TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 2, 2008

Mr. J.L. Guerra, Jr.
Investor Grosenbacher Partnership
11202 Disco Drive
San Antonio, Texas 78216

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Westpointe; Located west of the State Hwy 46 and Loop 337 intersection; 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
Edwards Aquifer Protection Program ID No. 2786.00; Investigation No. 641752; Regulated Entity No. RN105489579

Dear Mr. Guerra:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the above-referenced project submitted to the San Antonio Regional Office by Pape-Dawson Engineers, Inc. on behalf of Investor Grosenbacher Partnership on April 1, 2008. Final review of the WPAP was completed after additional material was received on June 2nd, 3rd, 23rd, 27th, 30th, and July 1st, 2008. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) 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 project will have a disturbed area of approximately 37.90 acres within a 204.38 acre site. It will include construction of two roads, an elevated tank/water tower and slab, and widening of Loop 337. The total impervious cover will be 8.67 acres, consisting of 7.26 acres (3.55% of the 204.38 acre site) onsite, and 1.41 acres from offsite improvements. As provided in the application, there will be no wastewater generated by the project.

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, a partial sedimentation/filtration basin, Stormcepter® units, and engineered vegetative filter strips, 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 7,782.18 pounds of TSS generated from the 8.67 acres of impervious cover. Table I - IV below summarizes the proposed treatment for the project.

Table I – Impervious Cover Table

Drainage Area		Total Acres	Imp. Cover	Treatment	Required TSS Removal (lbs/yr)	Provided TSS Removal (lbs/yr)	Total TSS Removal Per BMP Type
U1	Offsite	0.10	0.08	Basin	71.81	-	2,665.87
U2	Offsite	0.16	0.13	Basin	116.68		
A	Onsite	3.57	2.55	Basin	2,288.88	2,665.87	
	Offsite	0.26*	0.21*		188.50		
	Total(A)	3.83	2.76		2,477.37		
B1	Onsite	1.19	0.97	Stormcepter®	870.67	870.67	4,155.88
B2	Onsite	3.05	0.82	Stormcepter®	736.03	736.03	
C1	Onsite	1.07	0.95	Stormcepter®	852.72	852.72	
C2	Onsite	1.07	0.95	Stormcepter®	852.72	852.72	
D	Onsite	1.01	0.94	Stormcepter®	843.74	843.74	
E	Onsite	0.20	0.08	VFS	71.81	71.81	960.43
F	Offsite	0.12	0.12	VFS	107.71	107.71	
G	Offsite	0.87	0.87	VFS	780.91	780.91	
Total	Onsite	11.16	7.26	-	6,516.57	6,516.57	7,782.18
	Offsite	1.51	1.41		1,265.61	1,265.61	
Total		12.67	8.67	-	7,782.18	7,782.18	

U1 = Uncaptured offsite connection to Loop 337.
U2 = Uncaptured offsite portion of a connection to existing residential subdivision
E = Onsite, from the proposed elevated tank and pad
F = Offsite drainage area from tie-in from Independence Parkway to SH46.
G = Offsite drainage area from proposed Loop 337 widening.
* Does not include portions of U1 or U2.

Table II – Partial Sedimentation/Filtration Basin

Drainage Area	Total Acres	Imp. Cover (acres)	Run-off Depth (in.)	Capture Volume Required (ft^3)	Capture Volume Provided (ft^3)	Sand Filter Area Required (ft^2)	Sand Filter Area Provided (ft^2)	TSS Removal Required (lbs/yr)	TSS Removal Provided (lbs/yr)
A	3.83	2.76	2.40	21,102	21,496	1,758	2,530	2,477.37	2,665.87
U1	0.10	0.08	-	-	-	-	-	71.81	-
U2	0.16	0.13	-	-	-	-	-	116.68	-
Total	3.83	2.97	-	-	-	-	-	2,665.87	2,665.87

The basin is sized to provide compensation for 0.21 acres of offsite impervious cover not otherwise treated from an offsite catchment area of 0.26 acres. The filtration system will consist of:

- 2,530 square feet of sand (2,110 square feet required), which is 18 inches thick,
- an underdrain piping covered with geotextile membrane, and
- an impervious liner

Table III - Stormcepter®					
Drainage Area	B1	B2	C1	C2	D
Total Acres	1.19	3.05	1.07	1.07	1.01
Imp. Cover (acres)	0.97	0.82	0.95	0.95	0.94
STC Model	11000	11000	11000	11000	11000
Effective Area (acres)	0.88	0.81	0.86	0.86	0.85
Surface Area (ft^2)	157.08	157.08	157.08	157.08	157.08
Overflow Rate (ft/s)	0.0062	0.0057	0.0060	0.0060	0.0060
Efficiency (%)	79	80	79	79	79
TSS Removal Required (lbs/yr)	870.67	736.03	852.72	852.72	843.74
TSS Removal Provided (lbs/yr)	870.67	736.03	852.72	852.72	843.74

* Stormcepter®s designed using effective area method, RG-348 (2005) Addendum Sheet

Table IV – Engineered Vegetated Filter Strips			
Drainage Area	E	F	G
Total Acres	0.20	0.12	0.87
Imp. Cover (acres)	0.08	0.12	0.87
VFS Area (acres)	0.15	0.044	0.94
TSS Removal Required (lbs/yr)	71.81	107.71	780.91
TSS Removal Provided (lbs/yr)	71.81	107.71	780.91

The engineered filter strips were designed using the following criteria:

- The engineered vegetated filter strips are land adjacent to perimeter lots in subdivisions that will not drain by gravity to other BMPs;
- The engineered vegetated filter strips extend along the entire length of the contributing area;
- The slope does not exceed 20%;
- The minimum dimension of the filter strips (in the direction of flow) is not less than 15 feet;
- The maximum width (in the direction of flow) of the contributing impervious area does not exceed 72 feet;
- The minimum vegetated cover is 80%;
- The contributing area to the filter strip is relatively flat so that runoff is distributed evenly to the vegetated area without the use of a level spreader, and;
- The vegetated filter strip is free of gullies or rills that can concentrate overland flow.

The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

Three geologic assessments were included in the application, and represent the entire 204.38 acre site. Based on the assessments, the site overlies the Buda Limestone (Kbu), Del Rio Clay (Kdr), and Edwards Limestone (Ked) formations. The site consists of Krum clay (Krb), Medlin-Eckrant association (MEC) undulation, Medlin-Edkrant association (MED) hilly, and Rumple-Comfort association (RUD) undulating soils. These soils are characterized by dark gray to grayish-brown clay, grayish-brown to olive and dark brown stony clay, and dark reddish-brown cherty clay loam to extremely stony clay, respectively. According to the geologic assessment included with the application, 14 geologic or manmade features were located within the 204.38 acre site. Ten features were assessed as sensitive. Two features, features F-4 and F-5 of the geologic assessment titled "WESTON 121-ACRE TRACT," and labeled 121-F4 and 121-F5 on Figure 5 in the application, may potentially be affected by the 37.90 acre project. Protection methods for these features are outlined below. The San Antonio Regional Office site assessment conducted on May 27, 2008 revealed that the site is as described by the geologist.

SENSITIVE FEATURE

Natural buffers were proposed for two features, features 121-F4 and 121-F5 (from above), located within the 37.90 acre project limits. No regulated activities (such as construction or soil disturbing activities) will take place within the natural buffers. The size is generally based on the drainage area for each sensitive feature.

The setbacks are described in the following table.

Identification No.*	Description	Buffer Description
121-F4	Sinkhole	50 ft. all around
121-F5	Sinkhole	50 ft. all around
121-F1	Sinkhole	**
121-F2	Solution-enlarged fracture	**
121-F3	Solution cavity	**
121-F6	Sinkhole	**
15-F2	Solution cavity	**
15-F4	Solution cavity	**
15-F5	Sinkhole	**
15-F6	Water well	**

* Three geologic assessments were performed, to encompass the entire 204.38 acre site: "WESTON 121-ACRE TRACT," "WESTON 15-ACRE TRACT," and the "WESTON TRACT." The number before the "F" indicates the assessment in which the feature is described. No features were discovered during the "WESTON TRACT" assessment. A statement from ACI Consulting, as provided by Pape-Dawson Engineers, Inc., confirms that the three assessments cover the entire 204.38 acres.

** Protection of these features provided per Special Condition III of this letter. No disturbance will take place outside the proposed project limits.

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. The application did not describe protection measures for the remaining features located in the Sensitive Feature table above. Therefore, no regulated activities shall occur within 200' in all directions for each remaining sensitive feature, until a modification application is submitted to address each feature's protection according to the most recent edition of TCEQ's RG-348 (edition that is current at the time of application submittal).

IV. If individual portions of the 204.38 acre site are sold, a copy of this letter shall be provided to each owner of those portions. An application to modify the approved plan shall be submitted to the San Antonio Regional Office for additional development within the 204.38 acre site. A copy of this letter shall be included with any future application submittal within the 204.38 acre site.

V. Since the maintenance and inspection report for the Stormcepter® units did not provide a specific monitoring frequency, the Stormcepter® units shall be maintained, inspected, and monitored according to RG-348 (2005) Addendum Sheet, Section 3.5.17.

VI. Within 60 days of the date of this letter, and prior to commencing regulated activities associated with this project, submit to the San Antonio Regional Office an updated TCEQ-0600 Attachment G, which addresses the maintenance and inspection of the onsite and offsite engineered vegetative filter strips. The inspection and maintenance reports shall be signed by the responsible party, and shall meet all criteria specified in RG-348 (2005), Section 3.5.8.

VII. The San Antonio Regional Office must be notified in writing, prior to removal and/or replacement of the engineered vegetative filter strips treating the 0.12 acre portion of off-site driveway connecting the site to State Highway 46. This notification must include documentation that demonstrates sufficient permanent treatment is provided.

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 application.

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. One well exists onsite. 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 storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.

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

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

After Completion of Construction:

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

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

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

21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to

the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

If you have any questions or require additional information, please contact Jason Jupe of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4023.

Sincerely,

Mark Vickery, P.G.
Executive Director
Texas Commission on Environmental Quality

MV/JJ/eg

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

cc: Mr. Dennis Rion, P.E., Pape-Dawson Engineers, Inc.
Mr. Bruce Boyer, City of New Braunfels
Mr. Tom Hornseth, P.E., Comal County
Ms. Velma Danielson, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC212

2786.00

PAPE-DAWSON ENGINEERS

WESTPOINTE

Water Pollution Abatement Plan

March 2008

WESTPOINTE

Water Pollution Abatement Plan

March 2008

PAPE-DAWSON ENGINEERS

PAPE-DAWSON ENGINEERS

LAND DEVELOPMENT ENVIRONMENTAL TRANSPORTATION WATER RESOURCES SURVEYING

March 31, 2008

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

Re: Westpointe
Water Pollution Abatement Plan

Dear Mr. Garcia:

Please find attached one (1) original and three (3) copies of the Westpointe Water Pollution Abatement Plan. This Water Pollution Abatement Plan has been prepared to be consistent with the Texas Commission on Environmental Quality (30 TAC 213) and current policies for development over the Edwards Aquifer Recharge Zone.

