and repaired as needed to assure continued performance of their intended function. All maintenance and repair of BMPs will be conducted in accordance with manufacturers' specifications.

All temporary erosion and sediment control BMPs will be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed. Trapped sediment will be removed or stabilized on site. Disturbed soil areas resulting from removal of BMPs or vegetation will be permanently stabilized as soon as possible.

Erosion and sediment controls are designed to prevent soil erosion and sediment migration offsite, to the extent practicable, which may result from construction activity. This design considers local topography, soil type, and rainfall.

Control measures must be installed and maintained according to the manufacturer's specifications. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the permitee must replace or modify the control for site situations.

If sediment ponds are utilized the Sediment must be removed from sediment traps or sedimentation ponds when design capacity has been reduced by 50%.

If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize off-site impacts, and whenever feasible, prior to the next rain event.

The controls must be installed, maintained, and operated in a manner that will limit, to the extent practicable, offsite transport of litter, construction debris, and construction materials.

INSPECTIONS

An inspection will be performed by the qualified personnel, as designated by the permitee, on a weekly basis and after any rainfall event. An inspection and maintenance report shall be made per inspection. An inspection form has been included in this report and in the SWPPP. Based on the inspection results, the controls shall be corrected before the next scheduled inspection.

A log of inspection results will be maintained on-site and will include the name of the inspector, date, major observations, and necessary corrective measures. Reports of maintenance and inspection activities will be maintained on-site, in conformance with the TPDES permit conditions. Reports must identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the SWPPP. This report must be signed by the responsible party.

Major observations shall, at a minimum, include the following:

The locations of discharges of sediment or other pollutants from the site;

Locations of BMPs that need to be maintained;

Locations of BMPs that failed to operate as designed or proved inadequate for a particular location; and

Location where additional BMPs are needed.

All needed repairs or modifications will be reported to the contractors to permit the timely implementation of required actions. Necessary repairs of modifications will be implemented within seven days of inspection. The SWPPP will be modified within seven days to reflect any modifications to measures as a result of inspection.

The SWPPP must be amended whenever there is a change in design, construction, operation or maintenance that has a significant effect on the discharge of pollutants to the waters of the United States that was not addressed in the SWPPP.

The SWPPP must be amended when inspections or investigations by site operations, local, state or federal officials indicate that the SWPPP is proving ineffective in eliminating or significantly minimizing pollutants from the construction site or otherwise is not achieving the general objectives of controlling pollutants in storm water discharges associated with construction activity.

INSPECTION FORM

NAME OF INSPECTOR_____
(Inspector must attach a brief summary of qualifications to this report.)

DATE_____

BEST MANAGEMENT PRACTICES (BMPs)

☐***Vegetative Buffers***

☐In Compliance ☐Out of Compliance ☐Not Applicable

Comments/Maintenance Required:_____
_____
_____

☐***Soil Covering (Including mulch and temporary vegetation)***

☐In Compliance ☐Out of Compliance ☐Not Applicable

Comments/Maintenance Required:_____
_____
_____

☐***Outlet Protection***

☐In Compliance ☐Out of Compliance ☐Not Applicable

Comments/Maintenance Required:_____
_____
_____

☐***Sediment Control Basins***

☐In Compliance ☐Out of Compliance ☐Not Applicable

Comments/Maintenance Required:_____
_____
_____

☐ ***Silt Fence***

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

☐ ***Stabilized Entrances/Exits***

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

☐ ***Construction Staging Areas***

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

☐ ***Inlet Protection***

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

☐ ***Gravel Filter Bags***

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

☐ ***Vegetated Filter Strip***

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

☐ ***Concrete Truck Washout Pit***

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

☐ ***Trash Receptacles***

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

☐ ***General Site Cleanliness***

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

☐ ***Other*** _____

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

☐ ***Other*** _____

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

☐ ***Other*** _____

☐ In Compliance ☐ Out of Compliance ☐ Not Applicable

Comments/Maintenance Required: _____

_____

_____

MAJOR OBSERVATIONS

At a minimum, inspector shall note any evidence of erosion, sediment discharges from the site, BMPs requiring maintenance, BMPs requiring modification, and any additional BMPs required.

CERTIFICATION

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

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

INSPECTOR NAME/SIGNATURE

DATE

OWNER NAME/SIGNATURE

DATE

SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION

Construction practices shall disturb the minimal amount of existing ground cover as required for land clearing, grading, and construction activity for the shortest amount of time possible to minimize the potential of erosion and sedimentation from the site. Existing vegetation shall be maintained and left in place until it is necessary to disturb for construction activity. For this project the following stabilization practices will be implemented:

1. Hydraulic Mulch and Seeding: Disturbed areas subject to erosion shall be stabilized with hydraulic mulch and/or seeded and watered to provide interim stabilization. For areas that are not to be sodded as per the project landscaping plan, a minimum of 85% vegetative cover will be established to provide permanent stabilization.

2. Sodding and Wood Mulch: As per the project landscaping plan, Sodding and wood mulch will be applied to landscaped areas to provide permanent stabilization prior to project completion.

Records of the following shall be maintained by the permitee in the attached Project Timeline:

a) The dates when major grading activities occur;

b) The dates when construction activities temporarily or permanently cease on a portion of the site; and

c) The dates when stabilization measures are initiated.

Stabilization measures must be initiated as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, and except as provided in the following, must be initiated no more that fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased:

Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practical.

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 the site.

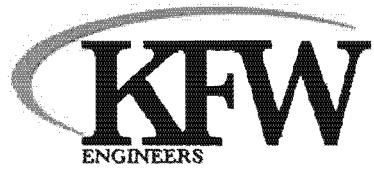
In arid areas (areas with an average rainfall of 0-10 inches), semiarid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practical. For interim stabilization during drought conditions best management practices will be implemented. These may include but are not limited to geotextile blankets and matting, hydromulch, diversion structures and/or structural controls such as silt fence and rock berms. These BMPs are to be maintained in accordance with the inspection/maintenance schedule provided in Attachment I.

PROJECT TIMELINE

DATES WHEN MAJOR GRADING ACTIVITIES OCCUR	
Date	Construction Activity

DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE	
Date	Construction Activity

DATES WHEN STABILIZATION MEASURES ARE INITIATED	
Date	Stabilization Activity



PERMANENT STORMWATER SECTION

KFW ENGINEERS

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

REGULATED ENTITY NAME: Oakrun Commercial Reserve 2

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

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

2. X 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.

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

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

   _____

   _____

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

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

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

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

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

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

N/A **ATTACHMENT A - 20% or Less Impervious Cover Waiver.** This site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is found at the end of this form.

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

X This site will not be used for multi-family residential developments, schools, or small business sites.

6. **ATTACHMENT B - BMPs for Upgradient Stormwater.**

X A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is identified as **ATTACHMENT B** at the end of this form.

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

__ If permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form.

7. **ATTACHMENT C - BMPs for On-site Stormwater.**

X A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is identified as **ATTACHMENT C** at the end of this form.

__ If permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, an explanation is provided as **ATTACHMENT C** at the end of this form.

8. X **ATTACHMENT D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is provided at the end of this form. Each feature identified in the Geologic Assessment as "sensitive" has been addressed.

9. X 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.

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

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

10. X **ATTACHMENT F - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided at the end of this form. Design Calculations, TCEQ

Construction Notes, all man-made or naturally occurring geologic features, all proposed structural measures, and appropriate details must be shown on the construction plans.

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

12. _X_ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.
_N/A_ Pilot-scale field testing (including water quality monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.
N/A **ATTACHMENT H - Pilot-Scale Field Testing Plan.** A plan for pilot-scale field testing is provided at the end of this form.

13. _X_ **ATTACHMENT I -Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is provided at the end of this form. 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.

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

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

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

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

Benjamin Bunker, P.E.
Print Name of Customer/Agent

Signature of Customer/Agent

8/18/2014
Date

20% OR LESS IMPERVIOUS COVER WAIVER

The site will be developed as a commercial development with greater than 20% impervious cover. Therefore, a waiver will not be submitted for this project.

BMPs FOR UP-GRADIENT STORMWATER

Upgradient runoff will sheet flow off the site or be directed around lot 2A2 by the proposed grading. The outfall from the batch detention basin will be installed with energy dissipaters to reduce velocity and minimize any potential erosion.

BMPs FOR ON-SITE STORMWATER

This property will have one permanent BMP onsite to treat runoff before leaving the site and it will be a batch detention basin

Please reference Attachment F for design calculations. Construction plans and specifications are provided in **Exhibit 4** which is located at the end of this report under the appropriate tab.

BMPs FOR SURFACE STREAMS

There are no existing sensitive features on the site. The batch detention basin BMP, which captures all contaminated water, has been designed to remove 80% of the increase in Total Suspended Solids as per current TCEQ requirements.

REQUEST TO SEAL A FEATURE

No sensitive or possibly sensitive features were found during the geologic investigation for the site, therefore no request to seal said features is required.

CONSTRUCTION PLANS

Calculations for the load removal requirements for the project and the load removal provided by the permanent BMP are provided in the attached spreadsheet which has been signed and sealed by a professional engineer licensed in the state of Texas. The load removal requirements are derived from the equations from the technical guidance manual based upon project area and increase in impervious cover. All stormwater runoff from impervious areas will be treated by the proposed permanent BMP's and overall required removal of 80% of the increase in Total Suspended Solids. Provided within the calculations is a summary of the amount of pollutant load required to be removed from the drainage areas and the amount of removal provided by the permanent BMP's.

Construction plans, details, specifications, and construction notes are provided in **Exhibit 4** which is attached at the end of this report under the appropriate tab.

PERMANENT BEST MANAGEMENT PRACTICES INSPECTION AND MAINTENANCE PLAN

The attached inspection and maintenance plan outlines the procedures necessary to maintain the performance of the Permanent Best Management Practices for this project. It should be noted that the plan provides guidelines that may have to be adjusted dependent on site specific and weather related conditions.

It is the responsibility of the owner to contract with a representative to provide the inspections and maintenance as outlined in the plan for the duration of the project. The owner will maintain this responsibility until it is assumed or transferred to another entity in writing. If the property is leased or sold, the responsibility for the maintenance will be required to be transferred through the lease agreement, binding covenants, closing documents, or other binding legal instrument.

I, the owner, have read and understand the requirements of the attached Inspection and Maintenance Plan for the proposed Permanent Best Management Practices for my project. I acknowledge that I will maintain responsibility for the implementation and execution of the plan until the responsibility is transferred to or assumed by another party in writing through a binding legal instrument.

MC-New Braunfels, TX-1-UT, LLC
By: Embree Asset Group, Inc., Member

Owner: Rocky Hardin, CFO — 8-14-14 Date

KFW ENGINEERS

ATTACHMENT G

MAINTENANCE OF SAND FILTER BASIN

Regular, routine maintenance is essential to effective, long-lasting performance of sand filters. Neglect or failure to service the filters on a regular basis will lead to poor performance and eventual costly repairs. It is recommended that sand filter BMPs be inspected on a quarterly basis and after large storms for the first year of operation. This intensive monitoring is intended to ensure proper operation and provide maintenance personnel with a feel for the operational characteristics of the filter. Subsequent inspections can be limited to semi-annually or more often if deemed necessary (Young etal., 1996). Certain construction and maintenance practices are essential to efficient operation of the filter. The biggest threat to any filtering system is exposure to heavy sediment loads that clog the filter media. Construction within the watershed should be complete prior to exposing the filter to stormwater runoff. All exposed areas should be stabilized to minimize sediment loads. Runoff from any unstabilized construction areas should be treated via a separate sediment system that bypasses the filter media. Another important consideration in constructing the filter bed is to ensure that the top of the media is completely level. The filter design is based on the use of the entire filter media surface area; a sloped filter surface would result in disproportionate use of the filter media.

Other recommended maintenance guidelines include:

- *Inspections.* BMP facilities must be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. During each inspection, erosion areas inside and downstream of the BMP must be identified and repaired or revegetated immediately. With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) must be identified and repaired immediately. Cracks, voids and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage.

- *Sediment Removal.* Remove sediment from the inlet structure and sedimentation chamber when sediment buildup reaches a depth of 6 inches or when the proper functioning of inlet and outlet structures is impaired. Sediment should be cleared from the inlet structure at least every year and from the sedimentation basin at least every 5 years.

- *Media Replacement.* Maintenance of the filter media is necessary when the drawdown time exceeds 48 hours. When this occurs, the upper layer of sand should be removed and replaced with new material meeting the original

specifications. Any discolored sand should also be removed and replaced. In filters that have been regularly maintained, this should be limited to the top 2 to 3 inches.

- *Debris and Litter Removal.* Debris and litter will accumulate near the sedimentation basin outlet device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.

- *Filter Underdrain.* Clean underdrain piping network to remove any sediment buildup as needed to maintain design drawdown time.

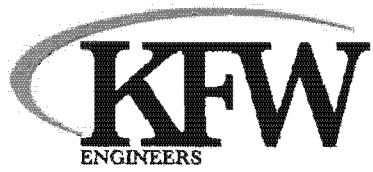
- *Mowing.* Grass areas in and around sand filters must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. Vegetation on the pond embankments should be mowed as appropriate to prevent the establishment of woody vegetation.

PILOT-SCALE FIELD TESTING PLAN

The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site; therefore pilot-scale field testing is not required.

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

During the construction phase, BMP's such as silt fence, stabilized construction entrances, rock berms, and inlet protection will be used to prevent pollution from leaving the site. The permanent BMP to be constructed to treat and release site runoff will be a batch detention basin. Runoff from the impervious cover will be treated before leaving the site by this BMP and the discharge methods have been designed per the velocity limits of the New Braunfels Drainage Manual to prevent erosion. All disturbed areas will be re-vegetated as soon as practical.



AGENT AUTHORIZATION FORM

KFW ENGINEERS

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

I Rocky Hardin,
Print Name

MC-New Braunfels, TX-1-UT, LLC REPRESENTATIVE,
Title - Owner/President/Other

of MC-New Braunfels, TX-1-UT, LLC,
Corporation/Partnership/Entity Name

have authorized KFW ENGINEERS REPRESENTATIVES
Print Name of Agent/Engineer

of KFW ENGINEERS
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

MC-New Braunfels, TX-1-UT, LLC
By: Embree Asset Group, Inc., Member

Applicant's Signature
Rocky Hardin, CFO

8/14/14
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Rocky Hardin 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 14th day of August, 2014.

TERESA T. ADAMS
Notary Public, State of Texas
My Commission Expires
August 30, 2017

NOTARY PUBLIC

Teresa T. Adams
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 8/30/17

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

I DARREN BUECHE,
Print Name

Member,
Title - Owner/President/Other

of II DB HOLDINGS LP,
Corporation/Partnership/Entity Name

have authorized MC-New Braunfels, TX-1-UT, LLC REPRESENTATIVES
Print Name of Agent/Engineer

of MC-New Braunfels, TX-1-UT, LLC
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.

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SIGNATURE PAGE:

by: _____ 8-14-14
Applicant's Signature Date
DB Holdings GP, LLC - member

THE STATE OF Texas §
County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Darren Bueche 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.

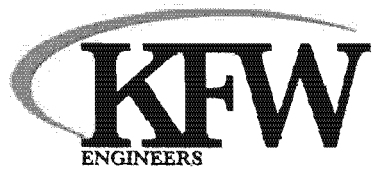
GIVEN under my hand and seal of office on this 14th day of August 2014.

W Jeanne Weidman
NOTARY PUBLIC

W. Jeanne Weidman
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11/16/14

W. JEANENE WEIDMAN
Notary Public
STATE OF TEXAS
My Comm. Exp. 11-16-2014



APPLICATION FEE FORM

KFW ENGINEERS

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

NAME OF PROPOSED REGULATED ENTITY: Oakrun Commercial Reserve 2
REGULATED ENTITY LOCATION: 1,100 feet east of the intersection of Oak Run Point and TX Hwy 46, New Braunfels, TX 78312. Lot 2A1 and 2A2 Oakrun Commercial Reserve, Block 1.
NAME OF CUSTOMER: MC-New Braunfels, TX-1-UT, LLC
CONTACT PERSON: Denise Valenta PHONE: (512) 630-1323
(Please Print)

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

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

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

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

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

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

☐ **Overnight Delivery to TCEQ:**
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-1278

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	9.996 Acres	$5,000
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

MC-New Braunfels, TX-1-UT, LLC
By: Embree Asset Group, Inc., Member

Signature Rocky Hardin, CFO

Date 8/14/14

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.
Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

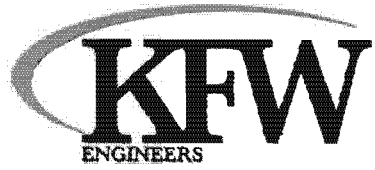
PROJECT	COST PER TANK OR PIPING SYSTEM	MINIMUM FEE MAXIMUM FEE
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150



CORE DATA FORM

KFW ENGINEERS

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

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

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

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

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

☒ Yes ☐ No — WPAP APPLICATION

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

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy): 7/16/2014

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

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

7. General Customer Information

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

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

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

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

10. Mailing Address:

451 Fallen Oak							
City	New Braunfels	State	TX	ZIP	78132	ZIP + 4	3780

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

13. Telephone Number	14. Extension or Code	15. Fax Number *(if applicable)*
(830) 237-9648		( ) -N/A

16. Federal Tax ID *(9 digits)*	17. TX State Franchise Tax ID *(11 digits)*	18. DUNS Number *(if applicable)*	19. TX SOS Filing Number *(if applicable)*
81-065651	32035526048	N/A	800400100

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

21. Independently Owned and Operated? ☐ Yes ☒ No

SECTION III: Regulated Entity Information

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

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

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

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

Oakrun Commercial Reserve 2

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*	II DB Holdings, LP							
	451 Fallen Oak							
	City	New Braunfels	State	TX	ZIP	78132	ZIP + 4	3780
25. Mailing Address:	II DB Holdings, LP							
	451 Fallen Oak							
	City	New Braunfels	State	TX	ZIP	78132	ZIP + 4	3780

26. E-Mail Address:	dbd@gvtc.com

27. Telephone Number	28. Extension or Code	29. Fax Number *(if applicable)*
(830) 237-9648		( ) -N/A

30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)	33. Secondary NAICS Code (5 or 6 digits)
8361		623312	

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

Assissted Living w/ the emphasis on people with Alzheimer's or other memory problems.

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

35. Description to Physical Location:	1,100 feet east of the intersection of Oak Run Point and TX Hwy 46, New Braunfels, TX 78312. Lot 2A1 and Lot 2A2 Oakrun Commercial Reserve 2, Block 1

36. Nearest City	County	State	Nearest ZIP Code
New Braunfels	Comal	TX	78132

37. Latitude (N) In Decimal:	29.721778		38. Longitude (W) In Decimal:	98.171024	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	43	18.40	98	10	15.69

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

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

SECTION IV: Preparer Information

40. Name:	BENJAMIN BUNKER, P.E.	41. Title:	PROJECT MANAGER

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 979-8444	23	(210) 979-8441	BBUNKER@KFWENGINEERS.COM

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 9 and/or as required for the updates to the ID numbers identified in field 39.

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

Company:	KFW ENGINEERS	Job Title:	PROJECT MANAGER	
Name *(In Print)*:	BENJAMIN BUNKER		Phone:	(210) 979-8444
Signature:	Benjamin D. Bunker		Date:	8/20/2014

EXHIBIT 1

KFW ENGINEERS

LEGAL DESCRIPTION

BEING LOT 2A1, BLOCK 1, OUT OF THE SUBDIVISION PLAT ESTABLISHING OAKRUN COMMERCIAL RESERVE 2 OF RECORD IN VOLUME 14, PAGE 207 OF THE PLAT RECORDS OF COMAL COUNTY, TEXAS.

BENCHMARKS

BM1: SQUARE 'X' ON CONCRETE CURB OF INLET ±103 L.F. SOUTH EAST FROM THE SOUTH WEST CORNER OF LOT 2A1 AT ELEVATION = 830.36' SET BY KFW SURVEYING.

BM2: SQUARE 'X' ON CONCRETE CURB ±36 L.F. SOUTH FROM THE SOUTH EAST CORNER OF LOT 2A1 AT ELEVATION = 842.12' SET BY KFW SURVEYING.

COORDINATION NOTE:

1. CONTACT TWC (TIME WARNER CABLE) TO COORDINATE CABLE TV SERVICE. (210)-244-0500 OR QWEST COMMUNICATIONS AT 1-877-744-4416.

2. CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH NBU FOR INSPECTION.

3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.

4. CONTRACTOR TO COORDINATE WITH NBU PRIOR TO CONSTRUCTION TO PLAN ELECTRIC SERVICE.

5. CONTRACTOR TO COORDINATE WITH NBU TO PLAN WATER AND SANITARY SEWER SERVICES.

6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

BEST MANAGEMENT PRACTICES DURING DROUGHT CONDITIONS:
IN ARID AREAS (AREAS WITH AN AVERAGE RAINFALL OF 0-10 INCHES), SEMIARID AREAS (AREAS WITH AN AVERAGE ANNUAL RAINFALL OF 10 TO 20 INCHES), AND 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 PRACTICAL. FOR INTERIM STABILIZATION DURING DROUGHT CONDITIONS BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED. THESE MAY INCLUDE BUT ARE NOT LIMITED TO GEOTEXTILE BLANKETS AND MATTING, HYDROMULCH, DIVERSION STRUCTURES AND/OR STRUCTURAL CONTROLS SUCH AS SILT FENCE AND ROCK BERMS. THESE BMPS ARE TO BE MAINTAINED IN ACCORDANCE WITH THE INSPECTION/MAINTENANCE SCHEDULE PROVIDED IN ATTACHMENT OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPPI).