This Water Pollution Abatement Plan applies to an approximate 45.96-acre project. Please review the plan information for the items it is intended to address, and, if acceptable, provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees ($5,000) and fee application are included. If you have any questions regarding this information, please call our office.

Very truly yours,
Pape-Dawson Engineers, Inc.

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

Attachments

6858\10\Word\Report\080214a1

SAN ANTONIO / AUSTIN
WWW.PAPE-DAWSON.COM
555 East Ramsey San Antonio, Texas 78216 P 210.375.9000 F 210.375.9010

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: ***Westpointe***

COUNTY: ***Bexar*** STREAM BASIN: ***Comal Creek & Blieders Creek***

EDWARDS AQUIFER: √ RECHARGE ZONE
__ TRANSITION ZONE

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

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: ***J.L. Guerra, Jr.***
Entity: ***Investor Grosenbacher Partnership***
Mailing Address: ***11202 Disco Drive***
City, State: ***San Antonio, Texas*** Zip: ***78216***
Telephone: ***(210) 495-8777*** FAX: ***(210) 499-4217***

Agent/Representative (If any):

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

2. √ This project is inside the city limits of ***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.

From TCEQ's regional office travel approximately 1.5 miles south on Judson Road to IH-35. Make a left onto IH-35 and travel approximately 14.7 miles north. Exit onto Loop 337 and proceed 2.8 miles north. The project is located west of the intersection of State Hwy. 46 and Loop 337.

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

5. √ **ATTACHMENT B - USGS / EDWARDS RECHARGE ZONE MAP**. A copy of the official 7½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached behind this sheet. The map(s) should clearly show:

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

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

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

Westpointe is a 45.96-acre project west of the intersection of State Hwy. 46 and Loop 337. It is located within the city limits of New Braunfels, Texas in Comal County.

This project proposes the construction of an elevated tank/water tower for New Braunfels Utility (NBU) and the construction of two roads, Oak Run Parkway and Independence Parkway to connect future development to State Hwy. 46 and Loop 337. Separate Water Pollution Abatement Plans (WPAP) will be submitted at a later date for the planned future development.

The proposed impervious cover is approximately 19.06% (8.76 acres) of the proposed development. This includes roadways, driveways and the elevated tank.

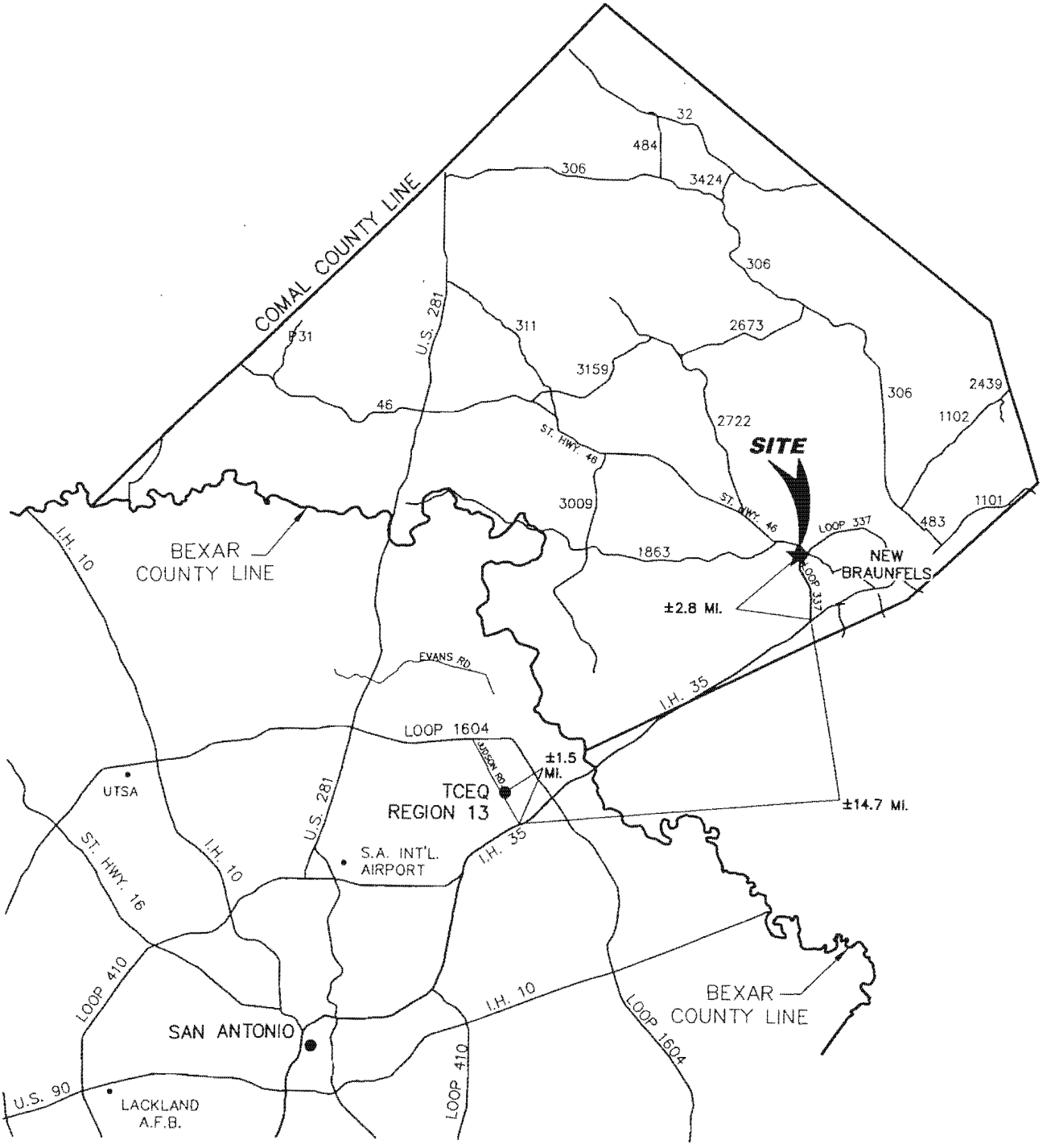
As this is primarily a road project, there will be no permanent population associated with this project and no wastewater generated by this development.

Stormceptor®s and engineered vegetative filter strips (VFS) will be used as Permanent Best Management Practices (BMPs) onsite to treat stormwater generated from the development. These BMPs have been designed in accordance with TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increased Total Suspended Solids (TSS) for the proposed development. Compensatory treatment will be provided for runoff that cannot be captured and directed to a permanent BMP. Overtreatment by the Stormceptor®s will compensate for these areas.

A temporary pavement connection will be made from Independence Parkway to the nearest existing lane of State Hwy. 46. Permanent pavement (3,703 sf) and temporary pavement (1,524 sf) within the proposed right-of-way (R.O.W.) dedication will be treated by an engineered VFS, as shown in this WPAP. The Texas Department of Transportation (TxDOT) will be widening SH 46 at a later date and replacing this temporary pavement with a permanent connection. At that time

WESTPOINTE
Water Pollution Abatement Plan

NOT TO SCALE



Pape-Dawson Engineers, Inc.

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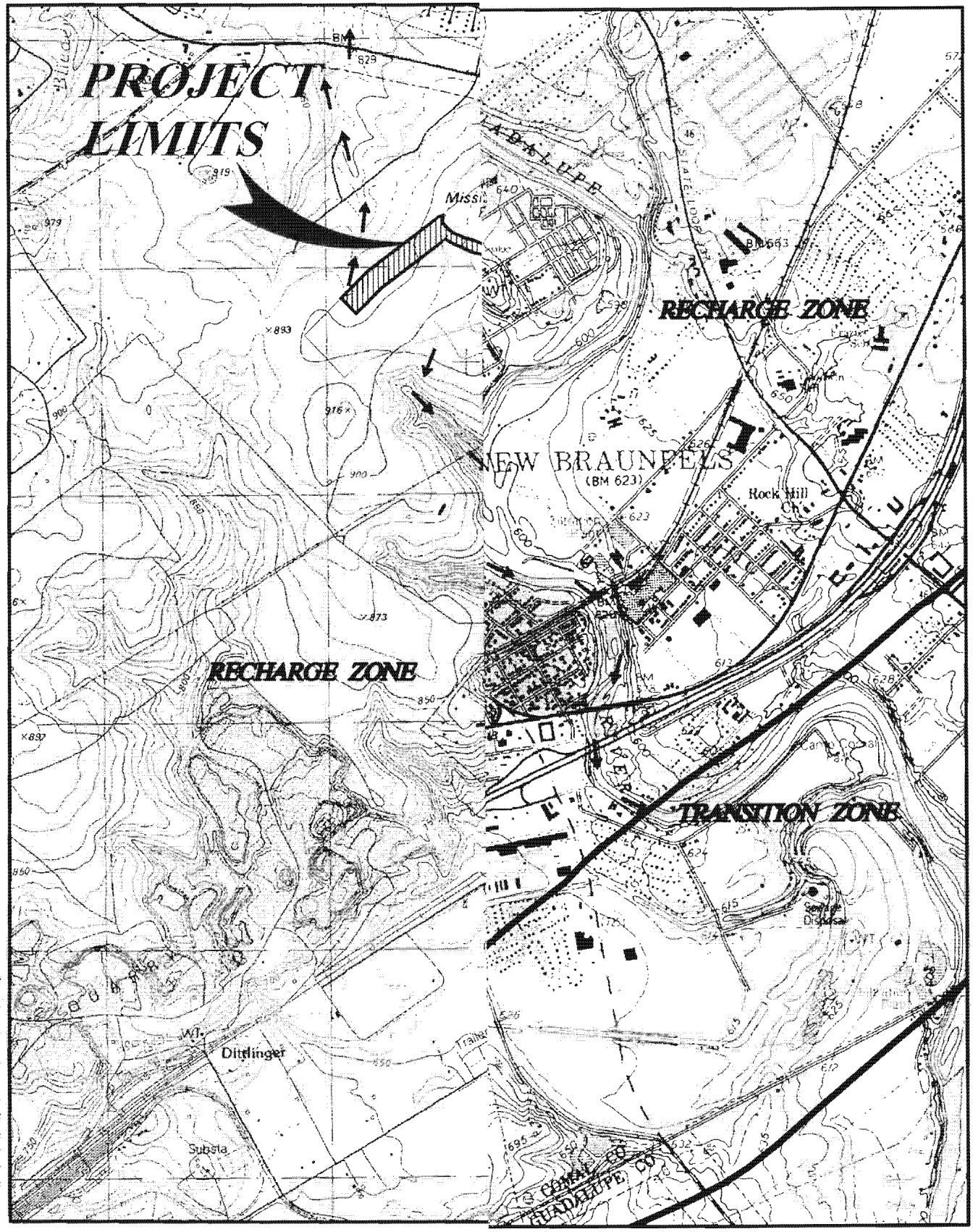
ATTACHMENT A
Road Map

WESTPOINTE
Water Pollution Abatement Plan

N SCALE: 1" = 2000'



NEW BRAUNFELS WEST, QUADRANGLE
NEW BRAUNFELS EAST, QUADRANGLE

→ → DRAINAGE FLOW

USGS/EDWARDS RECHARGE ZONE MAP

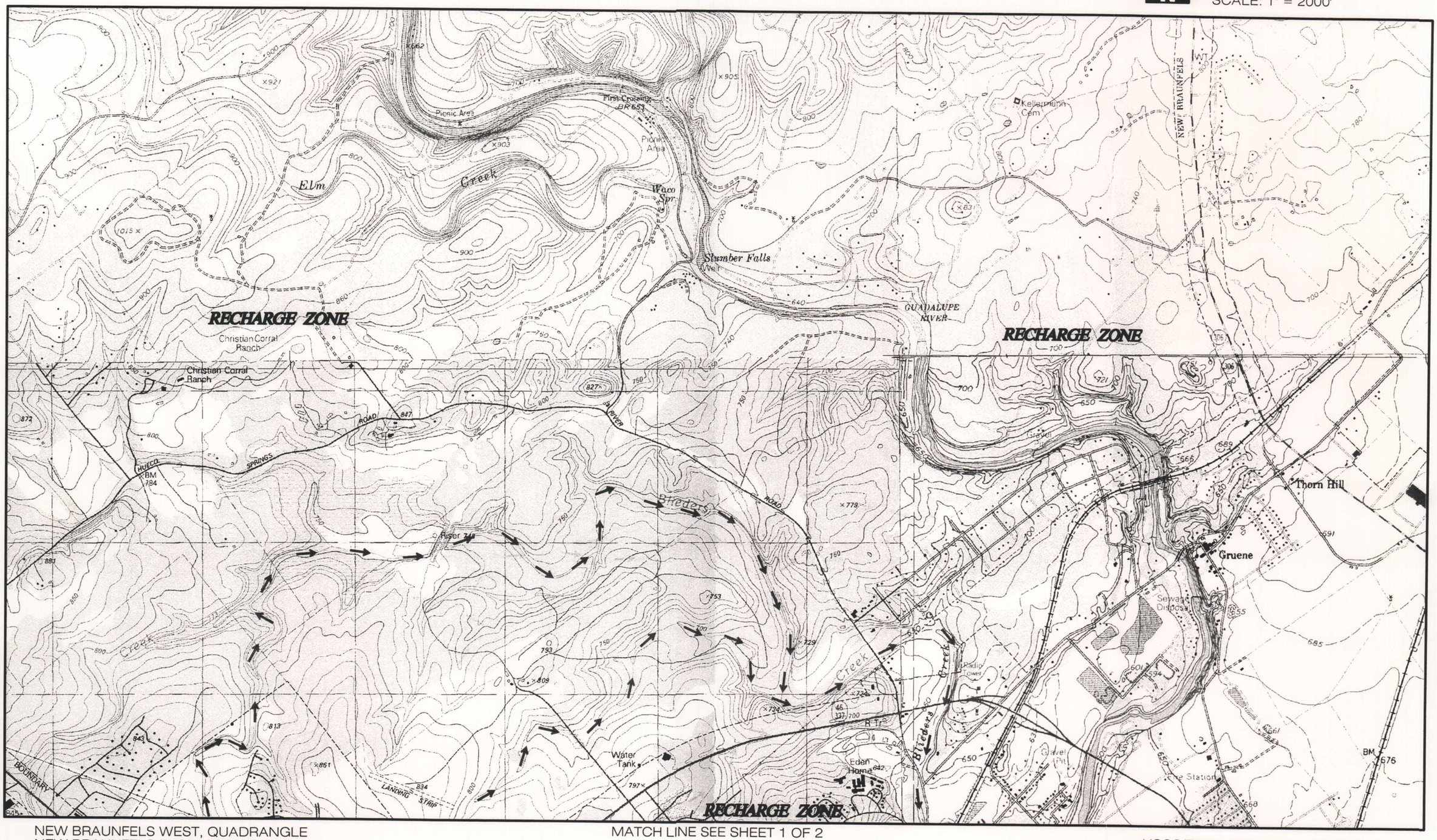
SHEET 1 OF 2

Pape-Dawson Engineers, Inc.

ATTACHMENT B

WESTPOINTE
Water Pollution Abatement Plan

N SCALE: 1" = 2000'



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NEW BRAUNFELS WEST, QUADRANGLE
NEW BRAUNFELS EAST, QUADRANGLE

→ → DRAINAGE FLOW

MATCH LINE SEE SHEET 1 OF 2

USGS/EDWARDS RECHARGE ZONE MAP

SHEET 2 OF 2

ATTACHMENT B

Pape-Dawson Engineers, Inc.

all permanent pavement within the proposed R.O.W. dedication will be treated by the permanent BMPs associated with the SH 46 David Jonas to Kerlick Lane WPAP Modification. The engineered vegetative filter strip proposed will remain in place until the SH 46 improvements are underway. It is anticipated that the SH 46 WPAP Modification approval will not require a modification of this WPAP (Westpointe) to replace the VFS with the proposed permanent treatment. See exhibit at the end of this form.

Before Oak Run Parkway can tie into Loop 337, TxDOT may require Loop 337 be widened. These improvements, if required by TxDOT, are addressed in this WPAP. Approximately 0.87 acres of impervious cover will be added to the stretch of Loop 337 immediately adjacent to the proposed Loop 337/Independence intersection. Runoff from this additional impervious cover on Loop 337 will be treated by a 15' wide engineered vegetative filter strip adjacent to the pavement.

Treatment for a future connection from the western portion of Oak Run Parkway to the existing residential subdivision adjacent to the project is provided by the Stormceptor® at Oak Run (west).

Both Stormceptor®s at Oak Run Parkway will be used in conjunction with a holding basin. These holding basins may be subject to minor layout revisions but the water quality volume will remain unchanged. As these holding basins are simply a means of collecting and directing water to the Stormceptor® and are not permanent BMPs themselves, a change in their layout will not require a modification to this plan [30 TAC 213.4 (j)(1)].

The Stormceptor®s at Independence Parkway will not be use in conjunction with a holding basin but within a treatment train.

Runoff from the elevated tank site will be treated with a 15-foot engineered vegetative filter strip. Associated plans and calculations for these BMPs, as required, have been provided in this WPAP.

8. Existing project site conditions are noted below:
   - ___ Existing commercial site
   - ___ Existing industrial site
   - ___ Existing residential site
   - ___ Existing paved and/or unpaved roads
   - ___ Undeveloped (Cleared)
   - √ Undeveloped (Undisturbed/Uncleared)
   - ___ Other: _____

PROHIBITED ACTIVITIES

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

   (1) waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
   (2) new feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
   (3) land disposal of Class I wastes, as defined in 30 TAC §335.1;
   (4) the use of sewage holding tanks as parts of organized collection systems; and
   (5) new municipal solid waste landfill facilities required to meet and comply with Type I

standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

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

    (1) waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
    (2) land disposal of Class I wastes, as defined in 30 TAC §335.1; and
    (3) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

ADMINISTRATIVE INFORMATION

11. The fee for the plan(s) is based on:
    √ For a Water Pollution Abatement Plan and Modifications, the total acreage of the site where regulated activities will occur.
    __ For an Organized Sewage Collection System Plans and Modifications, the total linear footage of all collection system lines.
    __ For a UST Facility Plan or an AST Facility Plan, the total number of tanks or piping systems.
    __ A Contributing Zone Plan.
    __ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
    __ A request for an extension to a previously approved plan.

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

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

13. √ Submit one (1) original and three (3) copies of the completed application to the appropriate regional office for distribution by the TCEQ to the local municipality or county, groundwater conservation districts, and the TCEQ's Central Office.

14. √ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the executive director.
    __ No person shall commence any regulated activity until the Contributing Zone Plan for the activity has been filed with the executive director.

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

Pape-Dawson Engineers, Inc.
Dennis R. Rion, P.E.
Print Name of ~~Customer~~/Agent