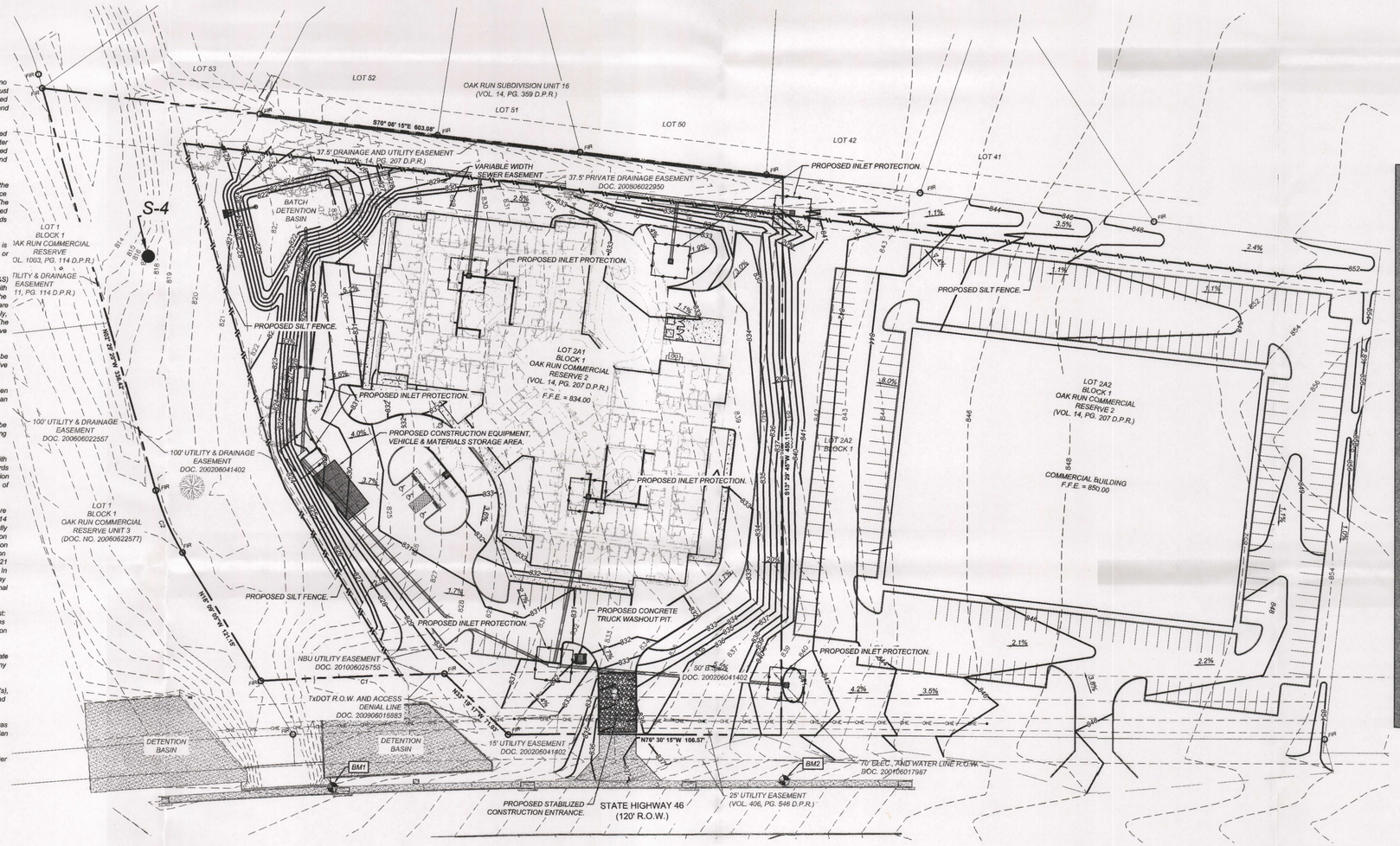
TCEQ-0592 (Rev. 3/15/07)
Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

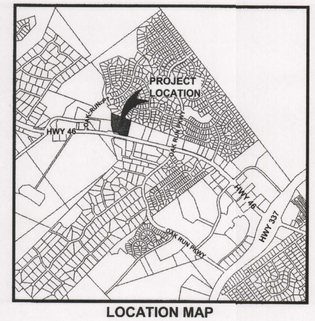
1. *Written construction notification must be given to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information must include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, 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 offsite 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 Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:*
    - *A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;*
    - *B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;*
    - *C. any development of land previously identified as undeveloped in the original water pollution abatement plan.*

Austin Regional Office
2800 S. IH 35, Suite 100
Austin, Texas 78704-5712
Phone(512) 339-2929
Fax (512) 339-3795

San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
Phone(210) 490-3096
Fax (210) 545-4329

FLOOD PLAIN NOTE:
NONE OF THIS SITE IS WITHIN THE FEMA 100-YEAR FLOODPLAIN ACCORDING TO MAP PANEL 435 OF 505, DATED SEPTEMBER 2, 2009





LOCATION MAP
NOT TO SCALE

SCALE : 1"=50'

0' 50' 150'
100'

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING CONCRETE
- EXISTING CURB
- PROPOSED SIDEWALK
- PROPOSED CURB
- PROPOSED RIBBON CURB
- EDGE OF SOIL DISTURBANCE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVES
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SIGN
- EXISTING OVERHEAD UTILITY AND POWER POLE
- SITE BENCHMARK SEE DESCRIPTION THIS SHEET
- EXISTING FENCE
- FLOW ARROW
- PROPOSED CONTOURS — 850
- PROPOSED INLET PROTECTION
- PROPOSED SILT FENCE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA.
- PROPOSED CONCRETE TRUCK WASHOUT PIT

NOTE:
LOT 2A2 TO BE DEVELOPED WITH UP TO 85% IMPERVIOUS COVER.

NOTE:
S-4 IS A SENSITIVE STREAMBED FEATURE.

TCEQ-R13
AUG 21 2014
SAN ANTONIO

KFW ENGINEERS & SURVEYING
14503 HUEBNER ROAD, BUILDING 40
SAN ANTONIO, TEXAS 78230
PHONE (210) 979-8444
FAX (210) 979-8441
FIRM# 8870

NO.	REVISION / ISSUE	DATE

STATE OF TEXAS
BENJAMIN D. BUNKER
106512
LICENSED
PROFESSIONAL ENGINEER
8/19/2014

MEMORY CARE
NEW BRAUNFELS, TEXAS
OVERALL SITE PLAN

JOB NO. 358-01-01
DATE: AUGUST 2014
DRAWN: JS CHECKED: BB

SHEET NUMBER:
EX-1

Date: Aug 19, 2014, 11:10am User ID: Jeanexer
File: P:\358\01\01\Design\Exhibits\WP-PV\WP-AP SITE PLAN.dwg

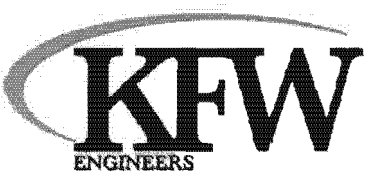
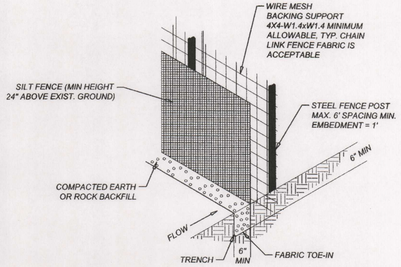


EXHIBIT 2

KFW ENGINEERS

SILT FENCE



ISOMETRIC PLAN VIEW

MATERIALS:
(1) SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.

(2) FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FL2, AND BRINDELL HARDNESS EXCEEDING 140.

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

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

(2) LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/I 00 FEET OF FENCE.

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

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

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

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

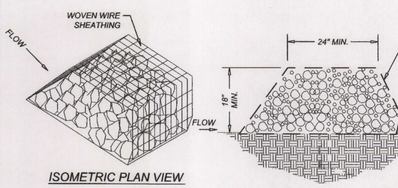
INSPECTION AND MAINTENANCE GUIDELINES:
(1) INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL.
(2) REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

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

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

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

ROCK BERM



ISOMETRIC PLAN VIEW — CROSS SECTION

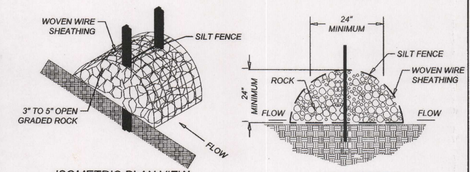
MATERIALS:
(1) THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.

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

INSTALLATION:
(1) LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.
(2) BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
(3) PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM FIGURE 1-28), TO A HEIGHT NOT LESS THAN 18".
(4) WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AIRL THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
(5) BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
(6) THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

INSPECTION AND MAINTENANCE GUIDELINES:
(1) INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
(2) REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION
(3) REPAIR ANY LOOSE WIRE SHEATHING.
(4) THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
(5) THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
(6) THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

HIGH SERVICE ROCK BERM



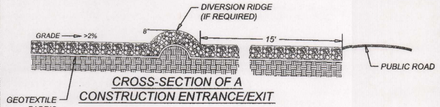
ISOMETRIC PLAN VIEW — CROSS SECTION

MATERIALS:
(1) SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
(2) FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FL2, AND BRINDELL HARDNESS EXCEEDING 140. REBAR (EITHER #5 OR #6) MAY ALSO BE USED TO ANCHOR THE BERM.
(3) WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.
(4) THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
(5) CLEAN, OPEN GRADED 3- TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5- TO 8-INCH DIAMETER ROCKS MAY BE USED.

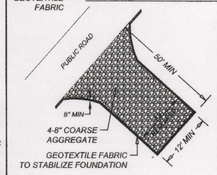
INSTALLATION:
(1) LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1-INCH OPENINGS.
(2) INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT, AS WITH A NORMAL SILT FENCE DESCRIBED IN SECTION 2.4.3.
(3) PLACE THE ROCK ALONG THE SHEATHING ON BOTH SIDES OF THE SILT FENCE AS SHOWN IN THE DIAGRAM (FIGURE 1-29), TO A HEIGHT NOT LESS THAN 24 INCHES. CLEAN, OPEN GRADED 3- 5" DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5- TO 8-INCH DIAMETER ROCK MAY BE USED.
(4) WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
(5) THE HIGH SERVICE ROCK BERM SHOULD BE REMOVED WHEN THE SITE IS REVEGETATED OR OTHERWISE STABILIZED OR IT MAY REMAIN IN PLACE AS A PERMANENT BMP IF DRAINAGE IS ADEQUATE.

INSPECTION AND MAINTENANCE GUIDELINES:
(1) INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE ON ROCK BERM.
(2) REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED MANNER.
(3) REPAIR ANY LOOSE WIRE SHEATHING.
(4) THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
(5) THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
(6) THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

STABILIZED CONSTRUCTION ENTRANCE / EXIT



CROSS-SECTION OF A CONSTRUCTION ENTRANCE/EXIT

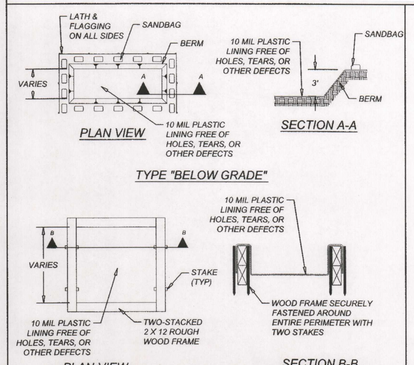


TEMPORARY CONSTRUCTION ENTRANCE/EXIT

MATERIALS:
(1) THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
(2) THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8 INCHES.
(3) THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD2, A MULLEN BURST RATING OF 140 LB/IN2, AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
(4) IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4 INCH DIAMETER WASHED STONE OR COMMERCIAL RACK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION: (NORTH CAROLINA, 1993)
(1) AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
(2) THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
(3) THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
(4) IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6 TO 8 INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
(5) PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
(6) PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
(7) DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.
(8) INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES:
(1) THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
(2) ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
(3) WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
(4) WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
(5) ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.



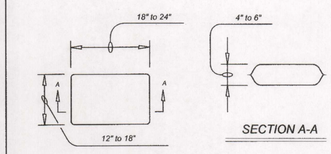
TYPE "BELOW GRADE"

TYPE "ABOVE GRADE"

GENERAL NOTES:

- *DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.*
- *WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.*
- *WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF AND AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.*

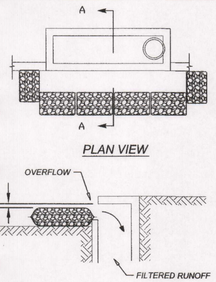
CONCRETE TRUCK WASHOUT PIT



GENERAL NOTES:

- *THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN UNIT WEIGHT OF 4 OUNCES/SY, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.*
- *THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).*

GRAVEL FILTER BAG DETAIL

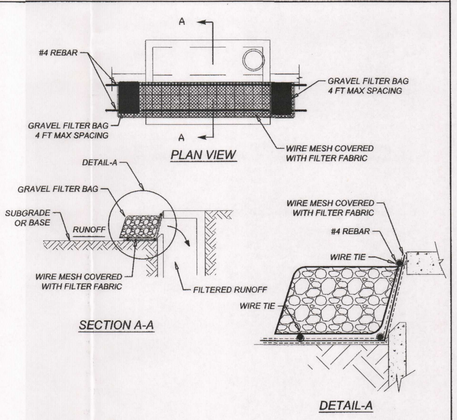


SECTION A-A

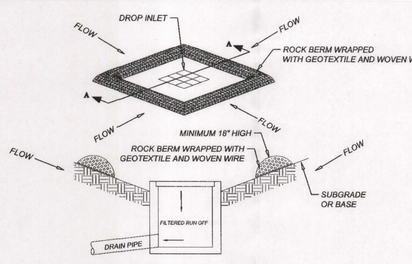
GENERAL NOTES:

- *ALL STORM DRAINAGE SYSTEMS INLETS SHOULD FILTER RUNOFF BEFORE THE WATER IS DISCHARGED INTO STREAMS OR ONTO ADJACENT PROPERTIES, UNLESS TREATMENT IS PROVIDED ELSEWHERE.*
- *IF NO ADDITIONAL DOWNSTREAM TREATMENT EXISTS, THE MAXIMUM DRAINAGE AREA TRIBUTARY TO AN AREA DRAIN INSTALLED WITH A GRAVEL FILTER SHOULD BE ONE ACRE.*
- *ALL CURB INLET GRAVEL FILTERS SHOULD BE INSPECTED AND REPAIRED AFTER EACH RUNOFF EVENT. SEDIMENT SHOULD BE REMOVED WHEN MATERIAL IS WITHIN THREE INCHES OF THE TOP OF THE CONCRETE BLOCKS. PERIODICALLY, THE GRAVEL SHOULD BE RAKED TO INCREASE INFILTRATION AND FILTERING OF RUNOFF WATERS.*

CURB INLET PROTECTION GRAVEL FILTER BAGS



CURB INLET PROTECTION (ALRTERNATE)

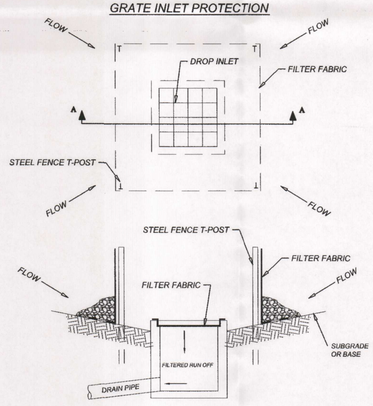


CROSS-SECTION A-A

GENERAL NOTES:

- *USE OPEN GRADED CLEAN STONE.*
- *THE ROCK SHOULD BE ENCLOSED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENING AND MINIMUM WIRE DIAMETER OF 20 GAUGE AND WRAPPED IN GEOTEXTILE WITH 300 PSI BURST STRENGTH FILTER FABRIC.*
- *INSPECTION SHOULD BE MADE FREQUENTLY ON SEVERE SERVICE ROCK BERMS; SILT SHOULD BE REMOVED WHEN ACCUMULATION REACHES 4 INCHES OR MORE.*
- *WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHOULD BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.*

GRATE INLET PROTECTION

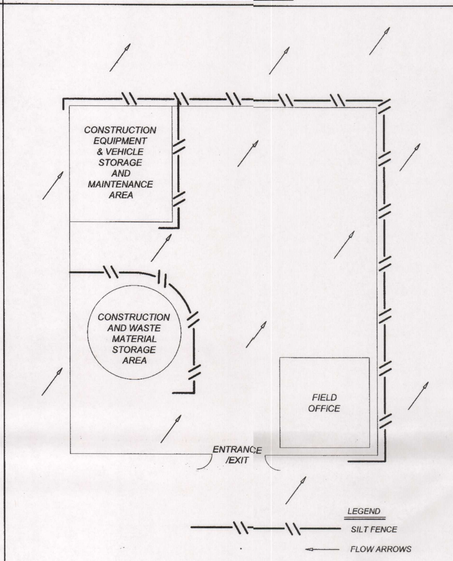


CROSS-SECTION A-A

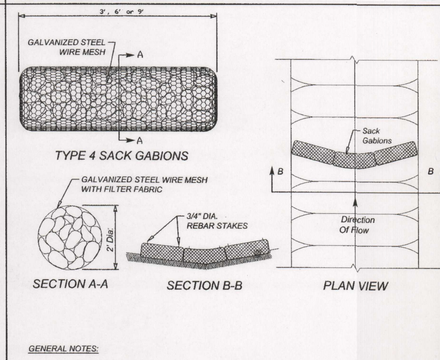
GENERAL NOTES:

- *ALL MATERIALS AND ERECTION PROCEDURES WILL BE THE SAME AS DESCRIBED IN THE STANDARD SILT FENCE REQUIREMENTS.*

GRATE INLET PROTECTION (ALRTERNATE)



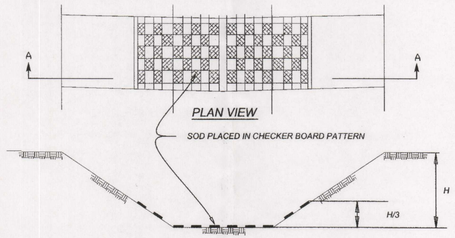
TYPICAL CONSTRUCTION STAGING AREA



GENERAL NOTES:

- *THE TOP OF THE SACK GABIONS SHOULD BE LEVEL AND ORIENTED PERPENDICULAR TO THE DIRECTION OF FLOW.*
- *FILTER FABRIC MATERIAL SHALL BE FASTENED TO WOVEN WIRE SUPPORT.*
- *FILTER FABRIC MATERIAL SHOULD MEET THE FOLLOWING SPECIFICATIONS: RESISTANT TO ULTRAVIOLET LIGHT, FABRIC SHOULD BE NON-WOVEN GEOTEXTILE WITH MINIMUM WEIGHT OF 3.5 OUNCES PER SQUARE YARD, MINIMUM MULLEN BURST STRENGTH OF 200 POUNDS PER SQUARE INCH AND A FLOW THRU RATE OF 120 GALLONS PER MINUTE PER SQUARE FOOT OF FRONTAL AREA.*
- *STONE SIZE: ±4"-8" OPEN GRADED CRUSHED LIMESTONE.*
- *INSPECT WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACE AS NEEDED.*
- *WHEN SILT REACHES A DEPTH OF 6 INCHES OR MORE ABOVE NATURAL GROUND, SILT SHALL BE REMOVED AND DISPOSED IN AN APPROVED MANNER THAT WILL NOT CONTRIBUTE TO RESULTATION. CONTAMINATED SEDIMENT MUST BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.*

TYPE 4 SACK GABIONS



SECTION A-A

- *CHANNEL TO BE STABILIZED WITH SOD PLACED IN A CHECKER BOARD PATTERN TON THE CHANNEL BOTTOM AND ON THE SIDES UP TO 1/3 THE DEPTH OF CHANNEL.*

CHANNEL LINING

KFW ENGINEERS & SURVEYING
1400 HUEBNER ROAD, BUILDING 40
SAN ANTONIO, TEXAS 78230
PHONE (210) 979-8444
FAX (210) 979-8441

NOT FOR CONSTRUCTION

NO.	REVISION / ISSUE	DATE

STATE OF TEXAS
BENJAMIN D. BUNKER
105512
LICENSED
PROFESSIONAL ENGINEER
8/19/2014

MEMORY CARE
NEW BRAUNFELS, TEXAS
EROSION CONTROL DETAIL SHEET

TCEQ-R13
AUG 2 1 2014
SAN ANTONIO

JOB NO. 358-01-01
DATE: APRIL 2014
DRAWN: AB CHECKED: BB

SHEET NUMBER:
C9.1

Date: Aug 18, 2014, 11:39am User ID: jspencer
File: P:\358\01\01\Design Civil\C9.1 (EROSION CONTROL DETAIL SHEET 3580101).dwg

KFW
ENGINEERS

EXHIBIT 3

KFW ENGINEERS

LOCATION MAP
NOT TO SCALE

PROPOSED RUNOFF CONDITIONS											
DRAINAGE AREA	ACRES	RUNOFF COEFFICIENT	TIME OF CONCENTRATION (MIN)	2 YEAR INTENSITY (IN/HR)	2 YEAR RUNOFF (CFS)	10 YEAR INTENSITY (IN/HR)	10 YEAR RUNOFF (CFS)	25 YEAR INTENSITY (IN/HR)	25 YEAR RUNOFF (CFS)	100 YEAR INTENSITY (IN/HR)	100 YEAR RUNOFF (CFS)
Proposed	9.996	93.00	21.00	3.56	32.93	5.30	49.01	6.34	58.61	8.29	76.62

LEGEND

- PROPERTY LINE
- DRAINAGE AREA
- PROPOSED CONTOUR
- Tc FLOW PATH

SCALE: 1" = 50'

0 50' 150'

100'

KFW ENGINEERS & SURVEYING
FIRM# 9513
14603 HUEBNER RD, BLDG. 40
SAN ANTONIO, TEXAS 78230
PHONE (210) 979-8444
FAX (210) 979-8441

ISSUE DATE

REVISIONS

STATE OF TEXAS
BENJAMIN D. BUNKER
108512
LICENSED
PROFESSIONAL ENGINEER
8/19/2014

OAKRUN COMMERCIAL RESERVE 2

DRAINAGE AREA MAP
PROPOSED/ULTIMATE CONDITIONS

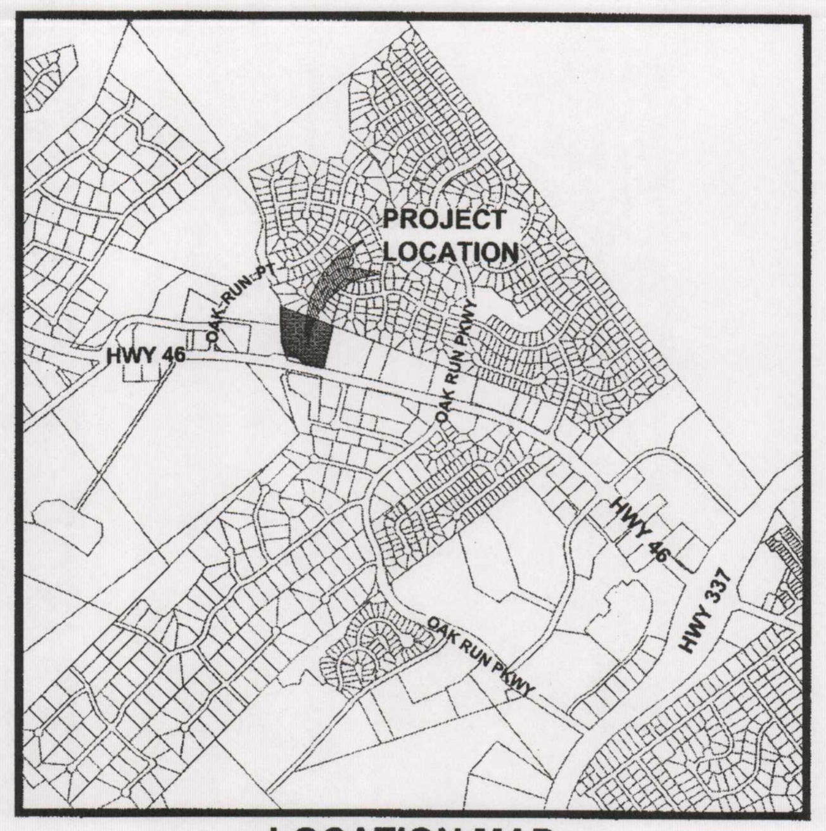
TCEQ-R13
AUG 21 2014
SAN ANTONIO

JOB NO. 358-01-01
DATE: AUGUST 2014
DRAWN: JS CHECKED: BB

SHEET NUMBER:

EX-3B

Date: Aug 19, 2014, 11:12am User ID: jspencer
File: P:\358\01\Design\Emails\WPAP Proposed_Ultimate Drainage Map.dwg



LOCATION MAP
NOT TO SCALE

EXISTING RUNOFF CONDITIONS											
DRAINAGE AREA	ACRES	RUNOFF COEFFICIENT	TIME OF CONCENTRATION (MIN)	2 YEAR INTENSITY (IN/HR)	2 YEAR RUNOFF (CFS)	10 YEAR INTENSITY (IN/HR)	10 YEAR RUNOFF (CFS)	25 YEAR INTENSITY (IN/HR)	25 YEAR RUNOFF (CFS)	100 YEAR INTENSITY (IN/HR)	100 YEAR RUNOFF (CFS)
Existing	9.996	36.00	32.00	2.81	10.10	4.16	14.97	4.98	17.92	6.51	23.43

LEGEND

PROPERTY LINE
DRAINAGE AREA
EXISTING CONTOUR
Tc FLOW PATH

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

KFW ENGINEERS & SURVEYING
FIRM# 9513
14603 HUEBNER RD. BLDG. 40
SAN ANTONIO, TEXAS 78230
PHONE (210) 979-8444
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ISSUE DATE
REVISIONS

STATE OF TEXAS
BENJAMIN D. BUNKER
108512
LICENSED
PROFESSIONAL ENGINEER
8/19/2014

OAKRUN COMMERCIAL RESERVE 2

DRAINAGE AREA MAP
EXISTING CONDITIONS

TCEQ-R13
AUG 21 2014
SAN ANTONIO

JOB NO. 358-01-01
DATE: AUGUST 2014
DRAWN: JS CHECKED: BB

SHEET NUMBER:
EX-3A

Date: Aug 19, 2014, 10:51am User ID: jspencer
File: P:\358\01\01\Design\Exhibits\WPAP\WPAP Existing Drainage Map.dwg

KFW
ENGINEERS

EXHIBIT 4

KFW ENGINEERS

LEGAL DESCRIPTION

BEING LOT 2A1, BLOCK 1, OUT OF THE SUBDIVISION PLAT ESTABLISHING OAKRUN COMMERCIAL RESERVE 2 OF RECORD IN VOLUME 14, PAGE 207 OF THE PLAT RECORDS OF COMAL COUNTY, TEXAS.