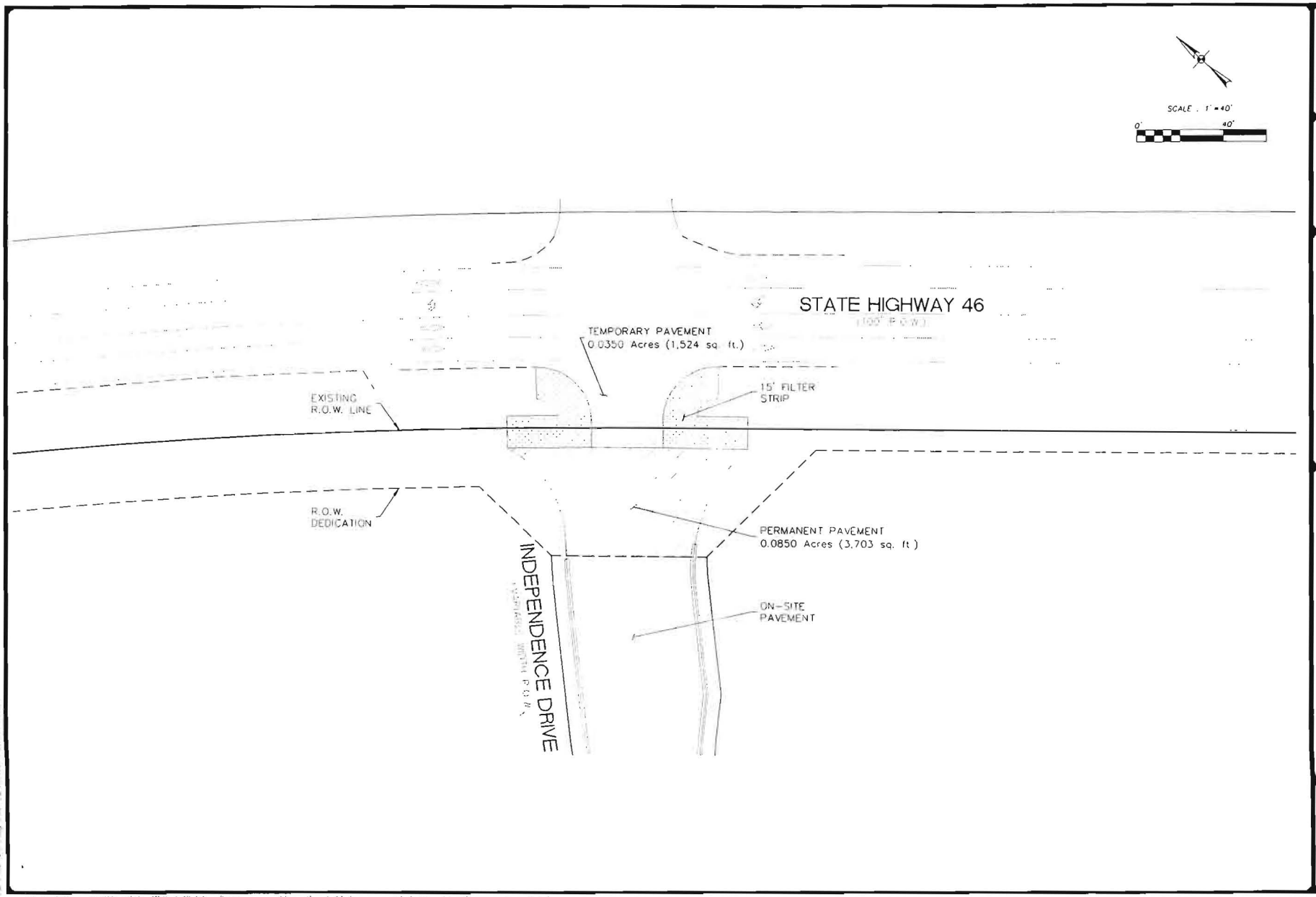
Signature of ~~Customer~~/Agent

3-31-08
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.

APPENDIX A



REVISIONS

PAPE-DAWSON ENGINEERS

WestPointe
NEW BRAUNFELS, TEXAS
PROPOSED PAVING AREA

JOB NO 6658-03
DATE MARCH 2008
DESIGNED TD
DRAWN MK
CHECKED TD
SHEET 1 OF 2

GEOLOGIC ASSESSMENT

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GEOLOGIC ASSESSMENT
FOR THE
15-ACRE PORTION OF THE WESTON TRACT

Comal County, Texas

November 2007

Prepared for:

Investor Grosenbacher, a Texas general partnership
NB Retail, Ltd., a Texas limited partnership
c/o Barshop & Oles Company
900 Isom Rd., Suite 300
San Antonio, TX 78216

Prepared by:

aci consulting
1001 Mopac Circle, Suite 100
Austin, Texas 78746

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: Weston Tract (15 Acre)– Comal County

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)
Krum clay (Krb) – 1 to 3 percent slopes	C	4-5 ft
Medlin-Eckrant association (MED), undulating	D	1.5 ft
Rumple-Comfort association (RUD), undulating	D	2.5 ft

* 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" = 200 '
Site Geologic Map Scale 1" = 200 '
Site Soils Map Scale (if more than 1 soil type) 1" = 200 '

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

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

   __ There are __(#) 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.
   X There are no wells or test holes of any kind known to exist on the project site.

ADMINISTRATIVE INFORMATION

12. X One (1) original and three (3) copies of the completed assessment has been provided.

Date(s) Geologic Assessment was performed: July 25, 2007
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.

Stan Reece P.G.
Print Name of Geologist

(512)347-9000
Telephone

(512)306-0974
Fax

STATE OF TEXAS
STAN REECE
GEOLOGY
No. 3295
LICENSED
PROFESSIONAL GEOSCIENTIST

Signature of Geologist

11/12/07
Date

Representing: aci consulting
(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 512/3382929 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 512/2393282.

aci consulting

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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November 12, 2007

Geologic Assessment for the 15-acre portion of the Weston Tract in Comal County, Texas

1.0 INTRODUCTION

The purpose of this task is to identify "karst" features during a pedestrian survey along the site known as the 15-acre portion of the Weston tract in New Braunfels, Comal County, Texas. The approximate 15-acre property, hereafter referred to as the subject area, is located approximately 1,100 feet southeast of the intersection of State Loop 337 and Highway 46 in New Braunfels, Comal County, Texas (Figure 1).

2.0 SCOPE

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP). The scope of the report consists of a site reconnaissance and field survey and review of existing data and reports. Features identified during the field survey are ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards Aquifer Recharge Zone Features. The ranking of the features determines their viability as a recharge feature.

3.0 INVESTIGATION METHOD

The following investigation methods and activities were used to develop this report:

- A review of existing files and literature to determine the regional geology and known caves associated with the property;
- A review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the property;
- A site reconnaissance performed by a registered professional geologist to identify and examine caves, recharge features, and other significant geological features; and,
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone.

4.0 PROPOSED SURVEY AREA USE

The site will be utilized for the construction of a commercial / retail complex.

5.0 REGIONAL AND SITE GEOLOGY

The site lies within the Edwards aquifer recharge zone as defined by the TCEQ (TCEQ 2001). The geologic strata associated with the Edwards aquifer include the Georgetown Formations overlying the Edwards Limestone Group, interfingering with the Comanche Peak Formation in Williamson County. These rocks are underlain by the Walnut Formation, which has members including the Whitestone Member, Keys Valley Marl Member, the Cedar Park Member, the Bee Cave Member and the Bull Creek Member. The Glen Rose Formation, another marine limestone, is located below the Walnut Formation. The dominant structural trend of known faults in the area is to the northeast on a bearing of approximately 30 to 40 degrees and to the southwest on a bearing of approximately 210 to 220 degrees.

Surface geology of the area is dominated by consistent outcrops of the Edwards Limestone Formation which is contained within the Fredericksburg Group. Outcrops on the site occur as light-gray to gray, thick bedded limestone. Some outcrops are dolomitic in nature. There are also consistent outcrops of Del Rio clay (Kdr) in the western portion of the subject area (Barnes 1974). Figure 2 depicts the stratigraphic column for the site. A topographic map with formation outcrops is included as Figure 3.

6.0 KARST FEATURES IN COMAL COUNTY, TEXAS

In limestone terrains, karst is expressed by erratically developed cavernous porosity and the manifestations of sinkholes, voids, and erratic surface drainage. Karst landscapes are typical of the Edwards Limestone, occurring across a vast region of Central Texas west of the Balcones Escarpment, and these processes are critical to understanding the Edwards Aquifer within its various segments. The features produced by karst processes (voids, holes, and solution layers) eventually provide conduits for surface water runoff and "point recharge" for the Edwards aquifer. The identification and protection of these features in established recharge areas is critical to maintaining groundwater quality and species habitat. The United States Fish and Wildlife Service (USFWS) and the TCEQ require protective strategies within these areas to ensure recharge and endangered species habitat protection prior to, during, and upon completion of construction activities. The subject area is located in Comal County which is not within an area where endangered karst invertebrates exist or may be known to exist.

7.0 SITE SOILS

The description of the site soils are derived from two sources:

- Utilization of the "Soil Survey of Comal and Hays Counties, Texas," January, 1974, compiled by the United States Department of Agriculture (USDA) Natural Resource Conservation Service; and,
- Field observations made during the site reconnaissance.

There are three main soil units identified within the subject area:

Krum clay, 1 to 3 percent slopes (Krb) – This soil is gently sloping and generally occurs on stream terraces and valley hills. Typically, the surface layer consists of dark gray clay about 16 inches thick with subsoil to a depth of 58 inches consisting of grayish, brown clay. This soil is well-drained with moderate permeability.

Medlin-Eckrant association, undulating (MED) – This association consists of very shallow and deep soils on upland areas in the Edwards Plateau area. For Medlin soils, the typical surface layer consists of nine inches of grayish, brown clay. The subsoil is olive color clay to a depth of approximately 36 inches. This soil is well-drained with rapid surface runoff and slow permeability. Eckrant soils consist of a surface layer of extremely stony clay approximately 18 inches thick with underlying material consisting of fractured limestone bedrock. This soil is well drained with rapid surface runoff and moderately slow permeability.

Rumple-Comfort association, undulating (RUD) – This association consists of shallow and moderately deep upland soils in the Edwards Plateau area. Rumple soils make up approximately 60 percent of the association, Comfort soils make up 20 percent and other soils, mainly Tarpley soils make up 20 percent. The typical surface layer of Rumple soils consists of dark reddish-brown cherty clay loam about 10 inches thick. The subsoil to a depth of 28 inches is dark reddish brown extremely stony clay. The soil is mildly alkaline and non-calcareous throughout. The surface layer of the Comfort soil is dark brown, extremely stony clay to about seven inches. The subsoil to a depth of 12 inches is dark, reddish-brown, mildly alkaline, extremely stony clay. The underlying material is indurated non-calcareous fractured limestone throughout. All soils in this association are well-drained with moderate surface runoff.

A site soils map is included as Figure 4 in this report.

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8.0 PREVIOUS SITE INVESTIGATIONS

There are no known previous site investigations conducted for this property according to information received from the property developer.

9.0 DESCRIPTION OF SITE FEATURES

All features listed below were identified and assessed by aci personnel during a site visit conducted on July 2, 2007. A total of eight geologic features were identified within the property boundaries during the reconnaissance for this geologic assessment. A feature location map is included as Figure 5. All feature descriptions are identified as follows:

Feature 1
GPS: N. 29.42705 W. -098.09983

This feature is a sinkhole with a length, width, and vertical depth of 4 feet, 2.5 feet, and 2.5 feet, respectively. Infill material consists of loose soil and other organic material. This feature is located on a hilltop, and drainage and catchment area appears to be less than 1.6 acres. Infiltration rate is intermediate (24 points), and the TCEQ sensitivity rating is 44 points.

Recommendations: Installation of minimum setback that correlates to drainage and catchment area.

Feature 2
GPS: N. 29.42712 W. -098.09683

This feature is a solution-enlarged fracture with a length, width, and vertical depth of 5 feet, 2 feet, and 4.5 feet, respectively, trending at N60E. Infill material consists of coarse cobbles and some loose organic material. This feature is located on a hillside, and drainage and catchment area for the feature appears to be less than 1.6 acres. Infiltration rate is moderate (32 points), and the TCEQ sensitivity rating is 52.

Recommendations: Installation of a minimum setback that corresponds to drainage and catchment area.

Feature 3
GPS: N. 29.42731 W. -098.09627

This feature is a solution cavity with a length, width, and vertical depth of 2 feet, 1 foot, and 2+ feet, respectively. Infill material consists of large cobbles and loose soil, leaves, and other organics. Drainage and catchment area for this feature is less than 1.6 acres. Infiltration rate is intermediate (30 points), and the TCEQ sensitivity rating is 50.