BENCHMARKS

BM1: SQUARE 'X' ON CONCRETE CURB OF INLET ±103 L.F. SOUTH EAST FROM THE SOUTH WEST CORNER OF LOT 2A1 AT ELEVATION = 830.36' SET BY KFW SURVEYING.

BM2: SQUARE 'X' ON CONCRETE CURB ±38 L.F. SOUTH FROM THE SOUTH EAST CORNER OF LOT 2A1 AT ELEVATION = 842.12' SET BY KFW SURVEYING.

COORDINATION NOTE:

1. CONTACT TWC (TIME WARNER CABLE) TO COORDINATE CABLE TV SERVICE. (210)-244-0500 OR QWEST COMMUNICATIONS AT 1-877-744-4416.

2. CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH NBU FOR INSPECTION.

3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.

4. CONTRACTOR TO COORDINATE WITH NBU PRIOR TO CONSTRUCTION TO PLAN ELECTRIC SERVICE.

5. CONTRACTOR TO COORDINATE WITH NBU TO PLAN WATER AND SANITARY SEWER SERVICES.

6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

CAUTION!: THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION.THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

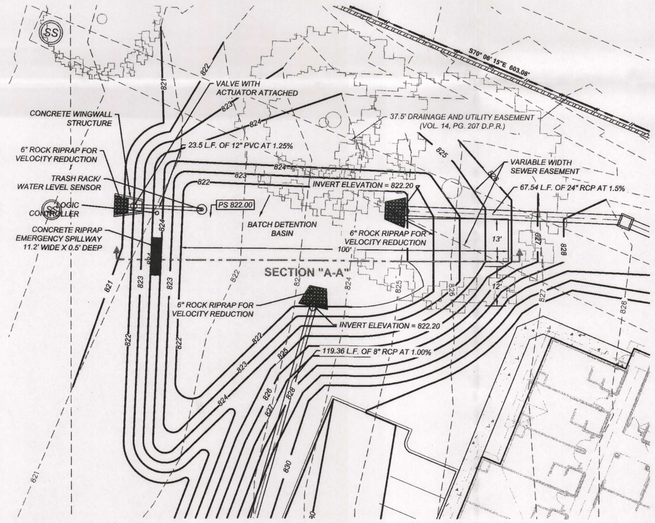
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING.

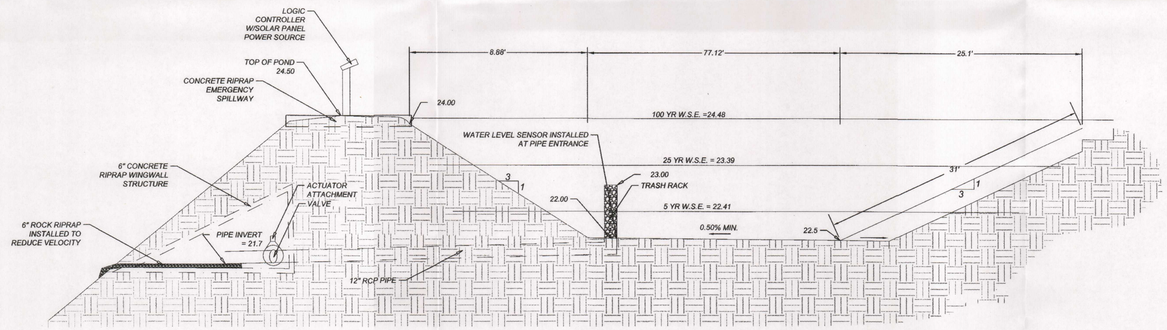
3. ALL EARTHEN CHANNELS MUST NOT EXCEED 3:1 SIDE SLOPES (MAX).

4. LOGIC CONTROLLER TO BE PROGRAMMED TO OPEN VALVE WITH ACTUATOR 12 HOURS AFTER FIRST RAINFALL DETECTION BY WATER LEVEL SENSOR.

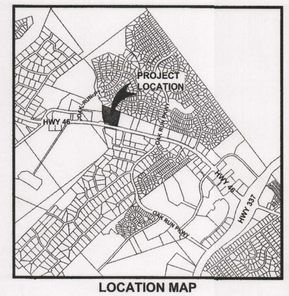
5. VALVE TO BE EQUIPPED WITH MANUAL OPENING CAPABILITY.

6. BATCH DETENTION BASIN TO BE VEGATED BY SEEDING OR SODDING.





CROSS SECTION "A-A"
NOT-TO-SCALE



LOCATION MAP
NOT TO SCALE

SCALE: 1" = 20'
0' 20' 60'
40'

LEGEND

PROPERTY LINE	
ADJACENT PROPERTY LINE	
EXISTING CONCRETE	
EXISTING CURB	
PROPOSED SIDEWALK	
PROPOSED CURB	
PROPOSED RIBBON CURB	
EXISTING SANITARY SEWER MANHOLE	
EXISTING FENCE	
EXISTING SPOT ELEVATION	+830.00
FLOW ARROW	
PROPOSED CONTOURS	830
PROPOSED DRAINAGE SWALE	
PROPOSED HIGH POINT	HIGH POINT
EXISTING CONTOURS	830
PROPOSED SPOT GRADE (TOP OF CURB AND GUTTER)	TC XX.XX / G XX.XX
PROPOSED SPOT GRADE	PS XX.XX
EXISTING TREE, REFERENCE LANDSCAPE PLANS FOR TREE PRESERVATION AND TREE REMOVAL	

KFW ENGINEERS & SURVEYING
14607 HUEBNER ROAD, BUILDING 40
SAN ANTONIO, TEXAS 78230
PHONE (210) 979-8444
FAX (210) 979-8441

NOT FOR CONSTRUCTION

NO.	REVISION / ISSUE	DATE

STATE OF TEXAS
BENJAMIN D. BUNKER
108512
LICENSED
PROFESSIONAL ENGINEER
8/15/2014

MEMORY CARE
NEW BRAUNFELS, TEXAS
BATCH DETENTION POND PLAN/DETAILS

TCEQ-R13
AUG 21 2014
SAN ANTONIO

JOB NO. 358-01-01
DATE: APRIL 2014
DRAWN: AB CHECKED: BB

SHEET NUMBER:
C6.2

Date: Aug 19, 2014, 12:15pm User ID: jspencer
File: P:\358\01\01\design\Civil\C6.2 DETENTION POND 358(01).dwg

Required TSS Reduction

L_M=27.2 x (AN x P)	**5,414**	lbs (Load Removal for entire project)
P=	33	inches (Table 3-3, Comal County)
A_N =	6.032	Acres (Increase Impervious Cover for project)

Maximum Load Reduction for this basin

L_R=(BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)	**6,295**	lbs
BMP Efficiency=	91%	
P =	33	inches (Table 3-3, Comal County)
A_I =	6.032	Acres (ImperviousCover draining to basin)
A_P =	1.702	Acres (Pervious Cover draining to basin)

Fraction of Rainfall that must be treated

F=L/L_R	0.86	

Runoff Coefficient

Rv= 1.72(IC)^3 - 1.97(IC)^2 + 1.23(IC) + 0.02	0.60	(Runoff Coefficient)
IC=	0.78	Fraction of Impervious Cover

Water Quality Volume

WQV= Rainfll depth x Runoff Coefficient x Area	**2,991**	ft^3
Rainfall depth =	1.38	from Table 3-5
Area	7.734	Acres

20 % Additional Sediment Capacity	3589.3	ft^3 (round up to nearest whole number)
Total Volume Required=	3590.0	ft^3

8/18/2014

S-6

S-4

S-5

S1

S-7

Kep

S-3

S-2

S-1

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

LEGEND

Kep - LOWER CRETACEOUS PERSON FORMATION

S-1 - SITE FEATURE LOCATIONS

U|D - FAULT LINE LOCATION

- 50 FOOT BUFFER ZONE

RECEIVED
DEC 16 2014
COUNTY ENGINEER

GEOLOGIC ASSESSMENT
for
OAKRUN COMMERCIAL RESERVE 2
HIGHWAY 46 COMAL COUNTY, TEXAS

S:\HWY 46 GA\CAD\Scanned from

psi Information To Build On
Engineering • Consulting • Testing
7400 BLANCO ROAD, SUITE 257
SAN ANTONIO, TEXAS 78216

REVISIONS:

JOB NO. 43541669
FILE: 04351669.01
DATE: 11/26/2014
DESIGN: ~
DRAWN: J LEAL
CHECKED:
SHEET 1 OF 1

LEGAL DESCRIPTION

BEING LOT 2A1, BLOCK 1, OUT OF THE SUBDIVISION PLAT ESTABLISHING OAKRUN COMMERCIAL RESERVE 2 OF RECORD IN VOLUME 14, PAGE 207 OF THE PLAT RECORDS OF COMAL COUNTY, TEXAS.

BENCHMARKS

BM1: SQUARE 'X' ON CONCRETE CURB OF INLET ±103 L.F. SOUTH EAST FROM THE SOUTH WEST CORNER OF LOT 2A1 AT ELEVATION = 830.36' SET BY KFW SURVEYING.

BM2: SQUARE 'X' ON CONCRETE CURB ±36 L.F. SOUTH FROM THE SOUTH EAST CORNER OF LOT 2A1 AT ELEVATION = 842.12' SET BY KFW SURVEYING.

COORDINATION NOTE:

1. CONTACT TWC (TIME WARNER CABLE) TO COORDINATE CABLE TV SERVICE. (210)-244-0500 OR QWEST COMMUNICATIONS AT 1-877-744-4416.

2. CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH NBU FOR INSPECTION.

3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.

4. CONTRACTOR TO COORDINATE WITH NBU PRIOR TO CONSTRUCTION TO PLAN ELECTRIC SERVICE.

5. CONTRACTOR TO COORDINATE WITH NBU TO PLAN WATER AND SANITARY SEWER SERVICES.

6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

CURVE TABLE					
CURVE #	LENGTH	RADIUS	CHORD	CHORD BEARING	TANGENT
C1	148.79	5828.27	148.79	N79° 01' 25"W	74.40
C2	54.67	200.00	54.50	S10° 19' 13"E	27.51

BEST MANAGEMENT PRACTICES DURING DROUGHT CONDITIONS:
IN ARID AREAS (AREAS WITH AN AVERAGE RAINFALL OF 0-10 INCHES), SEMIARID AREAS (AREAS WITH AN AVERAGE ANNUAL RAINFALL OF 10 TO 20 INCHES), AND 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 PRACTICAL. FOR INTERIM STABILIZATION DURING DROUGHT CONDITIONS BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED. THESE MAY INCLUDE BUT ARE NOT LIMITED TO GEOTEXTILE BLANKETS AND MATTING, HYDROMULCH, DIVERSION STRUCTURES AND/OR STRUCTURAL CONTROLS SUCH AS SILT FENCE AND ROCK BERMS. THESE BMPS ARE TO BE MAINTAINED IN ACCORDANCE WITH THE INSPECTION/MAINTENANCE SCHEDULE PROVIDED IN ATTACHMENT OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP)I.

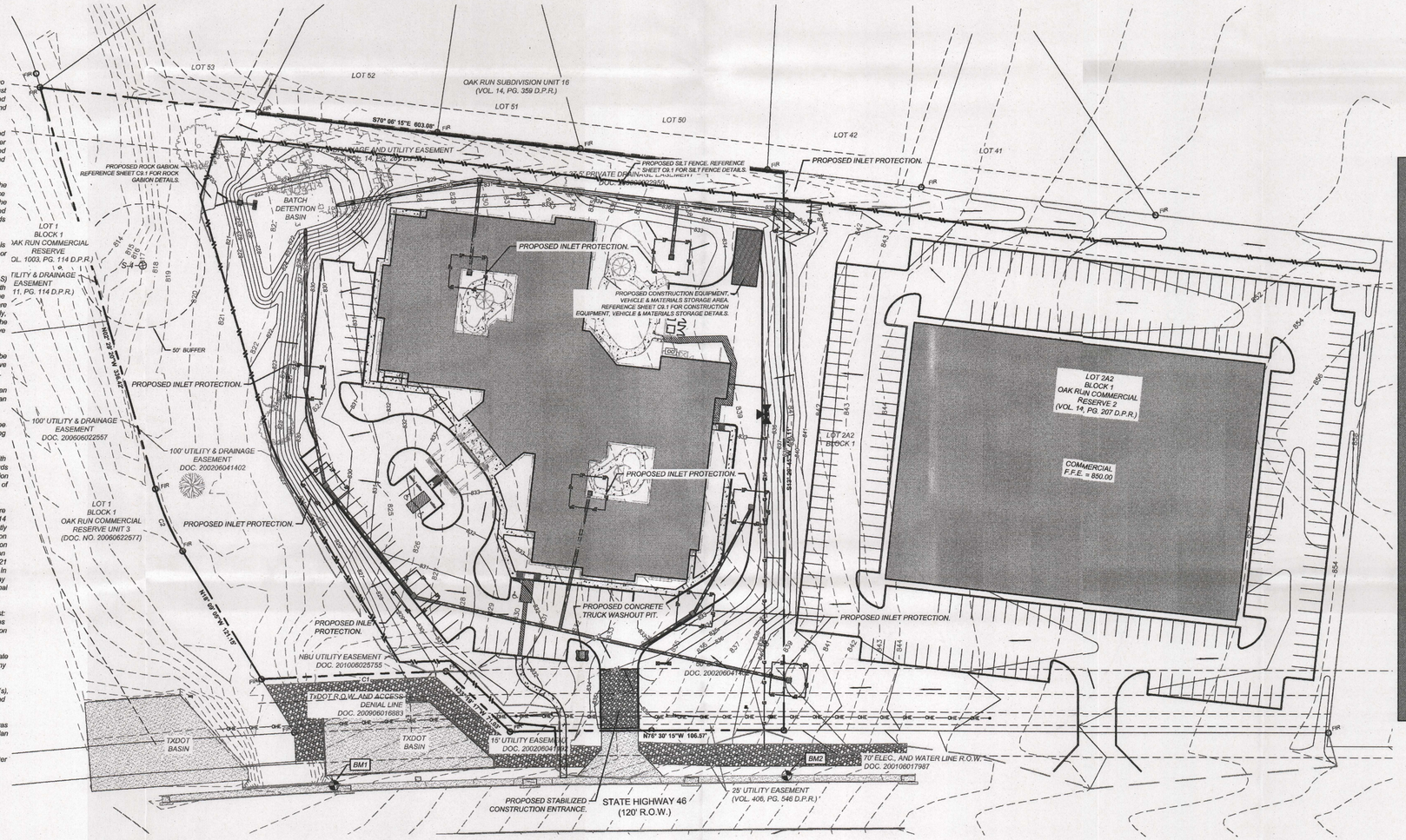
TCEQ-0592 (Rev. 3/15/07)
Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

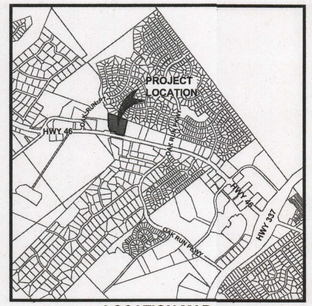
1. *Written construction notification must be given to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information must include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, 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 offsite 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 Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:*
    - A. *any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;*
    - B. *any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;*
    - C. *any development of land previously identified as undeveloped in the original water pollution abatement plan.*

Austin Regional Office
2800 S. IH 35, Suite 100
Austin, Texas 78704-5712
Phone(512) 339-2929
Fax (512) 339-3795

San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
Phone(210) 490-3096
Fax (210) 545-4329

FLOOD PLAIN NOTE:
NONE OF THIS SITE IS WITHIN THE FEMA 100-YEAR FLOODPLAIN ACCORDING TO MAP PANEL 435 OF 505, DATED SEPTEMBER 2, 2009





LOCATION MAP
NOT TO SCALE

SCALE : 1"=50'

0' 50' 150'
100'

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING CONCRETE
- EXISTING CURB
- PROPOSED SIDEWALK
- PROPOSED CURB
- PROPOSED RIBBON CURB
- EDGE OF SOIL DISTURBANCE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVES
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SIGN
- EXISTING OVERHEAD UTILITY AND POWER POLE
- SITE BENCHMARK SEE DESCRIPTION THIS SHEET
- EXISTING FENCE
- FLOW ARROW
- PROPOSED CONTOURS (850)
- PROPOSED INLET PROTECTION
- PROPOSED SILT FENCE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA.
- PROPOSED CONCRETE TRUCK WASHOUT PIT

NOTE:
LOT 2A2 TO BE DEVELOPED WITH UP TO 85% IMPERVIOUS COVER.

NOTE:
S-4 IS A SENSITIVE STREAMBED FEATURE.

KFW ENGINEERS & SURVEYING
14803 HUEBNER ROAD, BUILDING 40
SAN ANTONIO, TEXAS 78230
FIRM# 9513
PHONE (210) 979-8444
FAX (210) 979-8441

NO.	REVISION / ISSUE	DATE

STATE OF TEXAS
BENJAMIN D. BUNKER
108512
LICENSED
PROFESSIONAL ENGINEER
11/25/2014

OAKRUN COMMERCIAL RESERVE 2

OVERALL SITE PLAN

JOB NO. 358-01-01
DATE: AUGUST 2014
DRAWN: JS CHECKED: BB

SHEET NUMBER:

EX-1

Date: Nov. 24, 2014, 4:02pm User ID: jspencer
File: P:\358\01\01\design\Exhibits\WPAP\WPAP SITE PLAN.dwg

LEGAL DESCRIPTION

BEING LOT 2A1, BLOCK 1, OUT OF THE SUBDIVISION PLAT ESTABLISHING OAKRUN COMMERCIAL RESERVE 2 OF RECORD IN VOLUME 14, PAGE 207 OF THE PLAT RECORDS OF COMAL COUNTY, TEXAS.

BENCHMARKS

BM1: SQUARE 'X' ON CONCRETE CURB OF INLET ±103 L.F. SOUTH EAST FROM THE SOUTH WEST CORNER OF LOT 2A1 AT ELEVATION = 830.36' SET BY KFW SURVEYING.

BM2: SQUARE 'X' ON CONCRETE CURB ±36 L.F. SOUTH FROM THE SOUTH EAST CORNER OF LOT 2A1 AT ELEVATION = 842.12' SET BY KFW SURVEYING.

COORDINATION NOTE:

1. CONTACT TWC (TIME WARNER CABLE) TO COORDINATE CABLE TV SERVICE. (210)-244-0500 OR QWEST COMMUNICATIONS AT 1-877-744-4416.

2. CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH NBU FOR INSPECTION.

3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.

4. CONTRACTOR TO COORDINATE WITH NBU PRIOR TO CONSTRUCTION TO PLAN ELECTRIC SERVICE.

5. CONTRACTOR TO COORDINATE WITH NBU TO PLAN WATER AND SANITARY SEWER SERVICES.

6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

CAUTION!!: THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION.THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESSENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING.

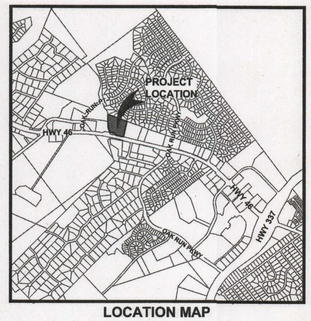
3. ALL EARTHEN CHANNELS MUST NOT EXCEED 3:1 SIDE SLOPES (MAX).

4.BATCH DETENTION SIDE SLOPES TO BE VEGATED BY SEEDING OR SODDING.

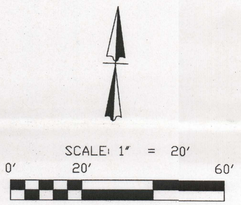
5. VALVE TO BE EQUIPPED WITH MANUAL OPENING CAPABILITY.

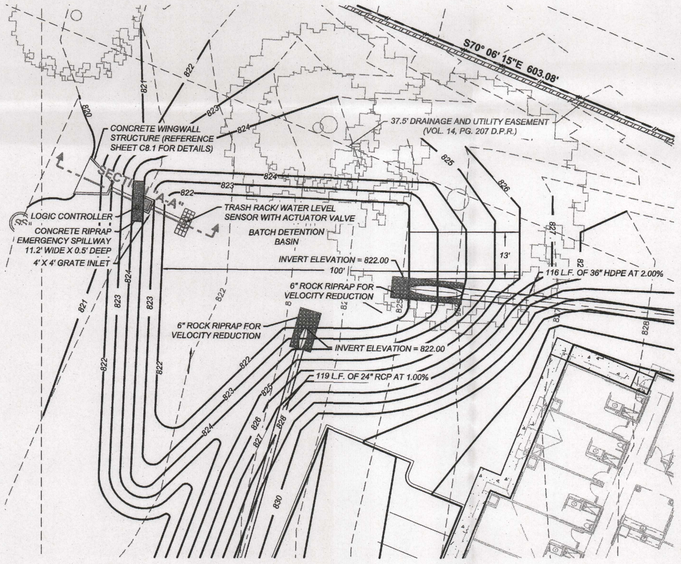
6. VALVE TO BE IN CLOSED POSITION AT ALL TIMES BETWEEN STORM EVENTS.

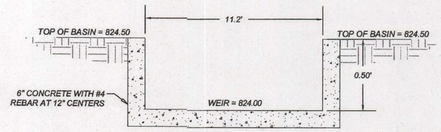
7. LOGIC CONTROLLER TO OPEN VALVE 12 HOURS (BY SIGNALING ACTUATOR TO TURN VALVE INTO FULLY OPEN POSITION) AFTER FIRST RAINFALL READING BY WATER LEVEL SENSOR.



LOCATION MAP
NOT TO SCALE



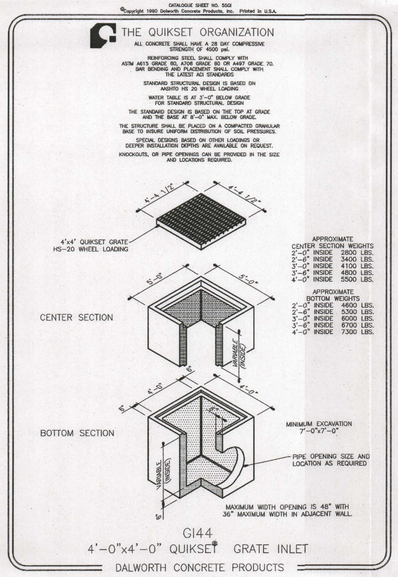


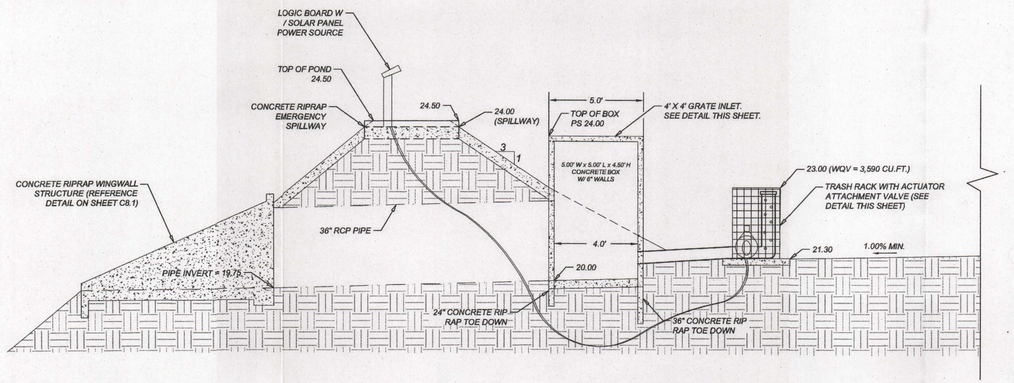


EMERGENCY OVERFLOW WEIR
NOT-TO-SCALE

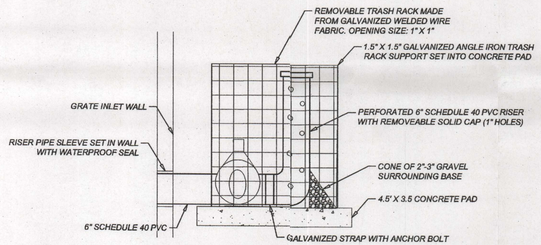
LEGEND

PROPERTY LINE	
ADJACENT PROPERTY LINE	
EXISTING CONCRETE	
EXISTING CURB	
PROPOSED SIDEWALK	
PROPOSED CURB	
PROPOSED RIBBON CURB	
EXISTING SANITARY SEWER MANHOLE	(SS)
EXISTING FENCE	
EXISTING SPOT ELEVATION	+830.00
FLOW ARROW	
PROPOSED CONTOURS	830
PROPOSED DRAINAGE SWALE	
PROPOSED HIGH POINT	HIGH POINT
EXISTING CONTOURS	830
EXISTING TREE, REFERENCE LANDSCAPE PLANS FOR TREE PRESERVATION AND TREE REMOVAL	

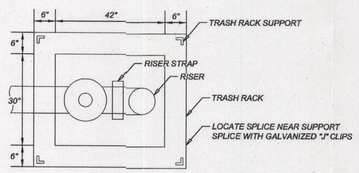




CROSS SECTION "A-A"
NOT-TO-SCALE



SIDE VIEW OF RISER



TOP VIEW OF RISER (SQUARE DESIGN)

RISER PIPE DETAIL
NOT-TO-SCALE

RECEIVED
DEC 15 2014
COUNTY ENGINEER

KFW ENGINEERS & SURVEYING
FIRM# 9513
14607 HUEBNER ROAD, BUILDING 40
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NO.	REVISION / ISSUE	DATE

STATE OF TEXAS
BENJAMIN D. BUNKER
105512
LICENSED
PROFESSIONAL ENGINEER
11/25/2014

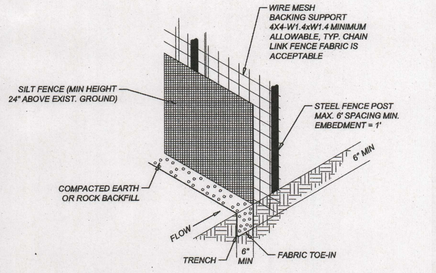
OAK RUN COMMERCIAL RESERVE 2
2022 STATE HWY 46 W., NEW BRAUNFELS, TEXAS
BATCH DETENTION POND PLAN/DETAILS

JOB NO. 358-01-01
DATE: OCTOBER 2014
DRAWN: AB CHECKED: BB

SHEET NUMBER:
C6.2

Date: Nov 24, 2014, 3:10pm User ID: dbustillos
File: P:\358\01\01\Design\Civil\C6.2 (BATCH DETENTION POND 3580101).dwg

SILT FENCE



ISOMETRIC PLAN VIEW

MATERIALS:
(1) SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD. MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.

(2) FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FL2, AND BRINDELL HARDNESS EXCEEDING 140.

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

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

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

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

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

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

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

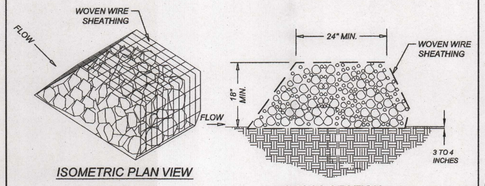
INSPECTION AND MAINTENANCE GUIDELINES:
(1) INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL.
(2) REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

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

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

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

ROCK BERM



ISOMETRIC PLAN VIEW

CROSS SECTION

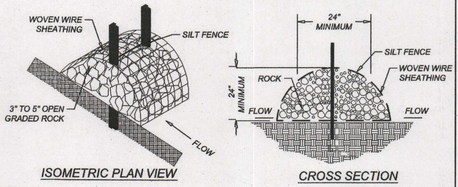
MATERIALS:
(1) THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.

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

INSTALLATION:
(1) LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.
(2) BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
(3) PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM FIGURE 1-2B), TO A HEIGHT NOT LESS THAN 18".
(4) WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AIRL THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
(5) BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
(6) THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

INSPECTION AND MAINTENANCE GUIDELINES:
(1) INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
(2) REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
(3) REPAIR ANY LOOSE WIRE SHEATHING.
(4) THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
(5) THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
(6) THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

HIGH SERVICE ROCK BERM



ISOMETRIC PLAN VIEW

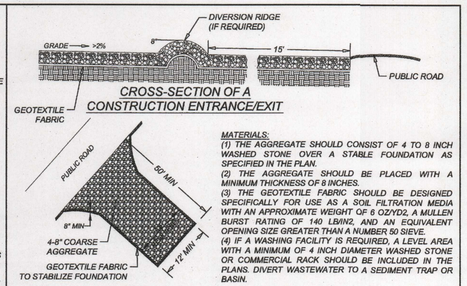
CROSS SECTION

MATERIALS:
(1) SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
(2) FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FL2, AND BRINDELL HARDNESS EXCEEDING 140. REBAR (EITHER #5 OR #6) MAY ALSO BE USED TO ANCHOR THE BERM.
(3) WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.
(4) THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH. AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
(5) CLEAN, OPEN GRADED 3- TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5- TO 8-INCH DIAMETER ROCKS MAY BE USED.

INSTALLATION:
(1) LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1-INCH OPENINGS.
(2) INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT, AS WITH A NORMAL SILT FENCE DESCRIBED IN SECTION 2.4.3.
(3) PLACE THE ROCK ALONG THE SHEATHING ON BOTH SIDES OF THE SILT FENCE AS SHOWN IN THE DIAGRAM (FIGURE 1-2G), TO A HEIGHT NOT LESS THAN 24 INCHES. CLEAN, OPEN GRADED 3- 5" DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5- TO 8-INCH DIAMETER ROCK MAY BE USED.
(4) WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
(5) THE HIGH SERVICE ROCK BERM SHOULD BE REMOVED WHEN THE SITE IS REVEGETATED OR OTHERWISE STABILIZED OR IT MAY REMAIN IN PLACE AS A PERMANENT BMP IF DRAINAGE IS ADEQUATE.

INSPECTION AND MAINTENANCE GUIDELINES:
(1) INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE ON ROCK BERM.
(2) REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED MANNER.
(3) REPAIR ANY LOOSE WIRE SHEATHING.
(4) THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
(5) THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
(6) THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

STABILIZED CONSTRUCTION ENTRANCE / EXIT

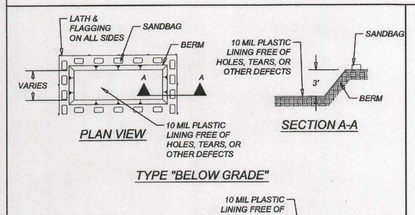


MATERIALS:
(1) THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
(2) THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8 INCHES.
(3) THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD2, A MULLEN BURST RATING OF 140 LB/IN2, AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
(4) IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4 INCH DIAMETER WASHED STONE OR COMMERCIAL RACK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION: (NORTH CAROLINA, 1993)
(1) AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
(2) THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
(3) THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
(4) IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6 TO 8 INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
(5) PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
(6) PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
(7) DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.
(8) INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

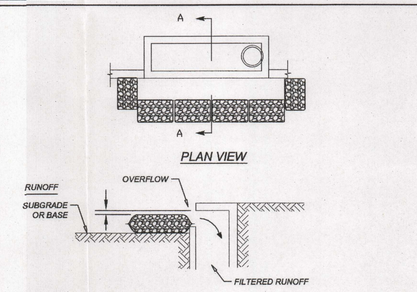
INSPECTION AND MAINTENANCE GUIDELINES:
(1) THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
(2) ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
(3) WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
(4) WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
(5) ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

CONCRETE TRUCK WASHOUT PIT



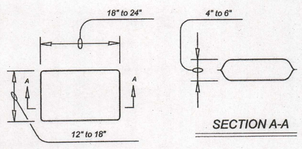
GENERAL NOTES:
- DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
- WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
- WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF AND AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.

CURB INLET PROTECTION GRAVEL FILTER BAGS



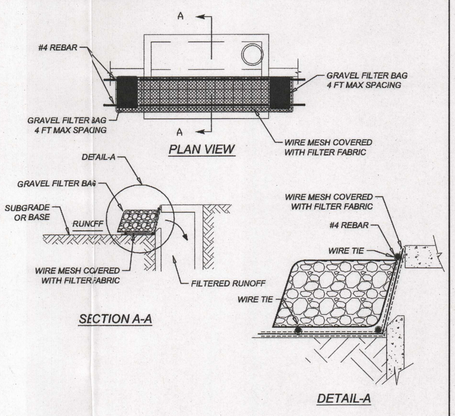
GENERAL NOTES:
- ALL STORM DRAINAGE SYSTEMS INLETS SHOULD FILTER RUNOFF BEFORE THE WATER IS DISCHARGED INTO STREAMS OR ONTO ADJACENT PROPERTIES, UNLESS TREATMENT IS PROVIDED ELSEWHERE.
- IF NO ADDITIONAL DOWNSTREAM TREATMENT EXISTS, THE MAXIMUM DRAINAGE AREA TRIBUTARY TO AN AREA DRAIN INSTALLED WITH A GRAVEL FILTER SHOULD BE ONE ACRE.
- ALL CURB INLET GRAVEL FILTERS SHOULD BE INSPECTED AND REPAIRED AFTER EACH RUNOFF EVENT. SEDIMENT SHOULD BE REMOVED WHEN MATERIAL IS WITHIN THREE INCHES OF THE TOP OF THE CONCRETE BLOCKS. PERIODICALLY, THE GRAVEL SHOULD BE RAKED TO INCREASE INFILTRATION AND FILTERING OF RUNOFF WATERS.

GRAVEL FILTER BAG DETAIL

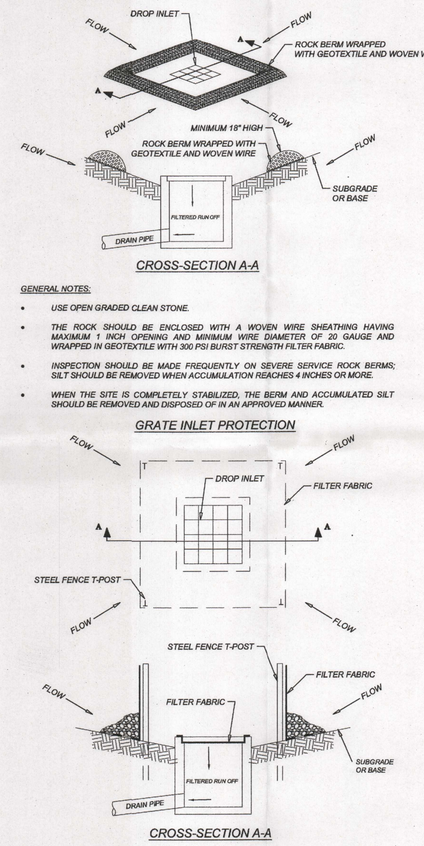


GENERAL NOTES:
- THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN UNIT WEIGHT OF 4 OUNCES/SY, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.
- THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).

CURBINLET PROTECTION (ALRTERNATE)

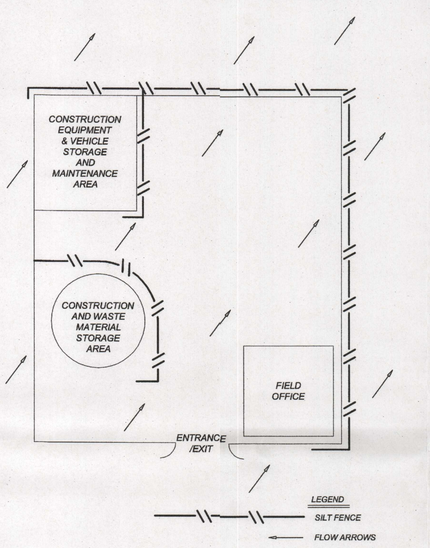


GRATE INLET PROTECTION (ALRTERNATE)

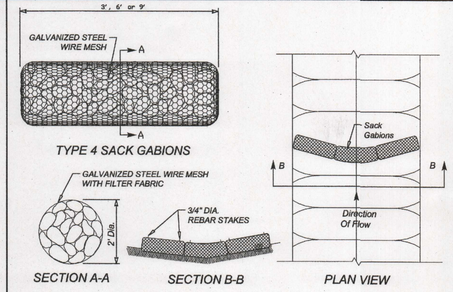


GENERAL NOTES:
- ALL MATERIALS AND ERECTION PROCEDURES WILL BE THE SAME AS DESCRIBED IN THE STANDARD SILT FENCE REQUIREMENTS.

TYPICAL CONSTRUCTION STAGING AREA

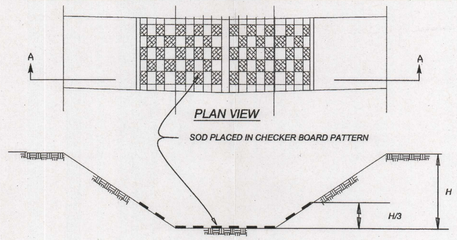


TYPE 4 SACK GABIONS



GENERAL NOTES:
- THE TOP OF THE SACK GABIONS SHOULD BE LEVEL AND ORIENTED PERPENDICULAR TO THE DIRECTION OF FLOW.
- FILTER FABRIC MATERIAL SHALL BE FASTENED TO WOVEN WIRE SUPPORT.
- FILTER FABRIC MATERIAL SHOULD MEET THE FOLLOWING SPECIFICATIONS: RESISTANT TO ULTRAVIOLET LIGHT, FABRIC SHOULD BE NON-WOVEN GEOTEXTILE WITH MINIMUM WEIGHT OF 3.5 OUNCES PER SQUARE YARD, MINIMUM MULLEN BURST STRENGTH OF 200 POUNDS PER SQUARE INCH AND A FLOW THRU RATE OF 120 GALLONS PER MINUTE PER SQUARE FOOT OF FRONTAL AREA.
- STONE SIZE: ±4"-8" OPEN GRADED CRUSHED LIMESTONE.
- INSPECT WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACE AS NEEDED.
- WHEN SILT REACHES A DEPTH OF 6 INCHES OR MORE ABOVE NATURAL GROUND, SILT SHALL BE REMOVED AND DISPOSED IN AN APPROVED MANNER THAT WILL NOT CONTRIBUTE TO RESILTATION. CONTAMINATED SEDIMENT MUST BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.

CHANNEL LINING



- CHANNEL TO BE STABILIZED WITH SOD PLACED IN A CHECKER BOARD PATTERN TON THE CHANNEL BOTTOM AND ON THE SIDES UP TO 1/3 THE DEPTH OF CHANNEL.

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NO.	REVISION / ISSUE	DATE

STATE OF TEXAS
BENJAMIN D. SUNKER
108512
LICENSED PROFESSIONAL ENGINEER
11/25/2014

OAK RUN COMMERCIAL RESERVE 2
2022 STATE HWY 46 W., NEW BRAUNFELS, TEXAS
EROSION CONTROL DETAIL SHEET

JOB NO. 358-01-01
DATE: OCTOBER 2014
DRAWN: AB CHECKED: BB

SHEET NUMBER:
C9.1

Date: Nov 24, 2014, 3:11pm User ID: dbustillos
File: P:\358\01\01\Design\Civil\C9.1 (EROSION CONTROL DETAIL SHEET 358001).dwg

Comal County

PROJECT DESCRIPTION

Oakrun Commercial Reserve 2 is an undeveloped 9.996 acre tract that will be split between 5.50 acres and 4.496 acres. The 5.50 acres will be developed into a Memory Care America facility and the 4.496 acres will be developed in the future with up to 85% impervious cover. It lies within the City of New Braunfels, in Comal County. The project is located entirely in the Edwards Aquifer Recharge Zone, and within the Blieders Creek Watershed.

Currently the project has a total of 0.002 acres of impervious cover; and will have a net increase of 6.031 acres of impervious cover from existing conditions for a total of 6.033 acres (60.35%) of impervious cover. The proposed impervious cover increase will consist of approximately 1.005 acres of parking and other paved surfaces, 0.101 acres of concrete sidewalks, curbs and dumpster pads, and 1.105 acres of structures/rooftops. 3.822 acres of the 4.496 acre lot 2A2 will be impervious for future development. The permanent BMP that will treat and release site runoff will be a batch detention basin. All 6.033 acres of impervious runoff will be treated with the batch detention basin and the removal efficiency of the proposed runoff will meet the required overall removal of 80% of increase in TSS.

The whole project will be disturbed during construction activities. These activities will be subject to TPDES requirements. A Storm Water Pollution Prevention Plan will be maintained for the site and temporary BMP's will be implemented to prevent erosion and sedimentation until completion of the permanent BMP. All areas not covered by the building footprint, sidewalks, or pavement will be stabilized with either sod or landscaping when construction is complete and before the removal of temporary BMPs.

There will not be any storage of regulated quantities of hazardous materials. New Braunfels Utilities will supply potable water. Wastewater will be collected and treated by New Braunfels Utilities.

Required TSS Reduction

L_M=27.2 x (AN x P) **5,414** lbs (Load Removal for entire project)

P= 33 inches (Table 3-3, Comal County)

A_N = 6.032 Acres (Increase Impervious Cover for project)

Maximum Load Reduction for this basin

L_R=(BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54) **6,295** lbs

BMP Efficiency= 91%

P = 33 inches (Table 3-3, Comal County)

A_I = 6.032 Acres (ImperviousCover draining to basin)

A_P = 1.702 Acres (Pervious Cover draining to basin)

Fraction of Rainfall that must be treated

$F=L/L_R$ 0.86

Runoff Coefficient

$Rv= 1.72(IC)^3 - 1.97(IC)^2 + 1.23(IC) + 0.02$ 0.60 (Runoff Coefficient)

IC= 0.78 Fraction of Impervious Cover

Water Quality Volume

WQV= Rainfll depth x Runoff Coefficient x Area **2,991** ft^3

Rainfall depth = 1.38 from Table 3-5

Area 7.734 Acres

20 % Additional Sediment Capacity 3589.3 ft^3 (round up to nearest whole number)

Total Volume Required= 3590.0 ft^3

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Oakrun Commercial Reserve 2
Date Prepared: 2/12/2014

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3. $L_M = 27.2(A_N \times P)$

where:

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

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

County =	Comal	
Total project area included in plan * =	7.73	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	6.03	acres
Total post-development impervious cover fraction * =	0.78	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	6414	lbs

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

Number of drainage basins / outfalls areas leaving the plan area = 1

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	7.73	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	6.03	acres
Post-development impervious fraction within drainage basin/outfall area =	0.78	
$L_{M\ THIS\ BASIN}$ =	6414	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Sand Filter
Removal efficiency = 89 percent

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

BATCH DETENTION NOT INCLUDED (CALC's ATTACHED)

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

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

where:

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

A_C =	N/A	acres
A_I =	N/A	acres
A_P =	#VALUE!	acres
L_R =	#VALUE!	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 6414 lbs.

F = #VALUE!

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	#VALUE!	inches
Post Development Runoff Coefficient =	#VALUE!	
On-site Water Quality Volume =	#VALUE!	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	#VALUE!	cubic feet
Storage for Sediment =	#VALUE!	
Total Capture Volume (required water quality volume(s) x 1.20) =	#VALUE!	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.

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The values for BMP Types not selected as cell C45 will show NA

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

Required Water Quality Volume for retention basin =	NA	cubic feet	
Irrigation Area Calculations.			
Soil infiltration/permeability rate =	N/A	in/hr	Enter determined permeability rate or assumed value of 0.1
Irrigation area =	NA	square feet	
	NA	acres	

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

Required Water Quality Volume for extended detention basin =	NA	cubic feet

9. Filter area for Sand Filters — Designed as Required in RG-348 — Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	#VALUE!	cubic feet	
Minimum filter basin area =	#VALUE!	square feet	
Maximum sedimentation basin area =	#VALUE!	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	#VALUE!	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	#VALUE!	cubic feet	
Minimum filter basin area =	#VALUE!	square feet	
Maximum sedimentation basin area =	#VALUE!	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	#VALUE!	square feet	For maximum water depth of 8 feet

10. Bioretention System — Designed as Required in RG-348 — Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin =	NA	cubic feet

11. Wet Basins — Designed as Required in RG-348 — Pages 3-66 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV

12. Constructed Wetlands — Designed as Required in RG-348 — Pages 3-71 to 3-73

Required Water Quality Volume for Constructed Wetlands =	NA	cubic feet

13. AquaLogic™ Cartridge System — Designed as Required in RG-348 — Pages 3-74 to 3-76

** 2005 Technical Guidance Manual (RG-348) does not exempt the required 20% increase with maintenance contract with AquaLogic™

Required Sedimentation chamber capacity =	NA	cubic feet
Filter canisters (FCs) to treat WQV =	NA	cartridges
Filter basin area (RIA_f) =	NA	square feet

14. Stormwater Management StormFilter® by CONTECH

Required Water Quality Volume for Contech StormFilter System =	NA	cubic feet

THE SIZING REQUIREMENTS FOR THE FOLLOWING BMPs / LOAD REMOVALS ARE BASED UPON FLOW RATES - NOT CALCULATED WATER QUALITY VOLUMES

15. Grassy Swales — Designed as Required in RG-348 — Pages 3-51 to 3-54

Design parameters for the swale.