Recommendations: A one-foot topographic survey was conducted on this feature and the drainage area was determined to be less than 0.10 acre. Utilizing this additional information, the setback should correspond to the calculated drainage area, which is roughly to the northwest on a bearing of 330 degrees.

Feature 4
GPS: N. 29.42747 W. -098.09689

This feature is a sinkhole with a length, width, and vertical depth of 25 feet, 20 feet, and 2.5 feet, respectively. Infill material consists of coarse cobbles, soil, leaves, and other organic material. Drainage and catchment area for this feature is less than 1.6 acres. Infiltration rate is intermediate (28 points). and the TCEQ sensitivity rating is 48.

Recommendations: Installation of minimum setback that correlates to small drainage and catchment area.

Feature 5
GPS: N. 29.42795 W. -098.09685

This feature is a sinkhole with a length, width, and vertical depth of 35 feet, 35 feet, and 2.5 feet, respectively. Infill material consists of coarse cobbles and breakdown material. This feature is located on a hillside, and has a drainage and catchment area of less than 1.6 acres. Infiltration rate is intermediate (28 points), and the TCEQ sensitivity rating is 48.

Recommendations: Installation of minimum setback that correlates to small drainage and catchment area.

Feature 6
GPS: N. 29.42733 W. -098.09700

This feature is a small sinkhole with a solution cavity at the center. The sinkhole has a length, width and vertical depth of 4 feet, 4 feet, and 2 feet, respectively. The width of the aperture of the solution cavity is 0.75 foot, and vertical extent is approximately 2 feet, trending to the southwest at 240 degrees. Infill material consists of coarse cobbles, soil, leaves, and other organic material. This feature is located on a hillside adjacent to F-4 and F-5, and has a drainage and catchment area of less than 1.6 acres. Infiltration rate is intermediate (30 points), and the TCEQ sensitivity rating is 50 points.

Recommendations: Incorporate minimum setback into the buffers for F-4 and F-5.

Feature 7
GPS: N. 29.42731 W. -098.09684

This feature is a solution cavity with a length, width and vertical depth of 1 foot, 0.75 foot, and 1.5 feet, respectively. The width of the aperture at the widest point is approximately one foot. Infill material consists of loose soil, leaves, and other organic material. This feature is located on a hillside, and has a drainage area less than 1.6 acres. Infiltration rate is low (18 points), and the TCEQ sensitivity rating is 38 points.

Recommendations: No further activities are recommended for this feature.

Feature 8
GPS: N. 29.42716 W. -098.09725

This feature is a solution-enlarged fracture with a length, width and vertical depth of 1 foot, 0.50 foot, and 2+ feet, respectively. This fracture has trend of S230W. Infill material consists of coarse loose soil, leaves, and other organics. This feature is located on a hillside, and has a drainage and catchment area of less than 1.6 acres. Infiltration rate is low (18 points), and the TCEQ sensitivity rating is 38.

Recommendations: No further activities are recommended for this feature.

10.0 SUMMARY OF FINDINGS

There are a total of eight geologic or manmade features identified within the subject area. Six of the features are rated as sensitive under TCEQ guidelines.

11.0 RECOMMENDATIONS

Recommendations for each feature are included below the individual feature descriptions.

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12.0 REFERENCES

Barnes, V.E. 1974. Geologic Atlas of Texas, Austin Sheet. Bureau of Economic Geology, The University of Texas at Austin.

Soil Conservation Service. 1974. Soil Survey of Comal and Hays Counties, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station. 136 pp.

(TCEQ) Texas Commission on Environmental Quality. 2001. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. November 28, 2001. Austin, Texas.

TABLES

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Weston Tract (15 Acre)

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
F-1	29.42705	-98.09983	SH	20	Ked	4	2.5	2.5			NA	1	O	24	44		X	X		HT
F-2	29.42712	-98.09683	SF	20	Ked	5	2	4.5	N 60 E		NA	0	C	32	52		X	X		HS
F-3	29.42731	-98.09627	SC	20	Ked	2	1	2	S 210 W		NA	2	C-O-F	30	50		X	X		HS
F-4	29.42747	-98.09689	SH	20	Ked	25	25	2.5			NA	0	C-O	28	48		X	X		HT
F-5	29.42745	-98.09685	SH	20	Ked	35	35	2.5			NA	0	C	28	48		X	X		HS
F-6	29.42733	-98.097	SH	20	Ked	4	4	2	S 240 W		NA	0.75	C	30	50		X	X		HS
F-7	29.42731	-98.09684	SC	20	Ked	0.1	0.8	1.5			NA	0	O	18	38	X		X		HS
F-8	29.42716	-98.09725	SF	20	Ked	1	0.5	2	S 230 W		NA	0	V-O	18	38	X		X		HS

* DATUM: WGS 84

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Talus, Ridge, 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 set forth in 30 TAC Chapter 213.