Drainage Area to be Treated by the Swale = A =	N/A	acres
Impervious Cover in Drainage Area =	N/A	acres
Rainfall intensity = I =	1.1	in/hr
Swale Slope =	N/A	ft/ft
Side Slope (z) =	N/A	
Design Water Depth = y =	N/A	ft
Weighted Runoff Coefficient = C =	#VALUE!	

A_{cs} = cross-sectional area of flow in Swale =	#VALUE!	sf
P_w = Wetted Perimeter =	#VALUE!	feet
R_h = hydraulic radius of flow cross-section = A_{cs}/P_w =	#VALUE!	feet
n = Manning's roughness coefficient =	0.2	

15A. Using the Method Described in the RG-348

Manning's Equation. $Q = \frac{1.49}{n} A_{cs} R_h^{2/3} S^{1/2}$

$b = \frac{0.134 \times Q}{y^{5/3} S^{1/2}} - zy$ = #VALUE! feet

$Q = CIA$ = #VALUE! cfs

To calculate the flow velocity in the swale:

V (Velocity of Flow in the swale) = Q/A_{cs} = #VALUE! ft/sec

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To calculate the resulting swale length:

L = Minimum Swale Length = V (ft/sec) * 300 (sec) = #VALUE! feet

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters must be modified and the solver rerun

15B. Alternative Method using Excel Solver

To solve for bottom width of the trapezoidal swale (b) Excel can simultaneously solve the "Design Q" (C217 The required "Swale Width" occurs when the "Design

First, highlight Cell F219 (Error 1 value). The equation Then click on "Tools" and "Solver". The "Solver Par The value in the "Set Target cell" should be F219 The value in the "By Changing Cells" should be C2 Click on solve.

The resulting "Swale Width" must be less than 10 fee If the resulting "Swale Width" exceeds 10 feet then th

If there is not the option for "Solver" under "Tools" Click on "Tools" and "Add Ins" and then check "Solv Then proceed as instructed above.

If you would like to increase the bottom width of the t Excel can simultaneously solve the "Design Q" (C217 The required "Design Depth" for a 10-foot bottom wid

First set the desired bottom width in Cell C231. Highlight Cell F232. The equation showing in the fx s

Click on "Tools" and "Solver". The "Solver Parameter The value in the "Set Target cell" should be F232 The value in the "By Changing Cells" should be C2 Click on solve.

The resulting "Design Depth" must be equal to or less If the resulting "Design Depth" exceeds 0.33 feet then

Design Q = CIA = #VALUE! cfs

Manning's Equation Q = #VALUE! cfs Error 1 = #VALUE!
Swale Width= 6.00 ft

Instructions are provided to the right (green comments).

Flow Velocity #VALUE! ft/s
Minimum Length = #VALUE! ft

Instructions are provided to the right (blue comments).

Design Width = 6 ft
Design Discharge = #VALUE! cfs Error 2 = #VALUE!
Design Depth = 0.33 ft
Flow Velocity = #VALUE! cfs
Minimum Length = #VALUE! ft

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters may be modified and the solver rerun
If any of the resulting values still do not meet the design requirement set forth in RG-348, widening the swale bottom value may not be possible.

16. Vegetated Filter Strips Designed as Required in RG 348 Pages 3-35 to 3-37

There are no calculations required for determining the kind or size of vegetation filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and
the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or
across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-36 of RG-348.

17. Wet Vaults Designed as Required in RG 348 Pages 3-30 to 3-32 & 3-79

Required Load Removal Based upon Equation 3.3 = NA lbs

First calculate the load removal at 1.1 in/hour

RG-348 Page 3-30 Equation 3.4 Q = CIA

C = runoff coefficient for the drainage area = 0.62 C = Runoff Coefficient = 0.246 (IC)^2 + 0.775 (IC) + 0.05
I = design rainfall intensity = 1.1 in/hour
A = drainage area in acres = N/A acres

Q = flow rate in cubic feet per second = #VALUE! cubic feet/sec

RG-348 Page 3-31 Equation 3.5 V_{OR} = Q/A

Q = Runoff rate calculated above = #VALUE! cubic feet/sec
A = Water surface area in the wet vault = N/A square feet

V_{OR} = Overflow Rate = #VALUE! feet/sec

Percent TSS Removal from Figure 3-1 (RG-348 Page 3-31) = N/A percent

Load removed by Wet Vault = #VALUE! lbs

If a bypass occurs at a rainfall intensity of less than 1.1 in/hours
Calculate the efficiency reduction for the actual rainfall intensity rate

Actual Rainfall Intensity at which Wet Vault bypass Occurs = N/A in/hour

Fraction of rainfall treated from Figure 3-2 RG-348 Page 3-32 = N/A percent
Efficiency Reduction for Actual Rainfall Intensity = #VALUE! percent

Resultant TSS Load removed by Wet Vault = #VALUE! lbs

18. Permeable Concrete Designed as Required in RG 348 Pages 3-73 to 3-81

PERMEABLE CONCRETE MAY ONLY BE USED ON THE CONTRIBUTING ZONE

19. BMPs Installed in a Series Designed as Required in RG 348 Pages 3-32

Michael E. Barrett, Ph.D., P.E. recommended that the coefficient for E_3 be changed from 0.6 to 0.65 on May 3, 2006

E_{TOT} = [1 - ((1 - E_1) X (1 - 0.65E_2) x (1 - 0.25E_3))] X 100 = #VALUE! percent NET EFFICIENCY OF THE BMPs IN THE SERIES

EFFICIENCY OF FIRST BMP IN THE SERIES = E_1 = N/A percent

EFFICIENCY OF THE SECOND BMP IN THE SERIES = E_2 = N/A percent

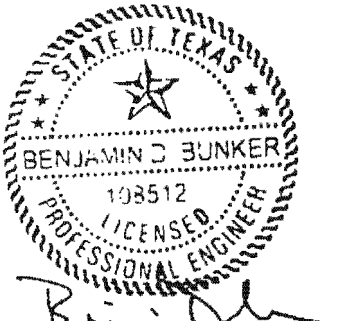
EFFICIENCY OF THE THIRD BMP IN THE SERIES = E_3 = N/A percent

THEREFORE, THE NET LOAD REMOVAL WOULD BE:
(A_1 AND A_2 VALUES ARE FROM SECTION 3 ABOVE)

L_R = E_{TOT} X P X (A_1 X 34.8 X A_2 X 0.54) = #VALUE! lbs

20. Stormceptor

Required TSS Removal in BMP Drainage Area= NA lbs
Impervious Cover Overtreatment= N/A ac



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TSS Removal for Uncaptured Area =	#VALUE!	lbs

BMP Sizing

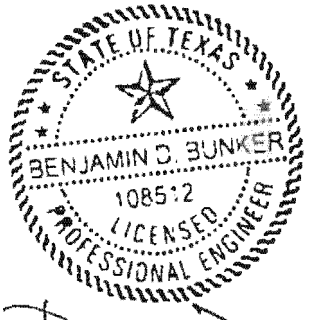
Effective Area =	NA	EA
Calculated Model Size(s) =	#N/A	
Actual Model Size (If multiple values provided in Calculated Model Size or if you are choosing a larger model size) =	N/A	Model Size
Surface Area =	0.00	ft²
Overflow Rate =	#VALUE!	V_o
Rounded Overflow Rate =	#VALUE!	V_o
BMP Efficiency % =	#VALUE!	%
L_M Value =	#VALUE!	lbs
TSS Load Credit =	#VALUE!	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	#VALUE!	
TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!	

21. Vortech

Required TSS Removal in BMP Drainage Area =	NA	lbs
Impervious Cover Overtreatment =	N/A	ac
TSS Removal for Uncaptured Area =	#VALUE!	lbs

BMP Sizing

Effective Area =	NA	EA
Calculated Model Size(s) =	#N/A	
Actual Model Size (if choosing larger model size) =	N/A	Pick Model Size
Surface Area =	0.00	ft²
Overflow Rate =	#VALUE!	V_o
Rounded Overflow Rate =	#VALUE!	V_o
BMP Efficiency % =	#VALUE!	%
L_M Value =	#VALUE!	lbs
TSS Load Credit =	#VALUE!	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	#VALUE!	
TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!	



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SECTION 230549

BASIC MATERIALS AND METHODS FOR HVAC

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Work required under this section of the specifications consists of basic materials and methods applicable to work under Division 23.

PART 2 - PRODUCTS

2.01 FOUNDATIONS AND PADS

A. Provide foundations, pads, and bases required for equipment. Concrete to be in accordance with concrete division of specifications.

B. Coordinate proper sizes and locations of foundations, pads, bases, louvers, anchors, supports, and other items to be built into structure.

2.02 FASTENINGS TO STRUCTURES

A. Provide structural fastening devices for equipment, materials, piping and ductwork. Devices to be concrete inserts, expansion shields and lag bolts, and through bolts-washers-nuts. All bolted devices to use jamb nuts. Inserts to be continuous type as manufactured by Unistrut or approved substitute. Install per manufacturer's published installation instructions in lengths to suit specific application, complete with spring nuts, end caps, and plastic coated filler to prevent concrete seepage.

B. Use of power drive "shot-pins" is permitted only for ducts 20" in width and smaller and single pipes 1" and smaller.

2.03 ACCESS PANELS

A. Provide ceiling and wall access panels for installation by other Divisions. Coordinate locations so panels will provide proper access to equipment served. Notify Designer of proposed wall or ceiling access panel locations prior to installation of such panels. Minimum size: 24" x 24".

B. Panels shall be manufactured by Bilco or approved substitute. Provide panels with minimum 16 gauge steel construction with screwdriver operated locks and primer finish.

C. Provide fire-rated panels for installation in fire-rated partitions.

2.04 ROOF CURBS

A. Provide prefabricated metal roof curbs at all roof ductwork and piping penetrations and for support of all roof-mounted equipment, fans and ductwork. Construct curbs according to National Roof Contractor's Association guidelines. Prefabricated metal roof curbs shall be manufactured by ThyCurb, Custom Curb, or approved substitute.

B. Construct curbs with minimum 18 gauge galvanized steel (14 gauge for curbs with any side longer than 4'-0" and for all curbs supporting equipment) with fully mitered and welded corners, raised 3" integral cant for roof deck insulation, integral base plate, internal reinforcing with 1" x 1" x 1/8" steel angle for curbs with any side longer than 3'-0", factory installed 1-1/2" thick, 3-pound density fiberglass insulation and factory installed pressure treated wood

nailer. Minimum height of curb shall be 12" above finished roof surface. (Consult architectural plans for roof type and thickness.) Curbs for kitchen hood exhaust fan shall be height necessary to provide 40" minimum height from finished roof surface to fan discharge. Construct curbs to match slope of roof and provide a level top surface for mounting of mechanical equipment.

C. Curb types shall be as follows:

1. Fan and duct penetration curbs with standard curb construction as described above - ThyCurb Model TC.
2. Equipment and ductwork support curbs with minimum 18 gauge galvanized steel shell, base plate and counterflashing, wood nailer, and internal bulkhead reinforcement - ThyCurb Model TEMS.
3. Pipe penetration curbs with standard curb construction as described above and insulated metal piping cover - ThyCurb Model TC with Model TP-2 piping cover.

D. Install curbs in strict accordance with manufacturer's published installation instructions and as detailed on the drawings. Coordinate proper curb size, construction, and base prior to fabrication.

PART 3 - EXECUTION - NOT APPLICABLE

END OF SECTION

SECTION 232113

HYDRONIC PIPING

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Submit pipe, valves, and fittings and have approved before starting installation. Pipe, valves, and fittings to be new, manufactured domestically, and marked clearly with manufacturers' name, weight, and classification or working pressure.

B. Piping to run approximately as shown on drawings or as structural and architectural conditions permit.

PART 2 - PRODUCTS

2.01 COPPER PIPES

A. Type "L" hard-drawn seamless copper tubing, ASTM B-88:

1. HVAC water piping 2-1/8" O.D. and smaller. Piping dimensions on drawings for piping 2-1/8" and smaller are outside diameter. (O.D.).

B. Type "K" hard-drawn seamless copper tubing:

1. HVAC water piping for lines 2-1/8" O.D. and smaller located under slab.
2. Provide rolled, soft drawn type "K" seamless copper tubing for under slab and below grade where length of run between fittings exceeds maximum hard-drawn lengths.

C. Type "DWV" hard-drawn seamless copper tubing: Contractor's option for above-ground moisture condensate drain piping.

D. Copper Pipe Fittings:

1. Provide sweat fittings, ASTM B-62, dimensions conforming to ANSI B16.22, wrought copper, with sweep patterns for copper tubing.
2. Dielectric connection: Provide Epco Sales, dielectric couplers at junction of steel pipe and equipment with copper piping systems. Use of steel or cast iron fittings in copper piping systems prohibited.
3. Fittings for drainage piping to be drainage pattern type.

E. Unions to be brass ground joint, 250-pound working pressure.

F. Nipples used in conjunction with copper pipe to be brass.

2.02 CAST IRON SOIL PIPE

A. Standard weight cast iron soil pipe with drainage fittings: Underground A/C unit condensate.

2.03 VALVES

A. Valves are specified by Stockham model numbers to establish quality levels unless otherwise noted. Crane, Milwaukee, Hammond, Nibco, Stockham, Centerline, Apollo, Kitz, or Watts are considered equal manufacturers. Provide clamp lock hand lever operators on valves less than 8 inches. Provide hand wheel and closed housing worm gear on valves 8 inches and larger unless indicated otherwise below. Provide chain operators for all equipment room and powerhouse valves 4 inch and larger which are located over 6 feet 6 inches above the finish floor.

B. Gate Valves:

1. Gate valves for copper piping systems to be Class 125, bronze body, solder ends, Stockham Figure B109. Valve to have either solid or split wedge disc, inside screw, rising stem, and screwed bonnet.

C. Globe Valves:

1. Globe valves 2" and smaller to be Class 150, bronze body, screwed ends, Stockham Figure B29. Valve to be plug type with renewable seat and disc, rising stem, and union bonnet.

D. Ball Valves:

1. Ball valves for copper water piping systems 2-1/8" O.D. and smaller to be equal to Apollo "3" Figure 82-200, solder ends, and for 2-5/8" thru 3-1/8" O.D. to be equal to Apollo Figure 70-100, threaded ends. Valves to have bronze body, chromium plated bronze ball, teflon seats, stuffing box ring and seals, and quarter turn on-off. Provide memory stops for valves used for balancing service. Valves to be rated for 400-psi WOG at 200 degrees F. Install threaded end valves with brass adapters.

2.04 HANGERS

A. Non-insulated copper tubing 1/2" O.D. thru 4" O.D. with no longitudinal movement to be Grinnell Figure CT-99C, MSS SP-69 TYPE 9, plastic coated adjustable tubing ring hanger.

B. Insulated copper piping 1/2" O.D. thru 2-1/8" O.D. with longitudinal movement to be Grinnell Figure 171, MSS SP-69 TYPE 41, pipe roll complete with Figure 167, MSS SP-69 TYPE 40, galvanized steel insulation protection shield sized for maximum 10' span on 4 psi compressive strength insulation.

C. Support three or more parallel lines by trapeze hangers utilizing Unistrut channel or equal in bottom mounting arrangement with rod hanging support.

D. Adequately size hangers on insulated piping for insulation to pass continuously through hangers. Insulated piping to be supported outside insulation covering.

E. Provide concrete inserts, Grinnell Figure 282, MSS SP-69 TYPE 18, universal concrete insert, for attaching hangers to building structure. Inserts to be adequately sized and correctly positioned to support piping, valves, etc., when full of water and system is in operation.

F. Provide C-clamps with locknut, Grinnell Figure 86, MSS SP-69 TYPE 23, where piping is to be hung from steel beams. Welding hanger rods to steel members is not permitted. Provide malleable beam clamps, Grinnell Figure 218, MSS SP-69 TYPE 30, with extension piece, Grinnell Figure 157, where piping is hung from bar joist.

G. Attention is called to pipe spring isolation specified to be furnished by this Contractor.

H. Support all piping by heavy steel, adjustable hangers, or brackets suitably fastened to structural portion of building. Place hangers in accordance with following tables:

COPPER TUBING SUPPORTS	
SIZE (IN.)	DISTANCE BETWEEN SUPPORTS (FT.)
5/8	6
7/8 - 1-1/8	8
1-3/8 - 2-1/8	10
2-5/8 - 5-1/8	12
6-1/8 - 8-1/8	14

I. Perforated metal, strap iron, or band iron hangers are not permitted. Offsets in hangers are not allowed. Pipe risers to be supported at regular intervals in pipe shafts within the limits of good practice.

J. See Insulation Section for requirements at pipe hangers.

K. Support horizontal piping across roof in accordance with Specification Section 230549.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install piping not to interfere with opening of doors or other moving parts. Do not install piping near or directly over any portion of electrical equipment.

B. Provide chromium-plated escutcheon plates for exposed uninsulated pipes projecting through floors or walls in finished spaces. Mechanical rooms and janitor closets are not considered "finished" spaces.

C. Hang piping so equipment, flanges, and connections do not bear weight of piping.

D. Adequately support vertical lines at their bases or by a suitable hanger placed in horizontal line near riser or by a base fitting set on pedestal.

E. Run piping in straight lines; riser lines to be plumb with such offsets only as indicated or necessary. No sagging of lines permitted.

F. Unless otherwise shown on drawings, lines to be installed to drain to sumps or sewer.

G. Ream pipe after cutting to full bore. Remove foreign matter from inside of pipe before installing. Keep installed piping free from dirt and scale and protect open ends from foreign matter. Use temporary plugs or other approved methods of open end closure.

H. Threads to be right-hand, pipe standard, clean cut, full depth, and tapered. Joints to be made tight without caulking. Approved pipe joint lubricant to be used, applied in thin layer to the male thread only.

I. Install copper fittings with suitable flux and 95/5 solder. Type K copper pipe to be joined by means of suitable flux and silver or phos-copper.

J. Piping to have sufficient number of flanges or unions for convenient installation and removal of piping and equipment.

K. Remake or replace defective, leaking, or otherwise unsatisfactory joints or material. Peening, caulking, or doping of piping is not permitted.

L. Install piping to prevent stresses and strains to piping and hangers from expansion or contraction. Provision for proper loops, offsets, or expansion joints to be responsibility of Contractor. Make provision for servicing and removal of equipment without dismantling piping.

3.02 FIRE-RATED PARTITIONS

A. Provide permanent firestop system at all piping penetrations of fire-rated walls and floors. Review details on drawing as well as this specification for permissible firestop systems. The firestop system shall have been tested and approved in accordance with ASTM E119 and U.L. 1479 (ASTM E814) and classified for up to 2 hours fire rating. Firestop system shall be type detailed on drawings or intumescent type capable of expanding up to 8 times its original volume. Firestop system to be 3M, Hilti, Nelson, Johns Manville, or Specified Technologies. Firestop system shall be installed in strict accordance with published U.L. approved installation instructions. Piping to pass through the fire-rated partition insulated or non-insulated as specified and detailed. Submit U.L. approved installation drawing for each type of penetration prior to construction.

3.03 NON-RATED PARTITIONS

A. Piping to pass through the walls insulated or non-insulated as specified. Wall should be finished to fit neatly around the piping. Firestopping is not required at non-rated partitions.

3.04 PIPE SLEEVES

A. Pipe sleeves shall be provided at non-rated partitions and floor penetrations. Pipe sleeves to be Schedule 40 or 18 gage steel. Sleeves to extend 1-1/2" in excess of partition depth on each side. Sleeves penetrating floors in wet areas, including all mechanical rooms, shall extend a minimum of 1 inch above the floor.

1. Piping requiring sleeves:

a. Copper pipes thru masonry walls

3.05 PIPING IN TRANSFORMER, ELECTRICAL, AND ELEVATOR EQUIPMENT ROOMS

A. Refer to drawings. No water piping permitted in transformer, electrical, or elevator equipment rooms.

3.06 VALVE ACCESS

A. Locate all shutoff and control valves for easy access and operation. Where valves must necessarily be located in enclosed spaces, they shall be provided with access panels of sufficient size for operation. Furnish these access panels to proper trades for installation.

3.07 AIR VENTING

A. Provide manual air vents at high points of vertical risers and at each water coil to eliminate air from HVAC water systems.

3.08 WATER DRAINING

A. Provide 3/4" hose end gate valves at low points and bottom of each riser to drain HVAC water systems.

3.09 CONTROL SYSTEM CONNECTORS

A. Weld 1" steel half coupling Crane No. 386 or equal, or provide 1" female pipe thread connection at points shown on drawings and at necessary points for installation of thermometers and automatic controls.

END OF SECTION

LEGAL DESCRIPTION

BEING LOT 2A1, BLOCK 1, OUT OF THE SUBDIVISION PLAT ESTABLISHING OAKRUN COMMERCIAL RESERVE 2 OF RECORD IN VOLUME 14, PAGE 207 OF THE PLAT RECORDS OF COMAL COUNTY, TEXAS.

BENCHMARKS

BM1: SQUARE "X" ON CONCRETE CURB OF INLET ±103 L.F. SOUTH EAST FROM THE SOUTH WEST CORNER OF LOT 2A1 AT ELEVATION = 830.36' SET BY KFW SURVEYING.

BM2: SQUARE 'X' ON CONCRETE CURB ±36 L.F. SOUTH FROM THE SOUTH EAST CORNER OF LOT 2A1 AT ELEVATION = 842.12' SET BY KFW SURVEYING.

COORDINATION NOTE:

1. CONTACT TWC (TIME WARNER CABLE) TO COORDINATE CABLE TV SERVICE. (210)-244-0500 OR QWEST COMMUNICATIONS AT 1-877-744-4416.

2. CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH NBU FOR INSPECTION.

3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.

4. CONTRACTOR TO COORDINATE WITH NBU PRIOR TO CONSTRUCTION TO PLAN ELECTRIC SERVICE.

5. CONTRACTOR TO COORDINATE WITH NBU TO PLAN WATER AND SANITARY SEWER SERVICES.

6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

CAUTION!!: THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION.THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING.

3. ALL EARTHEN CHANNELS MUST NOT EXCEED 3:1 SIDE SLOPES (MAX).

4.BATCH DETENTION SIDE SLOPES TO BE VEGATED BY SEEDING OR SODDING.

5. VALVE TO BE EQUIPPED WITH MANUAL OPENING CAPABILITY.

6. VALVE TO BE IN CLOSED POSITION AT ALL TIMES BETWEEN STORM EVENTS.

7. LOGIC CONTROLLER TO OPEN VALVE 12 HOURS (BY SIGNALING ACTUATOR TO TURN VALVE INTO FULLY OPEN POSITION) AFTER FIRST RAINFALL READING BY WATER LEVEL SENSOR.

8. VEGETATION ON THE BASIN EMBANKMENTS SHOULD BE MOWED AS APPROPRIATE TO PREVENT ESTABLISHMENT OF WOODY VEGETATION.

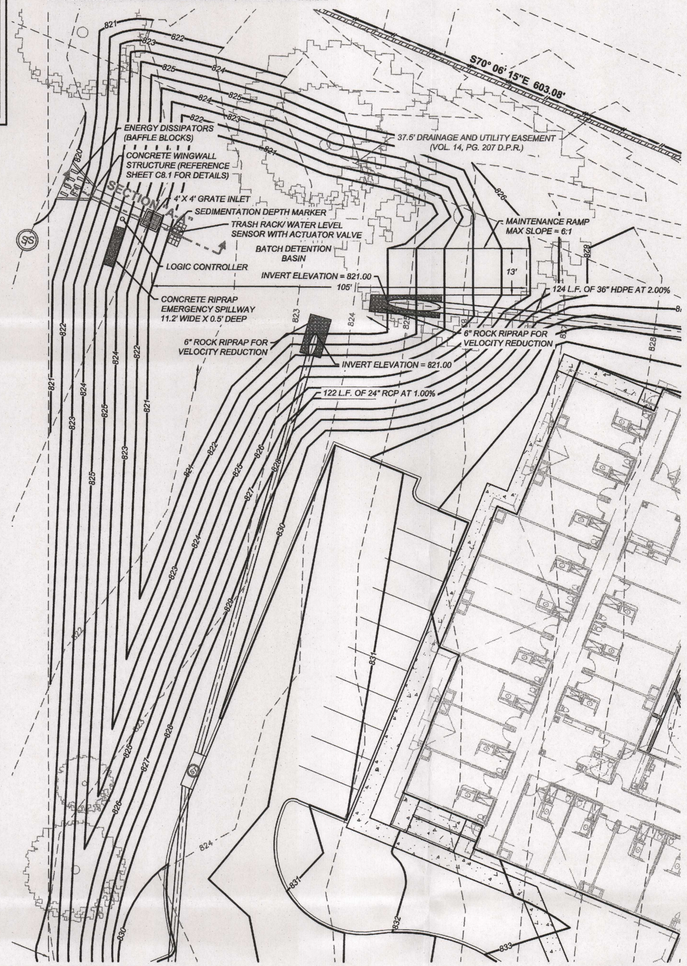
9. ALL CABLES TO BE PROTECTED BY CONDUIT AND BURIED TO PREVENT DAMAGE DURING MAINTENANCE ACTIVITIES.

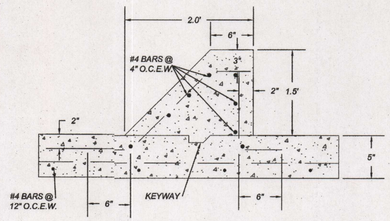
10. MANUAL CONTROLS OF THE CONTROLLER WILL BE USED TO KEEP VALVE CLOSED IN THE EVENT OF A HAZARDOUS MATERIAL SPILL IN THE BASIN. ALL COMPONENTS OF THE SYSTEM MUST BE INSPECTED WITHIN 7 DAYS FOR PROPER OPERATION.

11. FIXED VERTICAL SEDIMENT DEPTH MARKER TO BE INSTALLED TO INDICATE WHEN SEDIMENT ACCUMULATION REACHES A REQUIRED REMOVAL DEPTH OF 6 INCHES.

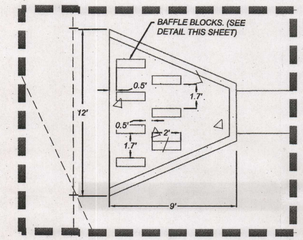
12. 12 INCHES OF CLAY TO BE USED AS IMPERMEABLE LINER FOR BATCH DETENTION BASIN. CLAY SHOULD BE STABILIZED WITH APPROPRIATE VEGETATION AND MEET SPECIFICATIONS FROM TABLE 3.6 OF THE EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL (SHOWN ON THIS PAGE).

13. REFERENCE SHEET M5.04,SHEET E6.01 FOR MORE INFORMATION ON THE LOGIC CONTROLLER SYSTEM.

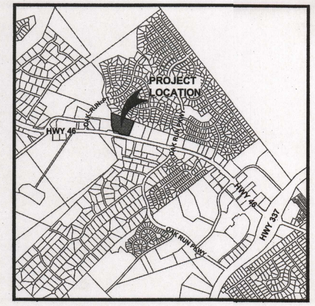


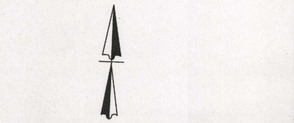


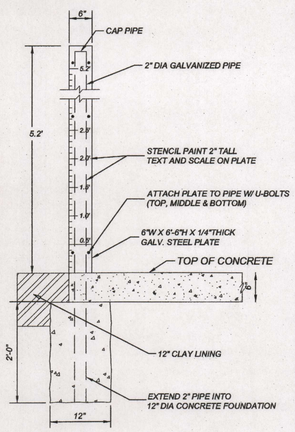
BAFFLE BLOCK CROSS SECTION
NOT-TO-SCALE



BAFFLE BLOCK DETAIL
NOT-TO-SCALE







SEDIMENT DEPTH MARKER
NOT TO SCALE

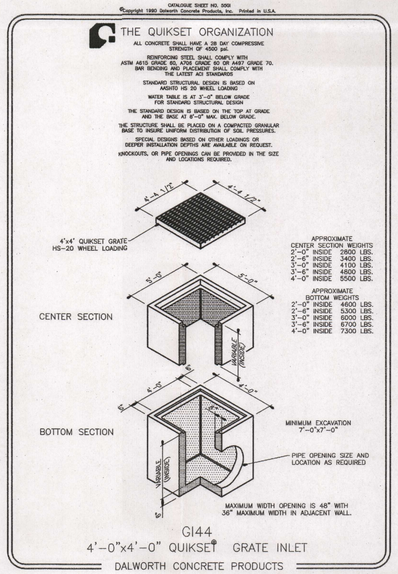
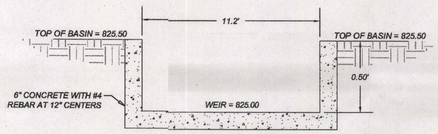
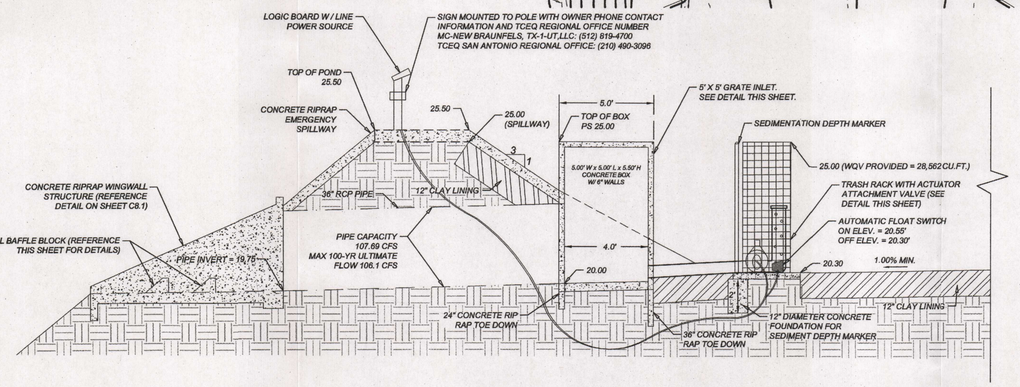


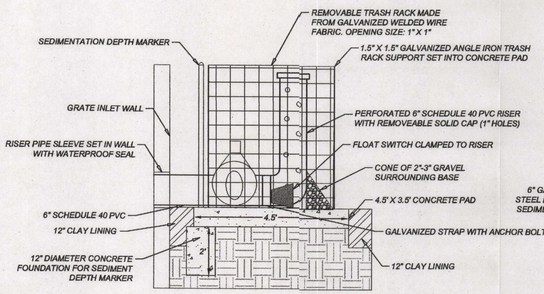
TABLE 3.6 (CLAY LINER SPECIFICATIONS)			
Property	Test Method	Unit	Specification
Permeability	ASTM D-2434	cm/sec	1 x 10-6
Plasticity Index of Clay	ASTM D-423 & D-424	%	Not less than 15
Liquid Limit of Clay	ASTM D-2216	%	Not less than 30
Clay Particles Passing	ASTM D-422	%	Not less than 30
Clay Compaction	ASTM D-2216	%	95% of Standard Proctor Density



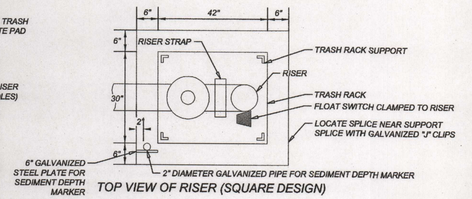
EMERGENCY OVERFLOW WEIR
NOT-TO-SCALE



CROSS SECTION "A-A"
NOT-TO-SCALE



SIDE VIEW OF RISER
NOT-TO-SCALE



TOP VIEW OF RISER (SQUARE DESIGN)

RISER PIPE DETAIL
NOT-TO-SCALE

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING CONCRETE
- EXISTING CURB
- PROPOSED SIDEWALK
- PROPOSED CURB
- PROPOSED RIBBON CURB
- EXISTING SANITARY SEWER MANHOLE
- EXISTING FENCE
- EXISTING SPOT ELEVATION +830.00
- FLOW ARROW
- PROPOSED CONTOURS 830
- PROPOSED DRAINAGE SWALE
- PROPOSED HIGH POINT HIGH POINT
- EXISTING CONTOURS 830
- EXISTING TREE, REFERENCE LANDSCAPE PLANS FOR TREE PRESERVATION AND TREE REMOVAL

KFW ENGINEERS & SURVEYING
FIRM# 9513
14603 HUEBNER ROAD, BUILDING 40
SAN ANTONIO, TEXAS 78230
PHONE (210) 979-8444
FAX (210) 979-8441

NO.	REVISION / ISSUE	DATE

STATE OF TEXAS
BENJAMIN D. BUNKER
108512
LICENSED
PROFESSIONAL ENGINEER
1/26/2015

OAK RUN COMMERCIAL RESERVE 2
2022 STATE HWY 46 W., NEW BRAUNFELS, TEXAS
BATCH DETENTION POND PLAN/DETAILS

JOB NO. 358-01-01
DATE: OCTOBER 2014
DRAWN: AB CHECKED: BB

SHEET NUMBER:

C6.2

Date: Jan. 26, 2015, 11:32am User ID: jspencer
File: P:\358\01\01\Design\Civil\C6.2 (BATCH DETENTION POND 3580101).dwg

Branch Panel: LNA1

Location: COMM A-124 **Supply From:** LDP **Mounting:** SURFACE **Enclosure:** Type 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10 KAIC **Mains Type:** MLO **Mains Rating:** 200 A

Notes:

CKT	Schedule Circuit Notes	Demand Code	TRIP	P	A		B		C		P	TRIP	Demand Code	Schedule Circuit Notes	CKT
1	REC -A133 WATER	Recept...	20 A	1	180	696					1	20 A	Lighting	LTS - RM 14,15,16	2
3	REC- COURTYARD A	Recept...	20 A	1			360	849			1	20 A	Lighting	LTS - RM 27,28,29	4
5	LTS -A131,130,27	Lightin...	20 A	1					332	928	1	20 A	Lighting	LTS - RM 17,18,19,20	6
7	LTS - RM 1,2,3,4	Lighting	20 A	1	1004	900					1	20 A	Recept...	REC - CORR A-163, A-164	8
9	REC - RM 22	Recept...	20 A	1			900	900			1	20 A	Recept...	REC - RM 2	10
11	LTS	Lighting	20 A	1					1056	416	1	20 A	Lighting	LTS - CORR A-126,164	12
13	LTS - CORR A141,163	Lighting	20 A	1	260	180					1	20 A	Recept...	REC - A153 - MICRO	14
15	LTS - A149-56,61,62	Lightin...	20 A	1			1144	1457			1	20 A	Lightin...	LTS - A132-A140	16
17	REC - A-133 UC REF	Recept...	20 A	1					180	2500	2	40 A	Recept...	REC - A-138 DRYER	18
19	WASHER	Recept...	30 A	2	718	2500					--	--	--	--	20
21	--	--	--	--			718	180			1	20 A	Recept...	REC - A153 - COFFEE	22
23	REC - A153 - REF	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - COURTYARD A	24
25	REC - A-132 REF	Recept...	20 A	1	180	180					1	20 A	Recept...	REC - A-132 MICRO	26
27	REC - A-138 - WASHER	Recept...	20 A	1			180	180			1	20 A	Recept...	REC - A-132 COFFEE	28
29	REC - A-128	Recept...	20 A	1					360	540	1	20 A	Recept...	REC - A133	30
31	REC - NURSE STATION	Recept...	20 A	1	360	540					1	20 A	Recept...	REC - A-138	32
33	REC - A-140, A-139	Recept...	20 A	1			360	540			1	20 A	Recept...	REC - A-136, A-135	34
35	LTS - RM 5,6,7	Lighting	20 A	1					696	720	1	20 A	Recept...	REC - A-132	36
37	LTS - RM 21,22,23	Lighting	20 A	1	696	720					1	20 A	Recept...	REC - A161	38
39	LTS - RM 24,25,26	Lighting	20 A	1			696	720			1	20 A	Recept...	REC - A160, A151, A152	40
41	REC - A134	Recept...	20 A	1					720	900	1	20 A	Recept...	REC - RM A131, A130, A129	42
43	REC - A127	Recept...	20 A	1	720	900					1	20 A	Recept...	REC - A141, A-163	44
45	REC - A153	Recept...	20 A	1			720	900			1	20 A	Recept...	REC - CORR A-126,A-164	46
47	REC - A137	Recept...	20 A	1					900	900	1	20 A	Recept...	REC - RM 5	48
49	REC - SITE	Recept...	20 A	1	900	900					1	20 A	Recept...	REC - RM 19	50
51	REC - A-162	Recept...	20 A	1			900	900			1	20 A	Recept...	REC - RM 18	52
53	REC - RM 14	Recept...	20 A	1					900	900	1	20 A	Recept...	REC - RM 6	54
55	REC - RM 26	Recept...	20 A	1	900	900					1	20 A	Recept...	REC - RM 17	56
57	REC - RM 7	Recept...	20 A	1			900	900			1	20 A	Recept...	REC - RM 25	58
59	REC - RM 24	Recept...	20 A	1					900	900	1	20 A	Recept...	REC - RM 27	60
61	REC - RM 28	Recept...	20 A	1	900	900					1	20 A	Recept...	REC - RM 4	62
63	REC - RM 29	Recept...	20 A	1			900	900			1	20 A	Recept...	REC - RM 23	64
65	REC - RM 20	Recept...	20 A	1					900	900	1	20 A	Recept...	REC - RM 16	66
67	REC - RM 3	Recept...	20 A	1	900	900					1	20 A	Recept...	REC - RM 21	68
69	REC - RM 15	Recept...	20 A	1			900	900			1	20 A	Recept...	REC - RM 1	70
71	EF-10	Equip...	20 A	1					0	1080	1	20 A	Recept...	REC - RM 10/11	72
73	HEATPUMP - RM 8/9	Heating	20 A	2	1700	1080					1	20 A	Recept...	REC - RM 8/9	74
75	--	--	--	--			1700	1080			1	20 A	Recept...	REC - RM 12/13	76
77	HEATPUMP - RM 10/11	Heating	20 A	2					1700	0	1	20 A	--	SPARE	78
79	--	--	--	--	1700	0					1	20 A	--	SPARE	80
81	HEATPUMP - RM 12/13	Heating	20 A	2			1700	0			1	20 A	--	SPARE	82
83	--	--	--	--					1700	0	1	20 A	--	SPARE	84
				Total Load:	22414 VA		22484 VA		21388 VA						
				Total Amps:	188 A		189 A		178 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	9548 VA	100.00%	9548 VA		
Heating	10200 VA	100.00%	10200 VA	**Total Conn. Load:**	66297 VA
Receptacle- Hospital	45855 VA	60.90%	27928 VA	**Total Est. Demand:**	47953 VA
Equipment - Hospital	0 VA	0.00%	0 VA	**Total Conn. Current:**	184 A
				Total Est. Demand Current:	133 A

Notes:
SINGLE ENCLOSURE TUB. PANEL ENCLOSURE SHALL NOT EXCEED 20" IN WIDTH.

Branch Panel: LNA2

Location: COMM A-124 **Supply From:** LDP **Mounting:** SURFACE **Enclosure:** Type 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10 KAIC **Mains Type:** MLO **Mains Rating:** 125 A

Notes:

CKT	Schedule Circuit Notes	Demand Code	TRIP	P	A		B		C		P	TRIP	Demand Code	Schedule Circuit Notes	CKT
1	LTS - CORR A141,163	Lighting	20 A	1	300	360					1	20 A	Lighting	LTS CORR	2
3	WATERFALL**	HVAC	20 A	1			300	360			1	20 A	Recept...	REC - A-114	4
5	LTS CORR	Lighting	20 A	1					330	364	1	20 A	Lighting	LTS - CORR B102,113	6
7	LTS CORR	Lighting	20 A	1	390	540					1	20 A	Recept...	REC - A-121	8
9	LTS - B101	Lighting	20 A	1			306	1374			1	20 A	Lightin...	LTS - A102-5	10
11	LTS - CORR 105,112	Lighting	20 A	1					416	611	1	20 A	Lighting	LTS - CANOPY	12
13	LTS - A-125	Lightin...	20 A	1	754	780					1	20 A	Lightin...	LTS - B-104, A-115	14
15	LTS - CORR A-116	Lightin...	20 A	1			1000	1080			1	20 A	Lighting	LTS - WEST COURTYARD	16
17	LTS - A121,22,04-07	Lightin...	20 A	1					1063	2764	1	20 A	Lightin...	LTS - A118	18
19	LTS - NORTH COURT YARD	Lighting	20 A	1	979	1000					2	20 A	Motor -...	AC-6	20
21	CU-6	Equip...	30 A	2			0	1000			--	--	--	--	22
23	--	--	--	--					0	0	1	20 A	HVAC	EXHAUST FAN	24
25	EF-20	Equip...	20 A	1	0	180					1	20 A	Recept...	REC - WATER COOLER	26
27	EXHAUST FAN	HVAC	20 A	1			0	180			1	20 A	Recept...	REC - A-122	28
29	REC - A-113 ICE	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - A-113 REF	30
31	REC - A-113 COFFEE	Recept...	20 A	1	180	360					1	20 A	Recept...	REC - A-113	32
33	REC - A-113 MIRCO	Recept...	20 A	1			180	360			1	20 A	Recept...	REC - A-104	34
35	REC - A-122	Recept...	20 A	1					360	360	1	20 A	Recept...	REC - RM 26	36
37	REC - A-122	Recept...	20 A	1	360	540					1	20 A	Recept...	REC - A-105	38
39	REC - RM 29	Recept...	20 A	1			360	540			1	20 A	Recept...		40
41	REC - A-101, SITE	Recept...	20 A	1					540	540	1	20 A	Recept...	REC - WASHING,DRYING,STOR	42
43	REC - A122	Recept...	20 A	1	540	720					1	20 A	Recept...	REC - RM 5,6	44
45	REC - A104, A105	Recept...	20 A	1			540	720			1	20 A	Recept...	REC - RM 7,8/9	46
47	REC - RM 10/11,12/13	Recept...	20 A	1					720	720	1	20 A	Recept...	REC - RM 3,4	48
49	REC - A-109	Recept...	20 A	1	720	720					1	20 A	Recept...	REC - RM 24,25	50
51	REC - RM 1,2	Recept...	20 A	1			720	720			1	20 A	Recept...	REC - RM 22,23	52
53	REC - RM 14,15	Recept...	20 A	1					720	720	1	20 A	Recept...	REC - RM 16,17	54
55	REC - A-107	Recept...	20 A	1	720	720					1	20 A	Recept...	REC - RM 27,28	56
57	REC - RM 20,21	Recept...	20 A	1			720	720			1	20 A	Recept...	REC - RM 18,19	58
59	REC - A-106	Recept...	20 A	1					720	900	1	20 A	Recept...	REC - A-120	60
61	REC - A-123	Recept...	20 A	1	900	964					1	20 A	Lightin...	LTS - A108-13	62
63	REC - A-108,10,11	Recept...	20 A	1			900	900			1	20 A	Recept...	REC - CORR A-116,5	64
65	REC - A-121	Recept...	20 A	1					900	1080	1	20 A	Recept...	REC - A-125	66
67	REC - A-103	Recept...	20 A	1	1080	1080					1	20 A	Lighting	LTS EAST COURTYARD	68
69	REC - A-102	Recept...	20 A	1			1080	1080			1	20 A	Recept...	REC - A-113	70
71	REC - A117,8	Recept...	20 A	1					1080	0	1	0 A	--	SPARE	72
73	SPARE	--	0 A	1	0	0					1	0 A	--	SPARE	74
75	SPARE	--	0 A	1			0	0			1	0 A	--	SPARE	76
77	SPARE	--	0 A	1					0	0	1	0 A	--	SPARE	78
79	SPARE	--	0 A	1	0	0					1	0 A	--	SPARE	80
81	SPARE	--	0 A	1			0	0			1	0 A	--	SPARE	82
83	SPARE	--	0 A	1					0	0	1	0 A	--	SPARE	84
				Total Load:	14887 VA		15140 VA		15268 VA						
				Total Amps:	124 A		126 A		128 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	300 VA	80.00%	240 VA		
Lighting	13632 VA	100.00%	13632 VA	**Total Conn. Load:**	45356 VA
Motor - Hospital	2000 VA	85.00%	1700 VA	**Total Est. Demand:**	35150 VA
Receptacle- Hospital	28080 VA	67.81%	19040 VA	**Total Conn. Current:**	126 A
Equipment - Hospital	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	98 A

Notes:
SINGLE ENCLOSURE TUB. PANEL ENCLOSURE SHALL NOT EXCEED 20" IN WIDTH.
**PROVIDE GFI TYPE BREAKER FOR WATERFALL CIRCUIT

Branch Panel: LCRA1

Location: COMM A-124 **Supply From:** CRDP **Mounting:** SURFACE **Enclosure:** Type 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10 KAIC **Mains Type:** MLO **Mains Rating:** 100 A

Notes:

CKT	Schedule Circuit Notes	Demand Code	TRIP	P	A		B		C		P	TRIP	Demand Code	Schedule Circuit Notes	CKT
1	BLOWER COIL	HVAC	20 A	1	180	360					1	20 A	Recept...	REC - A-114	2
3	LTS - REF/FREEZER	Lighting	20 A	1			180	246			1	20 A	Lighting	LTS - RM 8/9,10/11,12/13	4
5	FIRE SMOKE DAMPER	Motor -...	20 A	1					150	162	1	20 A	Lightin...	LTS - A119,114,142	6
7	REC - A-159,8,7	Recept...	20 A	1	540	473					1	20 A	Lighting	LTS - RM 27,28,29	8
9	LTS - RM 14,15,16	Lighting	20 A	1			325	1560			1	20 A	Lighting	LTS - A145,A148	10
11	LTS - A119,A124	Lighting	20 A	1					122	180	1	20 A	Recept...	REC - RM 5	12
13	LTS - RM 17,18,19,20	Lighting	20 A	1	328	417					1	20 A	Lighting	LTS - RM 1,2,3,4	14
15	VRF - ADMIN	HVAC	20 A	2			750	180			1	20 A	Recept...	REC - A-128	16
17	--	--	--	--					750	750	2	20 A	HVAC	VRF DINNING	18
19	REC - A-128	Recept...	20 A	1	180	750					--	--	--	--	20
21	REC - RM 8/9	Recept...	20 A	1			180	180			1	20 A	Recept...	REC - RM 10/11	22
23	REC - RM 23	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - RM 7	24
25	REC - RM 6	Recept...	20 A	1	180	180					1	20 A	Recept...	REC - A124	26
27	REC - RM 14	Recept...	20 A	1			180	180			1	20 A	Recept...	REC - RM 29	28
29	REC - RM 12/13	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - RM 4	30
31	REC - RM 15	Recept...	20 A	1	180	180					1	20 A	Recept...	REC - RM 28	32
33	REC - RM 17	Recept...	20 A	1			180	180			1	20 A	Recept...	REC - RM 20	34
35	REC - RM 27	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - RM 19	36
37	REC - RM 18	Recept...	20 A	1	180	180					1	20 A	Recept...	REC - RM 21	38
39	REC - RM 16	Recept...	20 A	1			180	180			1	20 A	Recept...	REC - RM 26	40
41	REC - RM 22	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - RM 25	42
43	REC - RM 24	Recept...	20 A	1	180	180					1	20 A	Recept...	REC - RM 1	44
45	REC - RM 3	Recept...	20 A	1			180	484			1	20 A	Lighting	LTS - RM 21,22,23	46
47	REC - RM 2	Recept...	20 A	1					180	514	1	20 A	Lighting	LTS - RM 5,6,7	48
49	LTS - REF/FREEZER	HVAC	20 A	1	180	484					1	20 A	Lighting	LTS - RM 24,25,26	50
51	REC - A-124 DATA RACK	Recept...	20 A	1			360	150			1	20 A	Motor -...	FIRE SMOKE DAMPERS	52
53	REC - A-124 DATA RACK	Recept...	20 A	1					360	0	1	20 A	--	SPARE	54
55	REC - A-124 DATA RACK	Recept...	30 A	2	90	0					1	20 A	--	SPARE	56
57	--	--	--	--			90	0			1	20 A	--	SPARE	58
59	FSDs	Motor -...	20 A	1					600	0	1	20 A	--	SPARE	60
				Total Load:	5422 VA		5945 VA		5208 VA						
				Total Amps:	45 A		50 A		43 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	3360 VA	80.00%	2688 VA	**Total Conn. Load:**	16610 VA
Lighting	5296 VA	100.00%	5296 VA	**Total Est. Demand:**	15783 VA
Motor - Hospital	900 VA	85.00%	765 VA	**Total Conn. Current:**	46 A
Receptacle- Hospital	7020 VA	100.00%	7020 VA	**Total Est. Demand Current:**	44 A

Notes:
SINGLE ENCLOSURE TUB. PANEL ENCLOSURE SHALL NOT EXCEED 20" IN WIDTH.