STATE OF TEXAS STAN REECE GEOLOGY No. 3295 LICENSED PROFESSIONAL GEOSCIENTIST

Date 11/12/2007

Sheet 1 of 1

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

FIGURES

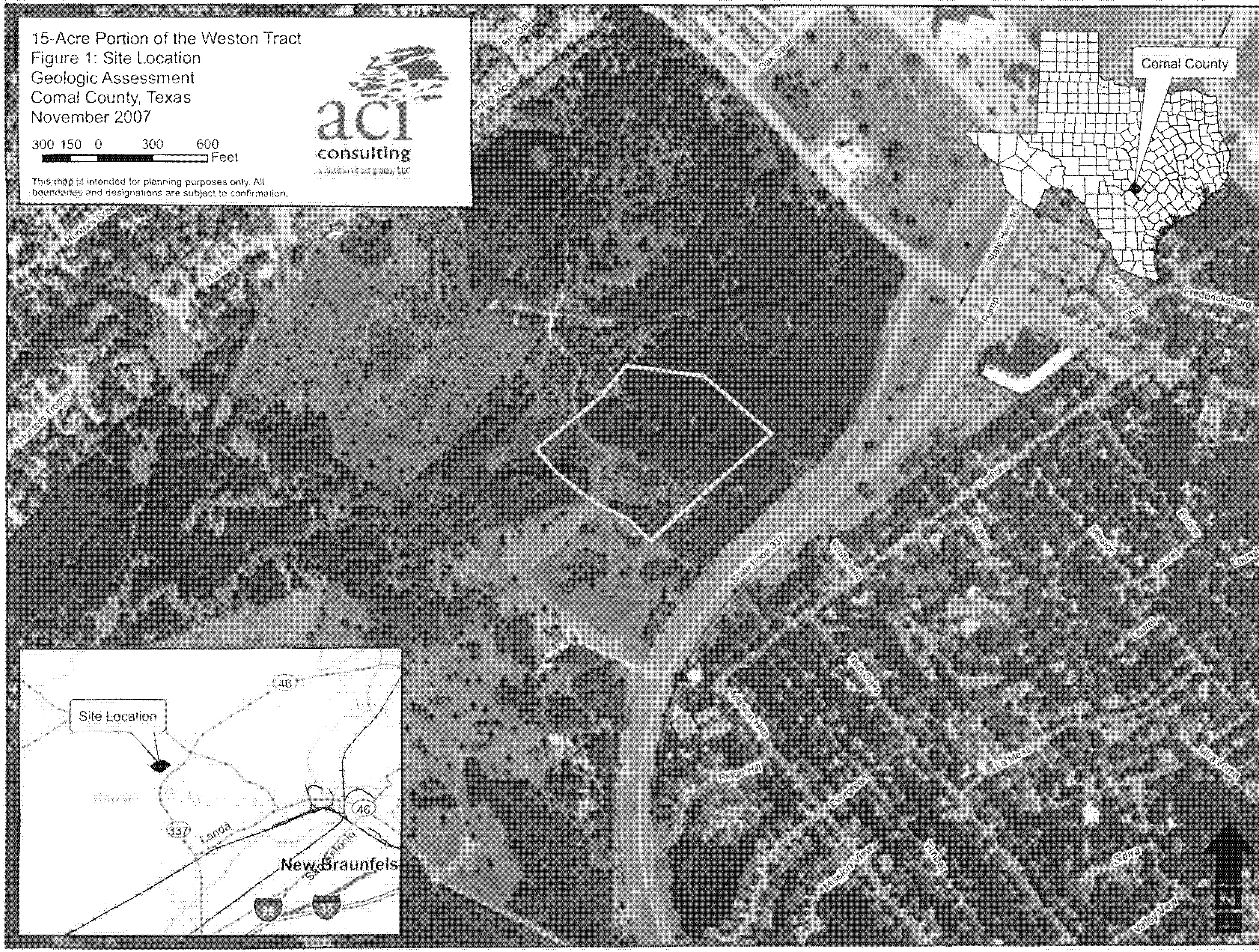
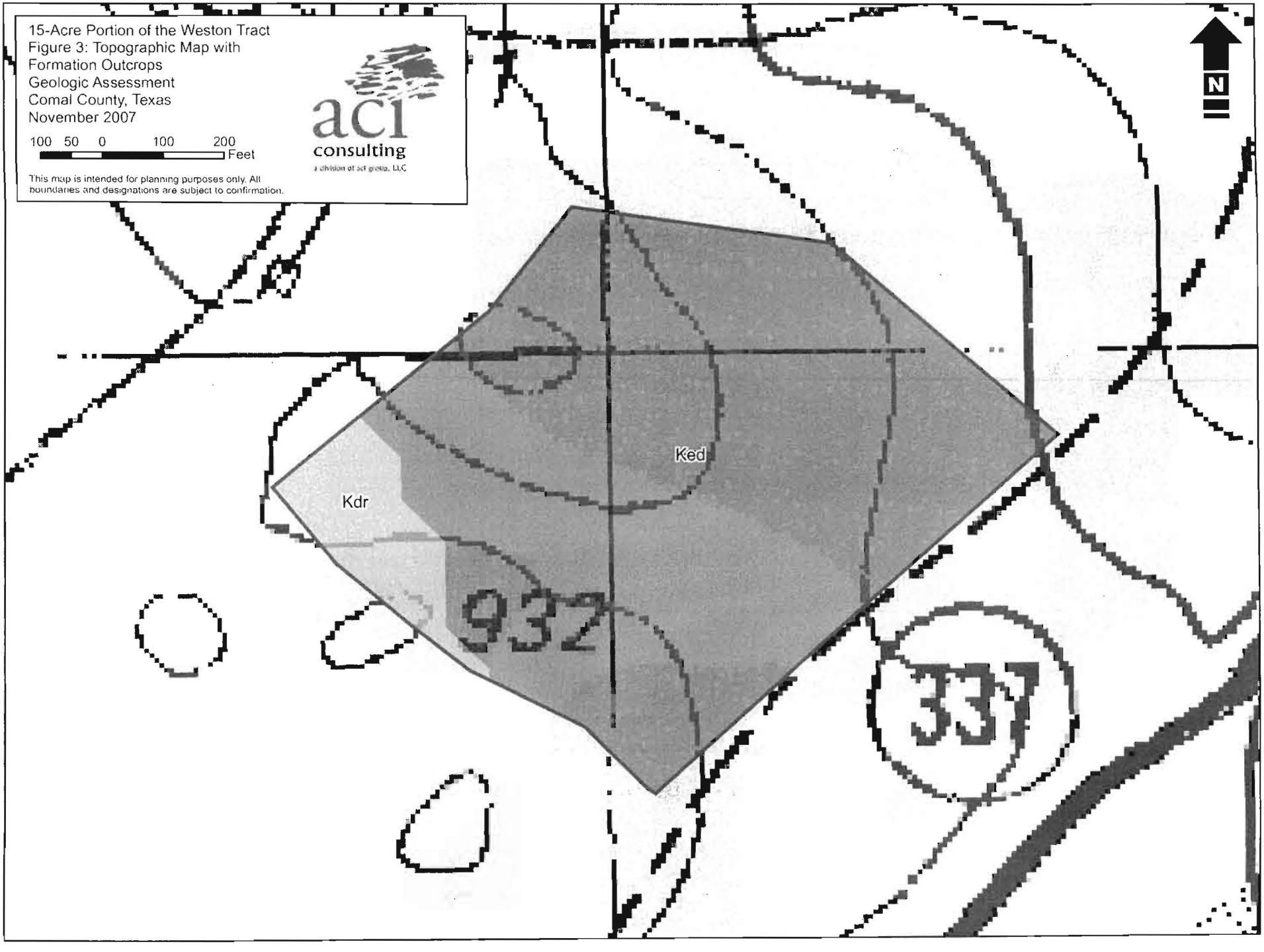
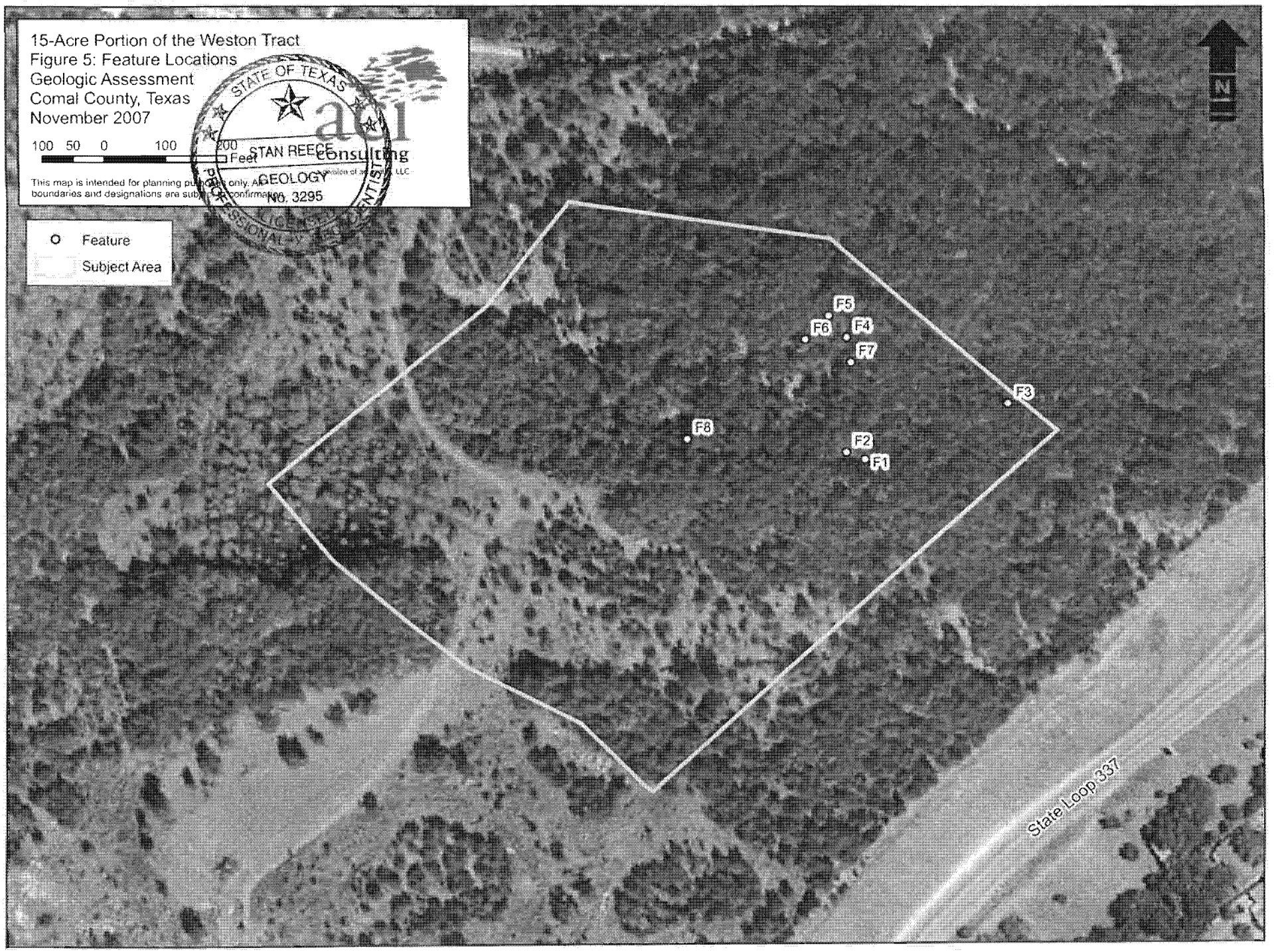

15-Acre Portion of the Weston Tract
Figure 1: Site Location
Geologic Assessment
Comal County, Texas
November 2007
300 150 0 300 600
Feet
aci
consulting
This map is intended for planning purposes only. All boundaries and designations are subject to confirmation.
Comal County
Site Location
46
46
337
Landa
New Braunfels
35
35
Big Oak
Oak Spur
State Hwy 46
Ramp
Arbor
Ohio
Fredericksburg
Hunters Trophy
State Loop 337
Kerlick
Ridge
Mission
Encino
Laurel
Laurel
Laurel
Walhalla
Twin Oaks
Mission Hill
Ridge Hill
Evergreen
La Mesa
Mira Loma
Mission View
Timber
Sierra
Valley View
N

Figure 2
Stratigraphic Column
Weston Tract

System	Group or Formation	Thickness	Description
Cretaceous	Del Rio Clay (Kdr)	Unknown	Dark gray to olive brown, calcareous clay, some pyritic
Cretaceous	Edwards Limestone (Ked)	Unknown	Mostly hard and dense, thin bedded, dark gray, fine to medium grained limestone, some dolomitic. Tree cover is sparse in western portion of formation.


15-Acre Portion of the Weston Tract
Figure 3: Topographic Map with
Formation Outcrops
Geologic Assessment
Comal County, Texas
November 2007
100 50 0 100 200
Feet
This map is intended for planning purposes only. All boundaries and designations are subject to confirmation.
aci
consulting
N
Ked
Kdr
932
337


15-Acre Portion of the Weston Tract
Figure 4: Site Soils
Geologic Assessment
Comal County, Texas
November 2007
100 50 0 100 200
Feet
This map is intended for planning purposes only. All boundaries and designations are subject to confirmation.
aci
consulting
a division of aci group, LLC
N
RUD
MEC
KrB
RUD
State Loop 337


15-Acre Portion of the Weston Tract
Figure 5: Feature Locations
Geologic Assessment
Comal County, Texas
November 2007
100 50 0 100 200
Feet
This map is intended for planning purposes only. All
boundaries and designations are subject to confirmation.
STATE OF TEXAS
STAN REECE
GEOLOGY
No. 3295
aci
Consulting
Feature
Subject Area
N
F1
F2
F3
F4
F5
F6
F7
F8
State Loop 337

aci
consulting

GEOLOGIC ASSESSMENT FOR THE WESTON 121-ACRE TRACT

Comal County, Texas

October 2007

Prepared for:

Investor Grosenbacher &
Integrated Realty Group
11202 Disco Drive
San Antonio, Texas 78216

Prepared by:

aci consulting
1001 Mopac Circle, Suite 100
Austin, Texas 78746

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: Weston 121 Acre Tract – Comal County, Texas

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)
Krum clay (Krb) – 1 to 3 percent slopes	C	4-5 ft
Medlin-Eckrant association (MEC), undulating	D	1-2 ft
Medlin-Eckrant association (MED), hilly	D	4-5 ft
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* 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" = 200 '
Site Geologic Map Scale 1" = 200 '
Site Soils Map Scale (if more than 1 soil type) 1" = 200 '

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

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

X There are 1 (#) 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.
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__ The wells are in use and comply with 16 TAC Chapter 76.
__ There are no wells or test holes of any kind known to exist on the project site.

ADMINISTRATIVE INFORMATION

12. __ One (1) original and three (3) copies of the completed assessment has been provided.

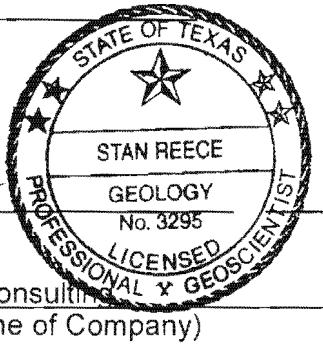
Date(s) Geologic Assessment was performed: September 13 and 17, and October 10, 2007
Date(s)

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.

Stan Reece P.G.
Print Name of Geologist

(512) 347-9000
Telephone

(512) 306-0974
Fax



Signature of Geologist

Date

Representing: aci consulting
(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.

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October 17, 2007

Geologic Assessment for the Weston 121-acre Tract in Comal County, Texas

1.0 INTRODUCTION

The purpose of this task is to identify "karst" features during a pedestrian survey for the property known as the Weston 121-acre tract in New Braunfels, Comal County, Texas. The Weston 121-acre property, hereafter referred to as the subject area, is located at the northwest corner of State Loop 337 and Highway 46 in New Braunfels, Comal County, Texas (Figure 1).

2.0 SCOPE

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP). The scope of the report consists of a site reconnaissance and field survey and review of existing data and reports. Features identified during the field survey are ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards Aquifer Recharge Zone Features. The ranking of the features determines their viability as a recharge feature.