Branch Panel: LNB1

Location: ELEC B-103 **Supply From:** LDP **Mounting:** SURFACE **Enclosure:** Type 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10 KAIC **Mains Type:** MLO **Mains Rating:** 200 A

Notes:

CKT	Schedule Circuit Notes	Demand Code	TRIP	P	A		B		C		P	TRIP	Demand Code	Schedule Circuit Notes	CKT
1	REC - B-108	Recept...	20 A	1	360	640					1	20 A	Lighting	LTS - RM 27,28,29	2
3	EXHAUST FAN	HVAC	20 A	1			500	640			1	20 A	Lighting	LTS - RM 24/25,26	4
5	EXHAUST FAN	HVAC	20 A	1					500	696	1	20 A	Lighting	LTS - RM 30,31,32	6
7	REC - RM 5	Recept...	20 A	1	900	900					1	20 A	Recept...	REC - RM 23	8
9	LTS - RM 21,22,23	Lighting	20 A	1			696	928			1	20 A	Lighting	LTS - RM 17,18,19,20	10
11	LTS - RM 1,2,3,4	Lighting	20 A	1					928	944	1	20 A	Lighting	LTS - RM 8/9,10/11,12/13	12
13	LTS - B-106,109,111	Lightin...	20 A	1	809	1480					1	20 A	Lightin...	LTS - B-114-22	14
15	REC - B-120 DRYER	Recept...	40 A	2			2500	180			1	20 A	Recept...	REC - ELEC B-103	16
17	--	--	--	--					2500	180	1	20 A	Recept...	REC - B-114 COFFEE	18
19	REC - B-120 WASHER	Recept...	20 A	1	180	180					1	20 A	Recept...	REC - WEST COURT YARD	20
21	REC - B-115 WATER	Recept...	20 A	1			180	180			1	20 A	Recept...	REC - B-106	22
23	REC - B-114 REF	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - B-115 UC REF	24
25	REC - B-114 MIRCO	Recept...	20 A	1	180	360					1	20 A	Recept...	REC - B122,1	26
27	REC - NORTH COURT YARD	Recept...	20 A	1			360	540			1	20 A	Recept...	REC - B-115	28
29	REC - WEST COURT YARD	Recept...	20 A	1					360	540	1	20 A	Recept...	REC - B120	30
31	REC - B-117,8	Recept...	20 A	1	540	696					1	20 A	Lighting	LTS - RM 14,15,16	32
33	LTS - RM 5,6,7	Lighting	20 A	1			696	720			1	20 A	Recept...	REC - B-106	34
35	LTS - RM 33,34,35	Lighting	20 A	1					696	720	1	20 A	Recept...	REC - B-114	36
37	REC - B116	Recept...	20 A	1	720	900					1	20 A	Recept...	REC - B-111,10,9	38
39	REC - RM 22	Recept...	20 A	1			900	900			1	20 A	Recept...	REC - RM 7	40
41	REC - RM 19	Recept...	20 A	1					900	900	1	20 A	Recept...	REC - RM 31	42
43	REC - RM 14	Recept...	20 A	1	900	900					1	20 A	Recept...	REC - RM 16	44
45	REC - RM 15	Recept...	20 A	1			900	900			1	20 A	Recept...	REC - RM 32	46
47	REC - RM 20	Recept...	20 A	1					900	900	1	20 A	Recept...	REC - RM 17	48
49	REC - B119	Recept...	20 A	1	900	900					1	20 A	Recept...	REC - RM 3	50
51	REC - RM 2	Recept...	20 A	1			900	900			1	20 A	Recept...	REC - RM 18	52
53	REC - RM 1	Recept...	20 A	1					900	900	1	20 A	Recept...	REC - CORR B-102,113	54
55	REC - CORR B105,112	Recept...	20 A	1	900	1080					1	20 A	Recept...	REC - COOR B-112,113	56
57	REC - RM 34	Recept...	20 A	1			900	900			1	20 A	Recept...	REC - RM 33	58
59	REC - RM 35	Recept...	20 A	1					900	900	1	20 A	Recept...	REC - RM 6	60
61	REC - RM 8/9	Recept...	20 A	1	1080	900					1	20 A	Recept...	REC - RM 21	62
63	REC - RM 29	Recept...	20 A	1			900	900			1	20 A	Recept...	REC - RM 28	64
65	REC - RM 4	Recept...	20 A	1					900	900	1	20 A	Recept...	REC - RM 26	66
67	REC - RM 12/13	Recept...	20 A	1	1080	900					1	20 A	Recept...	REC - RM 27	68
69	REC - RM 10/11	Recept...	20 A	1			1080	1080			1	20 A	Recept...	REC - B-104	70
71	REC - RM 24/24	Recept...	20 A	1					900	1080	1	20 A	Recept...	REC - B-101	72
73	HEATPUMP RM 12/13	Heating	20 A	2	1700	900					1	20 A	Recept...	REC - RM 30	74
75	--	--	--	--			1700	1700			2	20 A	Heating	HEATPUMP RM 10/11	76
77	HEATPUMP RM 8/9	Heating	20 A	2					1700	1700	--	--	--	--	78
79	--	--	--	--	1700	3600					3	60 A	Recept...	PANEL LNB2	80
81	HEATPUMP RM 24/25	Heating	20 A	2			1250	3600			--	--	--	--	82
83	--	--	--	--					1250	3960	--	--	--	--	84
				Total Load:	26285 VA		27530 VA		28014 VA						
				Total Amps:	219 A		231 A		235 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	1000 VA	80.00%	800 VA	**Total Conn. Load:**	81838 VA
Lighting	9688 VA	100.00%	9688 VA	**Total Est. Demand:**	57396 VA
Heating	12700 VA	100.00%	12700 VA	**Total Conn. Current:**	227 A
Receptacle- Hospital	58280 VA	58.58%	34140 VA	**Total Est. Demand Current:**	159 A

Notes:
SINGLE ENCLOSURE TUB. PANEL ENCLOSURE SHALL NOT EXCEED 20" IN WIDTH.

Branch Panel: LCRB1

Location: ELEC B-103 **Supply From:** CRDP **Mounting:** SURFACE **Enclosure:** Type 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10 KAIC **Mains Type:** MLO **Mains Rating:** 100 A

Notes:

CKT	Schedule Circuit Notes	Demand Code	TRIP	P	A		B		C		P	TRIP	Demand Code	Schedule Circuit Notes	CKT
1	LTS - RM 24/25,26	Lighting	20 A	1	164	246					1	20 A	Lighting	LTS - RM 27,28,29	2
3	LTS - RM 17,18,19,20	Lighting	20 A	1			328	645			1	20 A	Lighting	LTS - RM 1,2,3,4	4
5	LTS - RM 8/9,10/11,12/13	Lighting	20 A	1					484	122	1	20 A	Lighting	LTS - DINNING A118	6
7	LTS - RM 30,31,32	Lighting	20 A	1	246	246					1	20 A	Lighting	LTS - RM 5,6,7	8
9	REC - RM 29	Recept...	20 A	1			180	180			1	20 A	Recept...	REC - RM 4	10
11	REC - RM 1	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - RM 2	12
13	REC - RM 3	Recept...	20 A	1	180	180					1	20 A	Recept...	REC - B-108	14
15	REC - RM 5	Recept...	20 A	1			180	180			1	20 A	Recept...	REC - RM 8/9	16
17	REC - B-108	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - RM 7	18
19	REC - RM 6	Recept...	20 A	1	180	180					1	20 A	Recept...	REC - RM 10/11	20
21	REC - RM 14	Recept...	20 A	1			180	180			1	20 A	Recept...	REC - RM 17	22
23	REC - RM 12/13	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - RM 16	24
25	REC - RM 15	Recept...	20 A	1	180	180					1	20 A	Recept...	REC - RM 18	26
27	REC - RM 34	Recept...	20 A	1			180	180			1	20 A	Recept...	REC - RM 31	28
29	REC - RM 33	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - RM 32	30
31	REC - RM 35	Recept...	20 A	1	180	180					1	20 A	Recept...	REC - RM 30	32
33	REC - RM 28	Recept...	20 A	1			180	180			1	20 A	Recept...	REC - RM 24/25	34
35	REC - RM 19	Recept...	20 A	1					180	180	1	20 A	Recept...	REC - RM 26	36
37	REC - RM 27	Recept...	20 A	1	180	180					1	20 A	Recept...	REC - RM 23	38
39	REC - RM 21	Recept...	20 A	1			180	246			1	20 A	Lighting	LTS - RM 33,34,35	40
41	REC - RM 22	Recept...	20 A	1					180	246	1	20 A	Lighting	LTS - RM 14,15,16	42
43	REC - RM 20	Recept...	20 A	1	180	246					1	20 A	Lighting	LTS - RM 21,22,23	44
45	REC - B-103 DATA RACK	Recept...	20 A	1			720	300			1	20 A	Motor -...	FIRE SMOKE DAMPERS	46
47	REC - B-103 DATA RACK	Recept...	20 A	1					720	180	1	20 A	Equip...	DDC CONTROLLER	48
49	REC - B-103 DATA RACK	Recept...	30 A	2	90	0					1	20 A	--	SPARE	50
51	--	--	--	--			90	0			1	20 A	--	SPARE	52
53	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	54
55	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	56
57	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	58
59	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	60
				Total Load:	3218 VA		4309 VA		3732 VA						
				Total Amps:	27 A		37 A		32 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	3255 VA	100.00%	3255 VA	**Total Conn. Load:**	11295 VA
Motor - Hospital	300 VA	85.00%	255 VA	**Total Est. Demand:**	11223 VA
Receptacle- Hospital	7560 VA	100.00%	7560 VA	**Total Conn. Current:**	31 A
Equipment - Hospital	180 VA	85.00%	153 VA	**Total Est. Demand Current:**	31 A

Notes:
SINGLE ENCLOSURE TUB. PANEL ENCLOSURE SHALL NOT EXCEED 20" IN WIDTH.

Branch Panel: LNB2

Location: ELEC B-103 **Supply From:** LNB1 **Mounting:** SURFACE **Enclosure:** Type 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10 KAIC **Mains Type:** MLO **Mains Rating:** 100 A

Notes:

CKT	Schedule Circuit Notes	Demand Code	TRIP	P	A		B		C		P	TRIP	Demand Code	Schedule Circuit Notes	CKT
1	REC - RM 33	Recept...	20 A	1	360	720					1	20 A	Recept...	REC - RM 28,29	2
3	REC - RM 24/25	Recept...	20 A	1			360	720			1	20 A	Recept...	REC - RM 20,21	4
5	REC - RM 34,35	Recept...	20 A	1					720	720	1	20 A	Recept...	REC - RM 15,16	6
7	REC - RM 18,19	Recept...	20 A	1	720	360					1	20 A	Recept...	REC - RM 17	8
9	REC - RM 22,23	Recept...	20 A	1			720	360			1	20 A	Recept...	REC - RM 30	10
11	REC - RM 12/13,14	Recept...	20 A	1					720	360	1	20 A	Recept...	REC - RM 5	12
13	REC - RM 1,2	Recept...	20 A	1	720	720					1	20 A	Recept...	REC - RM 8/9,10/11	14
15	REC - RM 26,27	Recept...	20 A	1			720	720			1	20 A	Recept...	REC - RM 6,7	16
17	REC - RM 3,4	Recept...	20 A	1					720	720	1	20 A	Recept...	REC - RM 31,32	18
19	SPARE	--	0 A	1	0	0					1	0 A	--	SPARE	20
21	SPARE	--	0 A	1			0	0			1	0 A	--	SPARE	22
23	SPARE	--	0 A	1					0	0	1	0 A	--	SPARE	24
25	SPARE	--	0 A	1	0	0					1	0 A	--	SPARE	26
27	SPARE	--	0 A	1			0	0			1	0 A	--	SPARE	28
29	SPARE	--	0 A	1					0	0	1	0 A	--	SPARE	30
				Total Load:	3600 VA		3600 VA		3960 VA						
				Total Amps:	30 A		30 A		33 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle- Hospital	11160 VA	94.80%	10580 VA	**Total Conn. Load:**	11160 VA
				Total Est. Demand:	10580 VA
				Total Conn. Current:	31 A
				Total Est. Demand Current:	29 A

Notes:

Branch Panel: LLSA1

Location: COMM A-124 **Supply From:** ATS LS **Mounting:** SURFACE **Enclosure:** Type 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10 KAIC **Mains Type:** MLO **Mains Rating:** 150 A

Notes:

CKT	Schedule Circuit Notes	Demand Code	TRIP	P	A		B		C		P	TRIP	Demand Code	Schedule Circuit Notes	CKT
1	LTS - CORR A141,163	Lightin...	20 A	1	210	438					1	20 A	Lighting	LTS - CORR A116, A123, A115	2
3	LTS - EAST COURTYARD	Lighting	20 A	1			212	44			1	20 A	Lightin...	LTS - CORR A-126,164	4
5	LTS - A102,02,10,12	Lightin...	20 A	1					929	390	1	20 A	Lighting	LTS - CORR	6
7	LTS - EXTERIOR NORTH	Lighting	20 A	1	250	332					1	20 A	Lightin...	LTS - CANOPY	8
9	LTS - CORR 102,113	Lighting	20 A	1			2	430			1	20 A	Lightin...	LTS - CORR 105,112	10
11	LIGHTING CONTROLLER	Other	20 A	1					200	100	1	20 A	General	DOOR HARDWARE	12
13	DOOR HARDWARE	General	20 A	1	150	100					1	20 A	General	DOOR HARDWARE	14
15															16
17										1200	3	60 A	Equip...	GENERATOR ACCESSORY PANEL	18
19	FACP	General	20 A	1	500	1180					--	--	--	--	20
21	LTS - CORR B-113, B-102	Lighting	20 A	1			330	1180			--	--	--	--	22
23	LTS - NORTH COURTYARD	Lighting	20 A	1					458	500	1	20 A	General	FA EXTENDER PANEL	24
25	LTS - WEST COURTYARD	Lighting	20 A	1	212	305					1	20 A	Lighting	LTS - A157,8,9	26
27	LTS - CORR A141,163	Lighting	20 A	1			300	672			1	20 A	Lightin...	LTS - SITE BOLLARDS	28
29										0	1	20 A	--	SPARE	30
31		Lightin...	20 A	1	1602	0					1	0 A	--	SPARE	32
33	SPARE	--	0 A	1			0	0			1	0 A	--	SPARE	34
35	SPARE	--	0 A	1					0	0	1	0 A	--	SPARE	36
37	SPARE	--	0 A	1	0	0					1	0 A	--	SPARE	38
39	SPARE	--	0 A	1			0	0			1	0 A	--	SPARE	40
41	SPARE	--	0 A	1					0	0	1	0 A	--	SPARE	42
				Total Load:	5279 VA		3170 VA		3777 VA						
				Total Amps:	45 A		26 A		32 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	6089 VA	100.00%	6089 VA		
Other	200 VA	100.00%	200 VA	**Total Conn. Load:**	12239 VA
Motor - Hospital	0 VA	0.00%	0 VA	**Total Est. Demand:**	10879 VA
General	1350 VA	85.00%	1148 VA	**Total Conn. Current:**	34 A
Equipment - Hospital	3560 VA	85.00%	3026 VA	**Total Est. Demand Current:**	30 A

Notes:

GOULD TURNER GROUP, P.C.
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MEMORY CARE OF NEW BRAUNFELS
2022 STATE HWY 46 W
NEW BRAUNFELS, TEXAS 78132
GTC# 34006

I.C. Thomasson Associates, Inc.
CONSULTING ENGINEERS
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TN. 37204
PHONE (615) 346-3400
FAX (615) 346-3550
www.icthomasson.com
ICT Project No. 140151

REVISIONS:
1 AMENDMENT #1 09/22/2014
2 Revision 2 01/22/2015

DATE: 10/24/2014

DRAWN BY: Author

PANEL SCHEDULES
E6.01

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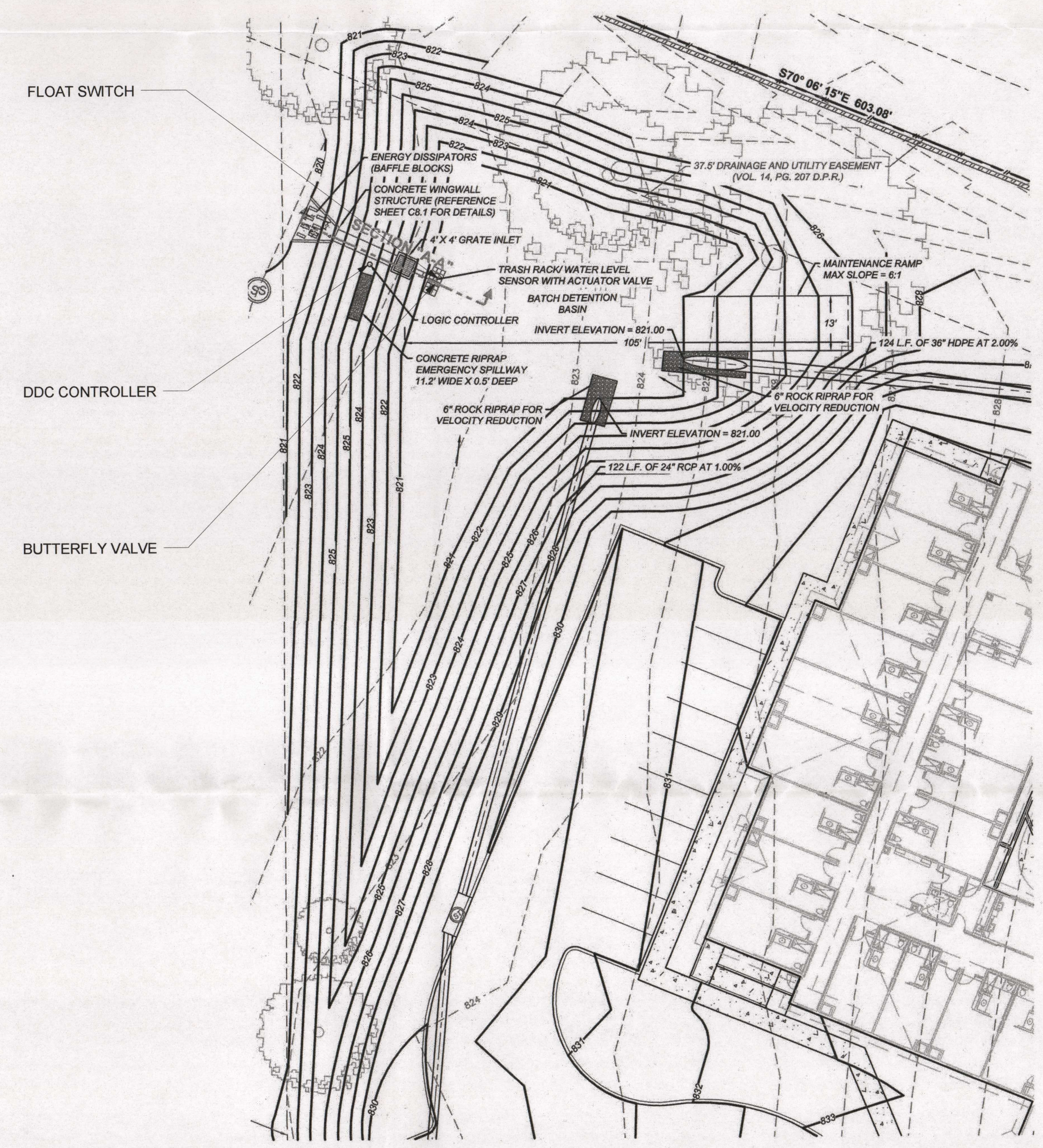
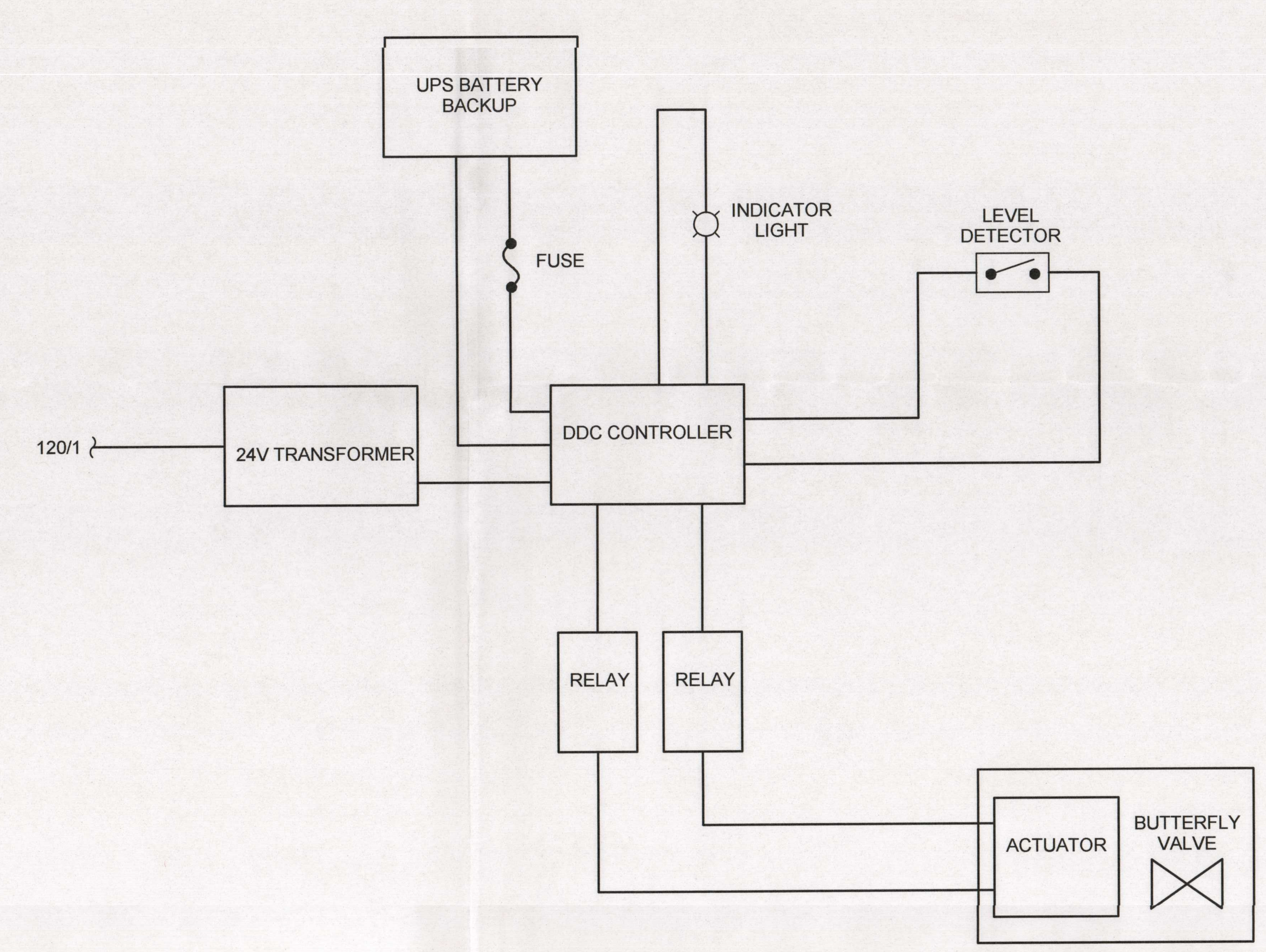


DETENTION POND. SEE CIVIL SHEETS FOR MORE DETAILS.