3.0 INVESTIGATION METHOD

The following investigation methods and activities were used to develop this report:

- A review of existing files and literature to determine the regional geology and known caves associated with the property;
- A review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the property;
- A site reconnaissance performed by a registered professional geologist to identify and examine caves, recharge features, and other significant geological features; and,
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone.

4.0 PROPOSED SURVEY AREA USE

The site will be utilized for the construction of a commercial / retail complex.

5.0 REGIONAL AND SITE GEOLOGY

The site lies within the Edwards aquifer recharge zone as defined by the TCEQ (TCEQ 2001). The geologic strata associated with the Edwards aquifer include the Georgetown Formations overlying the Edwards Limestone Group, interfingering with the Comanche Peak Formation in Williamson County. These rocks are underlain by the Walnut Formation, which has members including the Whitestone Member, Keys Valley Marl Member, the Cedar Park Member, the Bee Cave Member and the Bull Creek Member. The Glen Rose Formation, another marine limestone, is located below the Walnut Formation. The dominant structural trend of known faults in the area is to the northeast on a bearing of approximately 40 to 50 degrees to the northeast (USGS, New Braunfels West Quadrangle, 1993).

Surface geology of the area is dominated by consistent outcrops of the Edwards Limestone Formation (Ked), Del Rio Clay (Kdr) and Buda Limestone (Kbu). Outcrops of the Edwards Limestone on the site occur as light-gray to gray, thick bedded limestone. Some outcrops are dolomitic in nature. Outcrops of Del Rio clay on the property appear as blocky medium-gray to light gray silty clay. Buda Limestone on the property outcrops as fine-grained dark to medium gray partially weathered limestone. Figure 2 depicts the stratigraphic column for the site. A topographic map with formation outcrops is included as Figure 3.

6.0 KARST FEATURES IN COMAL COUNTY, TEXAS

In limestone terrains, karst is expressed by erratically developed cavernous porosity and the manifestations of sinkholes, voids, and erratic surface drainage. Karst landscapes are typical of the Edwards Limestone, occurring across a vast region of Central Texas west of the Balcones Escarpment, and these processes are critical to understanding the Edwards Aquifer within its various segments. The features produced by karst processes (voids, holes, and solution layers) eventually provide conduits for surface water runoff and "point recharge" for the Edwards aquifer. The identification and protection of these features in established recharge areas is critical to maintaining groundwater quality and species habitat. The United States Fish and Wildlife Service (USFWS) and the TCEQ require protective strategies within these areas to ensure recharge and endangered species habitat protection prior to, during, and upon completion of construction activities. The subject area is located in Comal County which is not within an area where endangered karst invertebrates exist or may be known to exist.

7.0 SITE SOILS

The description of the site soils are derived from two sources:

- Utilization of the "Soil Survey of Comal County, Texas," January, 1984, compiled by the United States Department of Agriculture (USDA) Natural Resource Conservation Service; and,
- Field observations made during the site reconnaissance.

Four soil units are identified within the subject area:

Krum clay (Krb) – 1 to 3 percent slopes – These gently sloping soils occur on stream terraces and valley hills. Typically, the surface layer consists of dark gray clay about 16 inches thick with subsoil, to a depth of 58 inches, consisting of grayish, brown clay. This soil is typically well-drained with moderate permeability.

Medlin-Eckrant association, undulating (MEC) – This association consists of very shallow and deep soils on upland areas in the Edwards Plateau area. The typical surface layer of Medlin consists of nine inches of grayish, brown clay. The subsoil is olive clay to a depth of approximately 24 inches, and mottled pale olive and pale yellow clay to a depth of 38 inches. The Medlin soil is well-drained with rapid surface runoff and slow permeability.

The Eckrant soil consists of a surface layer of dark brown extremely stony clay approximately 17 inches thick with underlying material consisting of fractured limestone bedrock. The Eckrant soil is well drained with rapid surface runoff and moderately slow permeability.

Medlin-Eckrant association, hilly (MED) – This association consists of very shallow and deep soils in the Edwards Plateau area. Typically, the Medlin soils has a grayish brown surface layer about 11 inches thick that is stony clay in the upper part and clay in the lower part. The subsoil is a light yellowish brown clay that has yellowish brown and olive mottles. The underlying material is a light gray shaly clay that has yellow and olive yellow mottles. The Medlin soil is well-drained with rapid surface runoff and very slow permeability.

The surface layer of the Eckrant soil is very dark extremely stony clay about 16 inches in thickness with underlying material consisting of fractured limestone bedrock. The Eckrant soil is well drained with rapid surface runoff and moderately slow permeability.

Rumple-Comfort association (RUD), undulating – This association consists of shallow and moderately deep upland soils in the Edwards Plateau area. Rumple soils make up approximately 60 percent of the association, Comfort soils make up 20 percent, and other soils, mainly Tarpley soils, make up 20 percent. The typical surface layer of the Rumple soil consists of dark reddish-brown cherty clay loam about 10 inches thick. The subsoil to a depth of 28 inches is dark reddish-brown extremely stony clay.

The surface layer of the Comfort soil is dark brown, extremely stony clay to about 7 inches. The subsoil to a depth of 12 inches is dark, reddish-brown, mildly alkaline, extremely stony clay. The underlying material is indurated non-calcareous fractured limestone throughout. All soils in this association are well-drained with moderate surface runoff.

A site soils map is included as Figure 4.

8.0 PREVIOUS SITE INVESTIGATIONS

There are no known previous site investigations conducted for this property according to information received from the property developer.

9.0 DESCRIPTION OF SITE FEATURES

All features listed below were identified and assessed by aci personnel during a site visit conducted on September 13 and 17, and October 10, 2007. A total of 5 geologic features and one hand dug water well/cistern were identified within the property boundaries during the reconnaissance for this geologic assessment. A feature location map is included as Figure 5. All feature descriptions are identified as follows:

Feature 1
GPS: N 29.71298 W -98.16708

This feature is a sinkhole with a length, width and vertical depth of 5 feet, 4 feet, and 1.5 feet, respectively. Infill material consists of cobbles, loose soil, leaf litter, and other organic material. The feature is located on a hillside, and the drainage area appears to be less than 1.6 acres. Relative infiltration rate of this feature is low (17 points). The TCEQ Geologic Assessment sensitivity rating is 37.

Recommendations: No further activities are recommended for this feature.

Feature 2
GPS: N 29.71223 W -98.16835

This feature is a series of six solution-enlarged cavities, the largest of which has a length, width and vertical depth of 2 feet, 1 foot, and greater than 4 feet, respectively. Infill material consists of cobbles, breakdown, sand, and gravel. Drainage area appears to be less than 1.6 acres. Relative infiltration rate of this feature is intermediate (30 points). The TCEQ Geologic Assessment sensitivity rating is 50.

Recommendations: A minimum setback of 50-feet corresponding to the associated drainage area is recommended for this feature.

Feature 3
GPS: N 29.71187 W -98.16875

This feature is a natural bedrock feature with a length, width and vertical depth of 20 feet, 5 feet, and 1 foot, respectively. The feature is located on a hillside, and the drainage area appears to be less than 1.6 acres. Relative infiltration rate of this feature is low (15 points). The TCEQ Geologic Assessment sensitivity rating is 30.

Recommendations: No further activities are recommended for this feature.

Feature 4
GPS: N 29.71395 W -98.16253

This feature consists of a solution cavity with a length, width and vertical depth of 1 foot, 0.75 foot, and 2 feet, respectively. The feature has a horizontal extent in excess of 5 feet. This feature also appears to be utilized as an animal burrow. Infill material consists of leaf litter and other organic material. This feature is located on a hillside, and the drainage area to the feature appears to be less than one acre. The relative infiltration rate is moderate (25 points) and the TCEQ sensitivity rating is 45.

Recommendations: Excavation of the feature to determine extent and recharge potential or installation of a minimum 50-foot setback corresponding to the drainage area.

Feature 5
GPS: N 29.71401 W -98.16268

This feature is small collapsed sinkhole with a solution cavity. The solution cavity has a length, width and vertical depth of 1 foot, 1 foot, and 1.5 feet, respectively. The collapsed area has a length, width and vertical depth of 6 feet, 6 feet and 1.5 feet, respectively. Infill material within the solution cavity consists or soil, leaf litter, and other organic material. This feature is located on a hillside, and the drainage area for the

feature appears to be less than one acre. Infiltration rate is moderate (26 points) and the TCEQ sensitivity rating is 46.

Recommendations: Excavation of feature to determine extent and recharge potential or installation of a minimum 50-foot setback corresponding to the drainage area.

Feature 6
GPS: N 29.71452 W -98.16544

This feature is a manmade feature in bedrock (hand dug well/cistern). The depth of the feature is unknown as it was full of water. Infiltration rate is high (35 points) and the TCEQ sensitivity rating is 65.

Recommendations: If this feature is not going to be preserved as part of development on the site, then it should be plugged and abandoned by a licensed water well driller prior to commencement of development activities.

10.0 SUMMARY OF FINDINGS

A total of 6 geologic or manmade features identified within the subject area. Four of the features were rated as sensitive under TCEQ guidelines.

11.0 RECOMMENDATIONS

Recommendations for each feature are included below the individual feature descriptions.

aci consulting

12.0 REFERENCES

United States Geological Survey (USGS), New Braunfels West Quadrangle (1993), Bureau of Economic Geology, The University of Texas at Austin.

Soil Conservation Service. 1984. Soil Survey of Comal County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.

(TCEQ) Texas Commission on Environmental Quality. 2001. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. November 28, 2001. Austin, Texas.