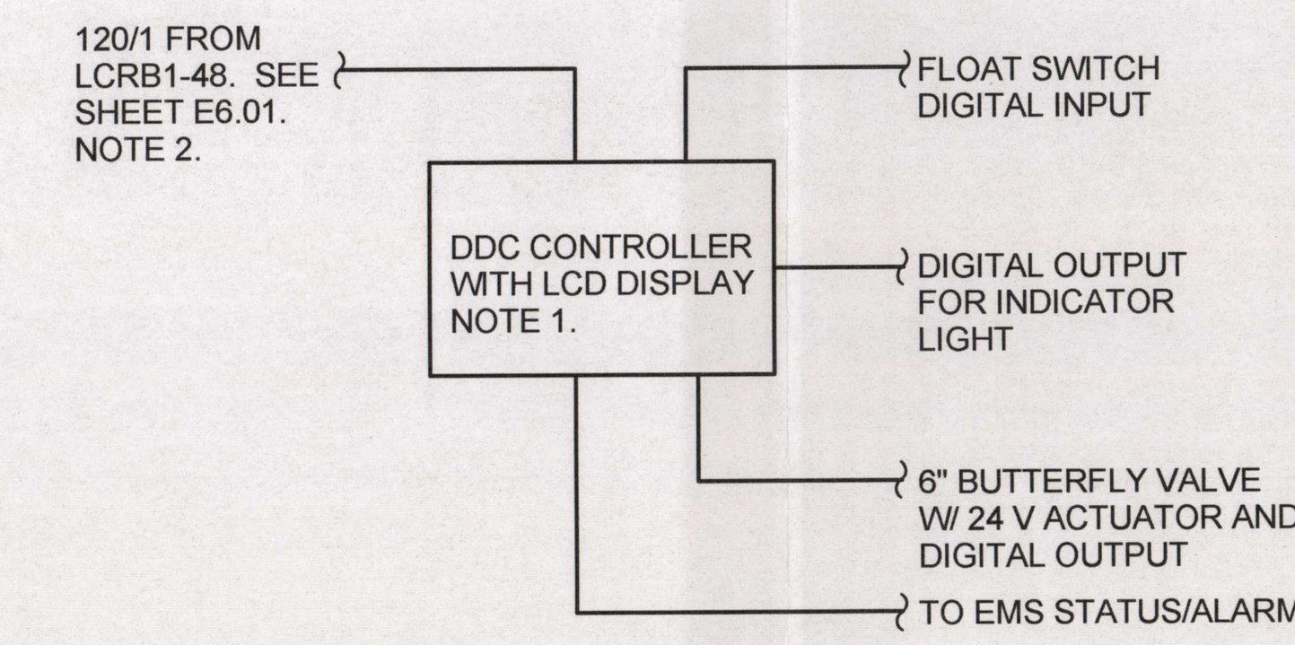


NOTES:

1. DDC CONTROLLER TO BE 24V TRANE UC-600 OR EQUAL BY APPROVED DDC MANUFACTURER. REFER TO SPECIFICATIONS.

2. PROVIDE TRANSFORMER AND UPS BATTERY BACKUP FOR DDC CONTROLLER.

3. REFER TO SPECIFICATION 230549 FOR CONTROLLER ENCLOSURE REQUIREMENTS.



SEQUENCE OF OPERATION:

1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #1.

2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.

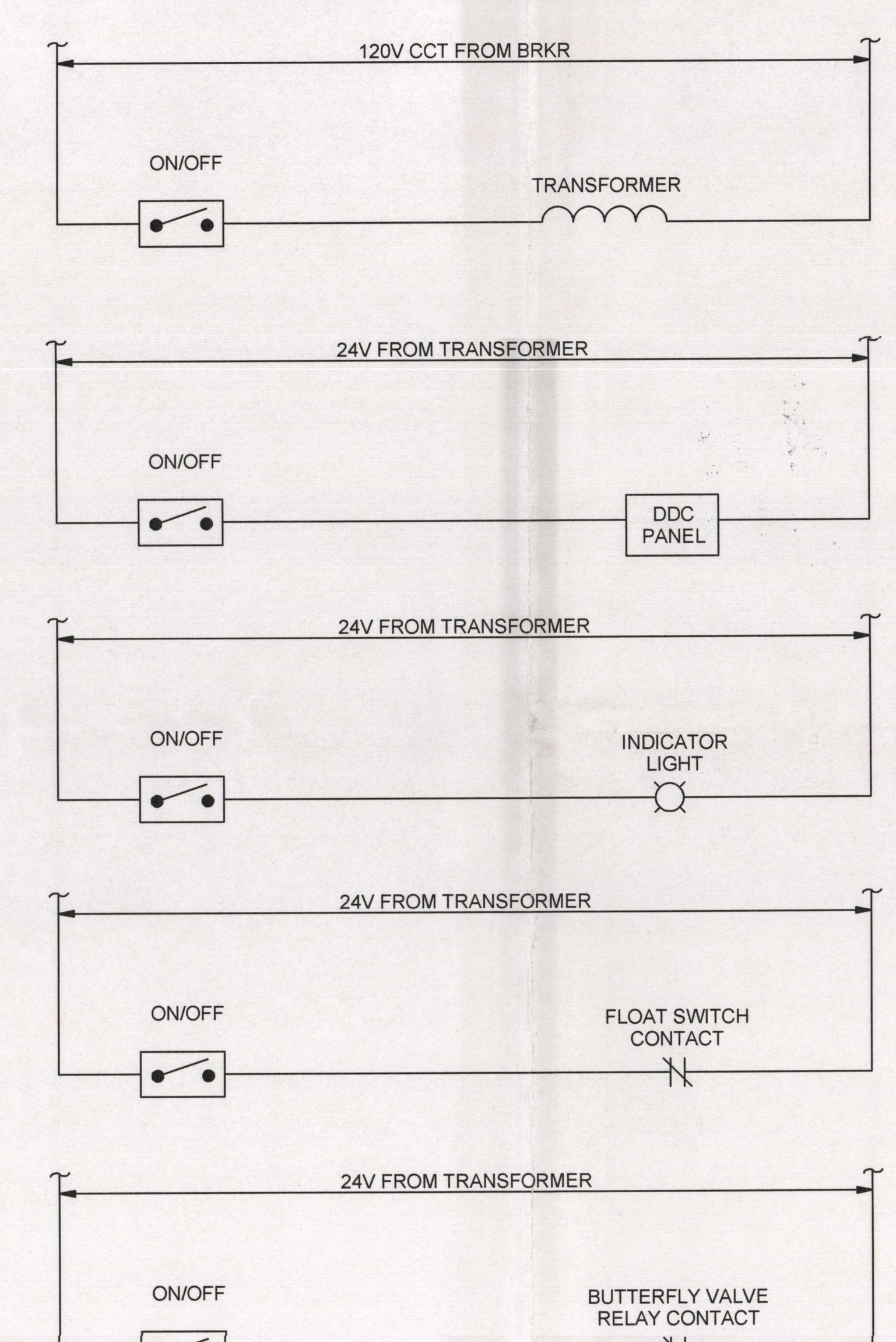
3. WHEN DETENTION TIMER HAS ELAPSED, A 6" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETENTION BASIN. REFER TO SPECIFICATIONS 232113 FOR VALVE CONSTRUCTION DETAILS.

4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #2.

5. DETENTION TIMER #2 TO BE MANUALLY SET TO 2 HOURS AND TO BE USER ADJUSTABLE.

6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 6" BUTTERFLY VALVE IS TO CLOSE.

7. VALVE TO BE ACTUATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.



REVISIONS:

DATE: 10/24/2014

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DRAWN BY: Author

HVAC - CONTROLS - RETENTION POND

M5.04

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MAINTENANCE GUIDELINES FOR BATCH DETENTION BASINS

Batch detention basins may have somewhat higher maintenance requirements than an extended detention basin since they are active stormwater controls. The maintenance activities are identical to those of extended detention basins with the addition of maintenance and inspections of the automatic controller and the valve at the outlet.

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

Mowing. The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

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

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

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

Structural Repairs and Replacement. With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

Sediment Removal. A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

Logic Controller. The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

LEGAL DESCRIPTION

BEING LOT 2A1, BLOCK 1, OUT OF THE SUBDIVISION PLAT ESTABLISHING OAKRUN COMMERCIAL RESERVE 2 OF RECORD IN VOLUME 14, PAGE 207 OF THE PLAT RECORDS OF COMAL COUNTY, TEXAS.

BENCHMARKS

BM1: SQUARE 'X' ON CONCRETE CURB OF INLET ±103 L.F. SOUTH EAST FROM THE SOUTH WEST CORNER OF LOT 2A1 AT ELEVATION = 830.36' SET BY KFW SURVEYING.

BM2: SQUARE 'X' ON CONCRETE CURB ±36 L.F. SOUTH FROM THE SOUTH EAST CORNER OF LOT 2A1 AT ELEVATION = 842.12' SET BY KFW SURVEYING.

COORDINATION NOTE:

1. CONTACT TWC (TIME WARNER CABLE) TO COORDINATE CABLE TV SERVICE. (210)-244-0500 OR QWEST COMMUNICATIONS AT 1-877-744-4416.

2. CONDUIT FOR ELECTRICAL SERVICE. CONFIRM REQUIREMENTS AND COORDINATE WITH NBU FOR INSPECTION.

3. CONTACT AT&T TO COORDINATE TELEPHONE SERVICE. 1-800-449-7928.

4. CONTRACTOR TO COORDINATE WITH NBU PRIOR TO CONSTRUCTION TO PLAN ELECTRIC SERVICE.

5. CONTRACTOR TO COORDINATE WITH NBU TO PLAN WATER AND SANITARY SEWER SERVICES.

6. CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

CAUTION!!: THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESSENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.

2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING.

3. ALL EARTHEN CHANNELS MUST NOT EXCEED 3:1 SIDE SLOPES (MAX).

4.BATCH DETENTION SIDE SLOPES TO BE VEGATED BY SEEDING OR SODDING.

5. VALVE TO BE EQUIPPED WITH MANUAL OPENING CAPABILITY.

6. VALVE TO BE IN CLOSED POSITION AT ALL TIMES BETWEEN STORM EVENTS.

7. LOGIC CONTROLLER TO OPEN VALVE 12 HOURS (BY SIGNALING ACTUATOR TO TURN VALVE INTO FULLY OPEN POSITION) AFTER FIRST RAINFALL READING BY WATER LEVEL SENSOR.

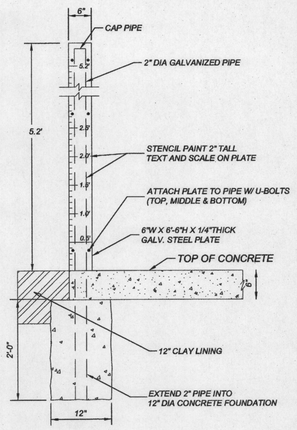
8. VEGETATION ON THE BASIN EMBANKMENTS SHOULD BE MOWED AS APPROPRIATE TO PREVENT ESTABLISHMENT OF WOODY VEGETATION.

9. ALL CABLES TO BE PROTECTED BY CONDUIT AND BURNED TO PREVENT DAMAGE DURING MAINTENANCE ACTIVITIES.

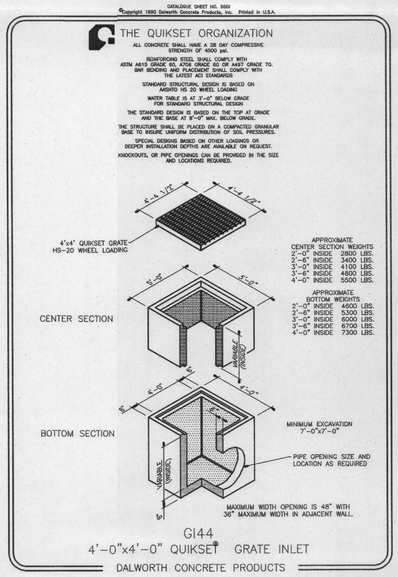
10. MANUAL CONTROLS OF THE CONTROLLER WILL BE USED TO KEEP VALVE CLOSED IN THE EVENT OF A HAZARDOUS MATERIAL SPILL IN THE BASIN. ALL COMPONENTS OF THE SYSTEM MUST BE INSPECTED WITHIN 7 DAYS FOR PROPER OPERATION.

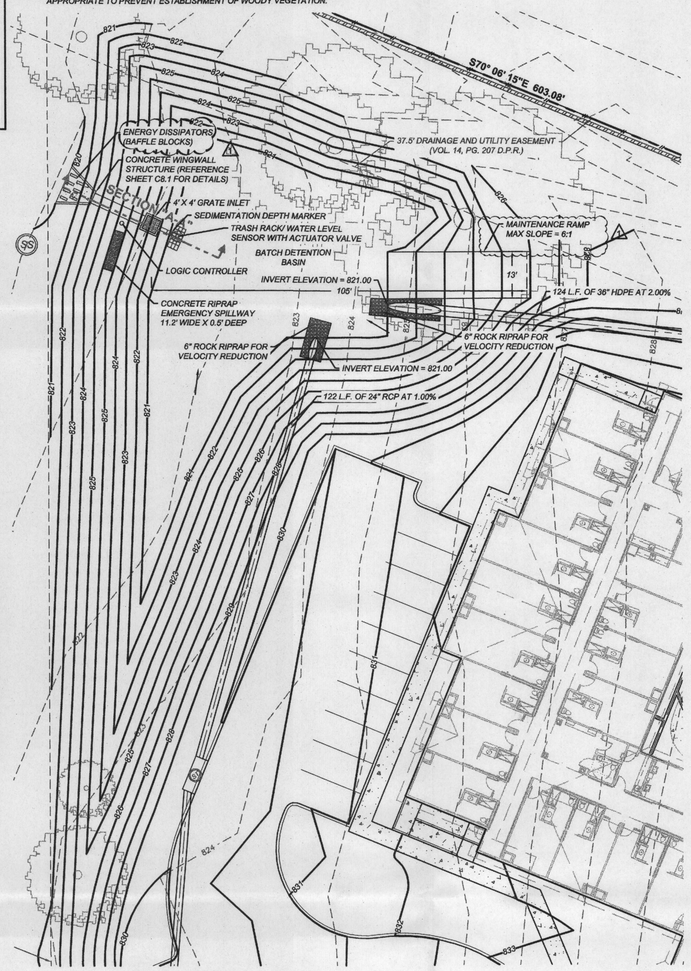
11. FIXED VERTICAL SEDIMENT DEPTH MARKER TO BE INSTALLED TO INDICATE WHEN SEDIMENT ACCUMULATION REACHES A REQUIRED REMOVAL DEPTH OF 6 INCHES.

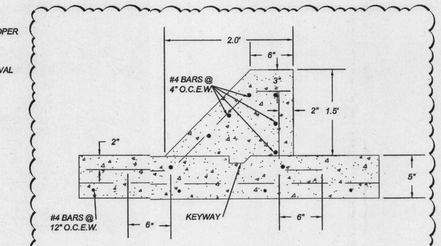
12. 12 INCHES OF CLAY TO BE USED AS IMPERMEABLE LINER FOR BATCH DETENTION BASIN. CLAY SHOULD BE STABILIZED WITH APPROPRIATE VEGETATION AND MEET SPECIFICATIONS FROM TABLE 3-6 OF THE EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL (SHOWN ON THIS PAGE).



SEDIMENT DEPTH MARKER
NOT TO SCALE







BAFFLE BLOCK CROSS SECTION
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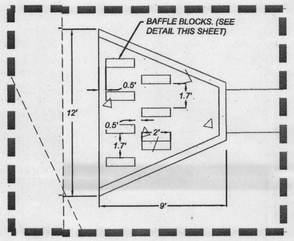

BAFFLE BLOCK DETAIL
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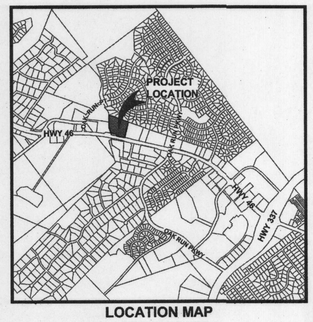


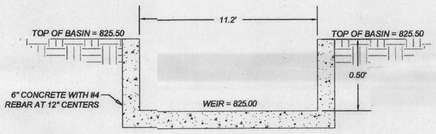
LOCATION MAP
NOT TO SCALE

SCALE: 1" = 20'
0' 20' 60'
40'

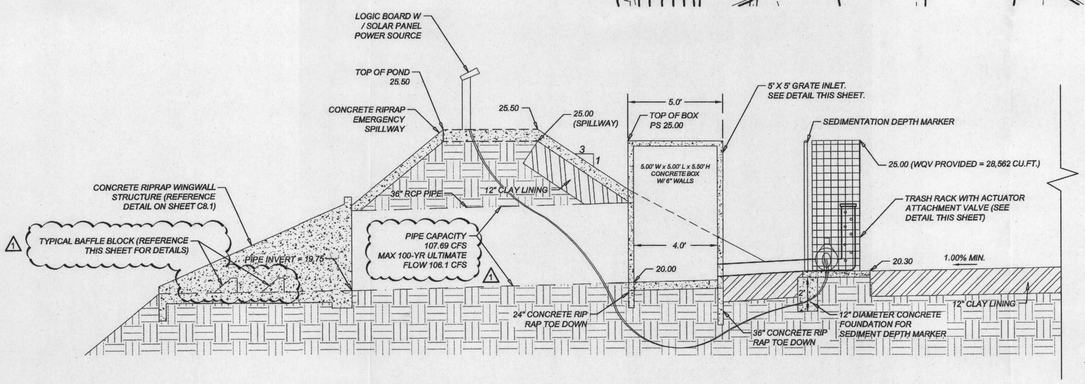
TABLE 3.6 (CLAY LINER SPECIFICATIONS)			
Property	Test Method	Unit	Specification
Permeability	ASTM D-2434	cm/sec	1 x 10-6
Plasticity Index of Clay	ASTM D-423 & D-424	%	Not less than 15
Liquid Limit of Clay	ASTM D-2216	%	Not less than 30
Clay Particles Passing	ASTM D-422	%	Not less than 30

LEGEND

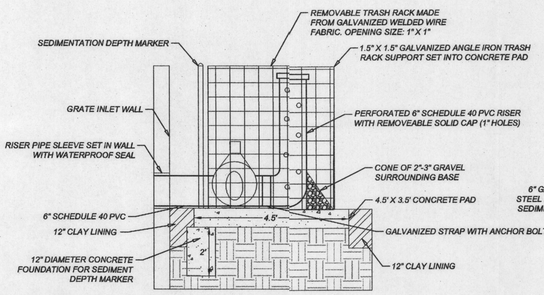
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING CONCRETE
- EXISTING CURB
- PROPOSED SIDEWALK
- PROPOSED CURB
- PROPOSED RIBBON CURB
- EXISTING SANITARY SEWER MANHOLE (SS)
- EXISTING FENCE
- EXISTING SPOT ELEVATION +830.00
- FLOW ARROW
- PROPOSED CONTOURS 830
- PROPOSED DRAINAGE SWALE
- PROPOSED HIGH POINT HIGH POINT
- EXISTING CONTOURS 830
- EXISTING TREE, REFERENCE LANDSCAPE PLANS FOR TREE PRESERVATION AND TREE REMOVAL



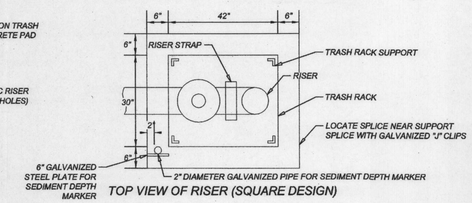
EMERGENCY OVERFLOW WEIR
NOT-TO-SCALE



CROSS SECTION "A-A"
NOT-TO-SCALE



SIDE VIEW OF RISER
NOT-TO-SCALE



TOP VIEW OF RISER (SQUARE DESIGN)

RISER PIPE DETAIL
NOT-TO-SCALE

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KFW ENGINEERS & SURVEYING
FIRM# 9513
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SAN ANTONIO, TEXAS 78230
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FAX (210) 979-8441

NO.	REVISION / ISSUE	DATE
1	CITY COMMENTS	12-8-14

STATE OF TEXAS
BENJAMIN D SUNKEL
108512
LICENSED
PROFESSIONAL ENGINEER
1/14/2015

OAK RUN COMMERCIAL RESERVE 2
2022 STATE HWY 46 W., NEW BRAUNFELS, TEXAS
BATCH DETENTION POND PLAN/DETAILS

JOB NO. 358-01-01
DATE: OCTOBER 2014
DRAWN: AB CHECKED: BB

SHEET NUMBER:
C6.2

Date: Jan 13, 2015, 4:30pm User ID: jspencer
File: P:\358\01\01\Design\Civil\C6.2 (BATCH DETENTION POND 358(01).dwg