TABLE

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Weston 121-acre Tract

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C *	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	ROCK	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	
F-1	29.71298	-98.16708	SH	20	Kdr	5	4	1.5					C,O	17	37	X		X		Hillside
F-2	29.71223	-98.16835	SC	20	Kdr	2	1	4+				2	C	30	50		X	X		Flat
F-3	29.71187	-98.16875	O	5	Kdr	20	5	1	NE - 30	10			N	15	30	X		X		Hillside
F-4	29.71395	-98.16253	SC	20	Kdr	1	0.8	2				1	O	25	45		X	X		Hillside
F-5	29.71401	-98.16268	SH	20	Kdr	6	6	1.5				1	O	26	46		X	X		Hillside
F-6	29.71452	-98.16544	MB (WW)	30	Kdr	6	6	N/A					X	35	65		X	X		Flat

* DATUM WGS 84

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

STATE OF TEXAS
STAN REECE
GEOLOGY
No. 3295
LICENSED
PROFESSIONAL GEOSCIENTIST

Date 10/11/2007

Sheet 1 of 1

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

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consulting

FIGURES

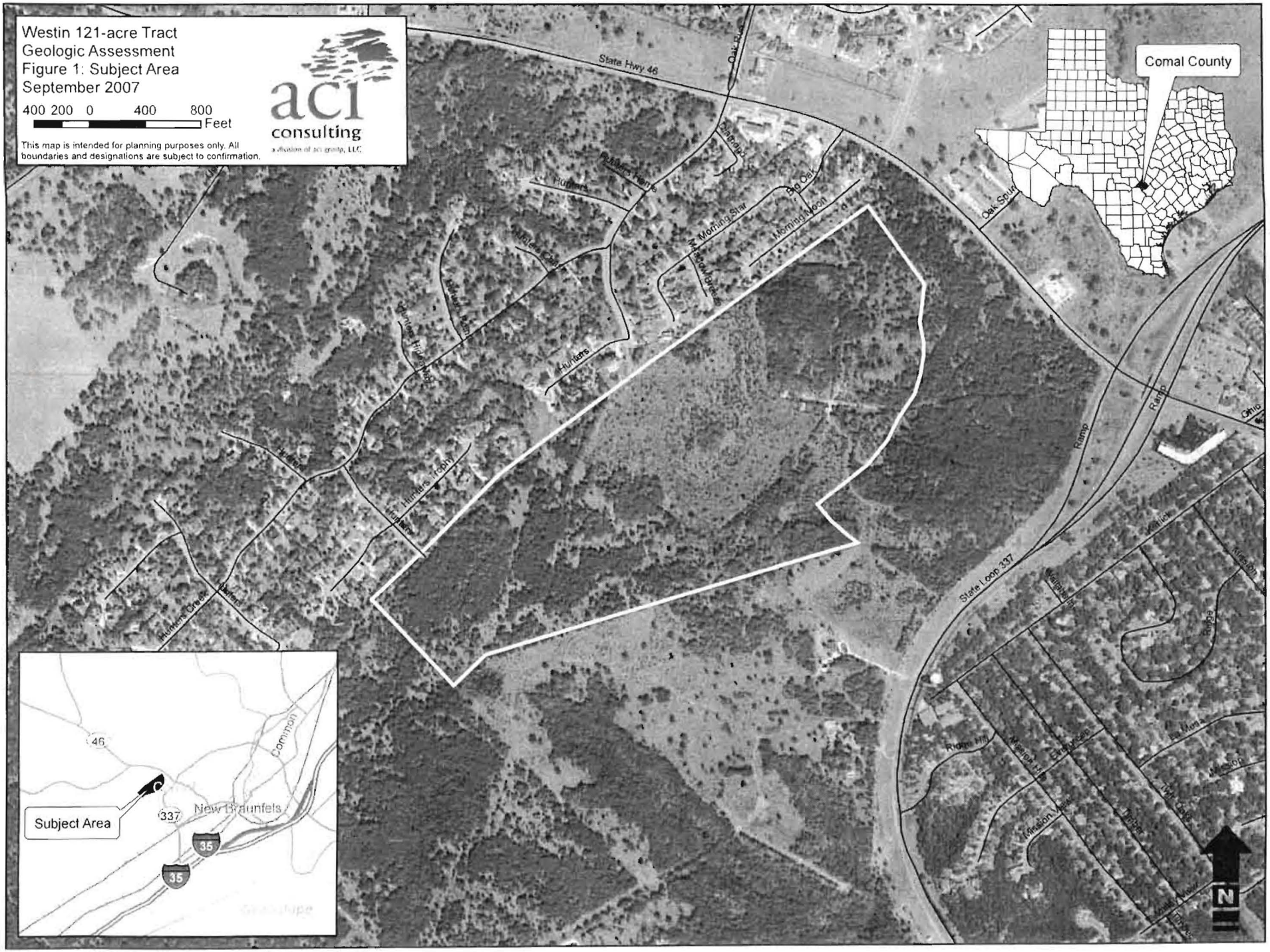
Westin 121-acre Tract
Geologic Assessment
Figure 1: Subject Area
September 2007
400 200 0 400 800
Feet
This map is intended for planning purposes only. All boundaries and designations are subject to confirmation.
aci consulting
a division of aci group, LLC
Comal County
State Hwy 46
Oak Run
Oak Spur
Hunters
Hunters Ridge
Hunters Creek
Hunters Trophy
Morning Star
Morning Noon
Big Oak
Ramp
State Loop 337
Subject Area
New Braunfels
Common
46
337
35
35
N

Figure 2
Stratigraphic Column
Weston Tract (121-acre portion)

System	Group or Formation	Thickness	Description
Upper Cretaceous	Buda Limestone (Kbu)	0 - 15 feet	Fine-grained, hard, pyritiferous, light tan to gray limestone. Scattered pelecypods noted during reconnaissance.
Lower Cretaceous	Del Rio Clay (Kdr)	Unknown	Dark gray to olive brown, calcareous clay, some pyretic.
Lower Cretaceous	Edwards Limestone (Ked)	Unknown	Mostly hard and dense, thin bedded, dark gray, fine to medium grained limestone, some dolomitic. Tree cover is sparse in western portion of formation.

Weston 121-acre Tract
Geologic Assessment
Figure 3: Topographic Map with
Formation Outcrops
September 2007

0 100 200 400 600
Feet

This map is intended for planning purpoese only. All boundaries are designations are subject to confirmation.

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N

Ked

Kbu

Kdr

Ked

Mission

BM

931

932

337

900

916

Wat
Tank

Weston 121-acre Tract
Geologic Assessment
Figure 4: Site Soils
September 2007

0 100 200 400 600
Feet

This map is intended for planning purpoese only. All boundaries are designations are subject to confirmation.

aci consulting
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N

MED
RUD
KrB
MEC
RUD

Figure 5: Feature Locations
Weston Tract GA
Comal County, Texas
October 2007

STATE OF TEXAS
STAN REECE
GEOLOGY
No. 3295
PROFESSIONAL GEOSCIENTIST

acl Consulting
A Division of ac Brands, LLC

Disclaimer:
This map is intended for planning purposes. Boundaries and designations are subject to confirmation.

F1
F2
F3
F4
F5
F6

200 100 0 200 400 600
Feet
1:2,400
1 inch equals 200 Feet
N

aci
consulting

GEOLOGIC ASSESSMENT
FOR THE
WESTON TRACT

Comal County, Texas

October 2007

Prepared for:

H.E.B Grocery Company, LP and B&O Development G.P., L.L.C.
c/o
Barshop and Oles, Inc.
900 Isom Road, Suite 300
San Antonio, Texas 78216

Prepared by:

aci consulting
1001 Mopac Circle, Suite 100
Austin, Texas 78746

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: Weston Tract (50 Acre)– Comal County

TYPE OF PROJECT: X WPAP __ AST __ SCS __ UST

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PROJECT INFORMATION

1. X Geologic or manmade features are described and evaluated using the attached **GEOLOGIC ASSESSMENT TABLE**.

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Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group *	Thickness (feet)
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11. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.):

_ There are water wells present within the project corridor study area 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 well are in use and complies with 16 TAC §76.

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

ADMINISTRATIVE INFORMATION

12. X One (1) original and three (3) copies of the completed assessment have been provided.

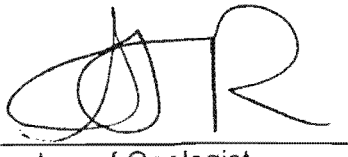
Date(s) Geologic Assessment was performed: July 25, 2007
Date(s)

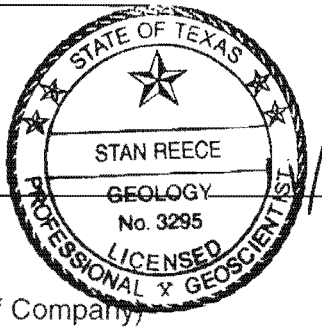
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC 213.

Stan Reece P.G.
Print Name of Geologist

(512) 347-9000
Telephone

(512) 306-0974
Fax





12/2007
Signature of Geologist Date

Representing: aci consulting
(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 512/939-2929 (Austin) or 210/403-4024 (San Antonio).

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LIST OF FIGURES

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October 2007

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The following investigation methods and activities were used to develop this report:

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The site will be utilized for the construction of a commercial / retail complex.

5.0 REGIONAL AND SITE GEOLOGY

The site lies within the Edwards aquifer recharge zone as defined by the TCEQ (TCEQ 2001). The geologic strata associated with the Edwards aquifer include the Georgetown Formations overlying the Edwards Limestone Group, interfingering with the Comanche Peak Formation in Williamson County. These rocks are underlain by the Walnut Formation, which has members including the Whitestone Member, Keys Valley Marl Member, the Cedar Park Member, the Bee Cave Member and the Bull Creek Member. The Glen Rose Formation, another marine limestone, is located below the Walnut Formation. The dominant structural trend of known faults in the area is to the northeast on a bearing of approximately 30 to 40 degrees and to the southwest on a bearing of approximately 210 to 220 degrees.

Surface geology of the area is dominated by consistent outcrops of the Edwards Limestone Formation which is contained within the Fredericksburg Group. Outcrops on the site occur as light-gray to gray, thick bedded limestone. Some outcrops are dolomitic in nature. Figure 2 depicts the stratigraphic column for the site. A topographic map with formation outcrops is included as Figure 3.

6.0 KARST FEATURES IN COMAL COUNTY, TEXAS

In limestone terrains, karst is expressed by erratically developed cavernous porosity and the manifestations of sinkholes, voids, and erratic surface drainage. Karst landscapes are typical of the Edwards Limestone, occurring across a vast region of Central Texas west of the Balcones Escarpment, and these processes are critical to understanding the Edwards Aquifer within its various segments. The features produced by karst processes (voids, holes, and solution layers) eventually provide conduits for surface water runoff and "point recharge" for the Edwards aquifer. The identification and protection of these features in established recharge areas is critical to maintaining groundwater quality and species habitat. The United States Fish and Wildlife Service (USFWS) and the TCEQ require protective strategies within these areas to ensure recharge and endangered species habitat protection prior to, during, and upon completion of construction activities. The subject area is located in Comal County which is not within an area where endangered karst invertebrates exist or may be known to exist.

7.0 SITE SOILS

The description of the site soils are derived from two sources:

- Utilization of the "Soil Survey of Comal County, Texas," January, 1984, compiled by the United States Department of Agriculture (USDA) Natural Resource Conservation Service; and,
- Field observations made during the site reconnaissance.

There are two main soil units identified within the subject area:

Krum clay (Krb) – 1 to 3 percent slopes – These are gently sloping soils occurring on stream terraces and valley hills. Typically, the surface layer consists of dark gray clay about 16 inches thick with subsoil to a depth of 58 inches consisting of grayish, brown clay. This soil is typically well-drained with moderate permeability.

Rumple-Comfort association (RUD), undulating – This association consists of shallow and moderately deep upland soils in the Edwards Plateau area. Rumple soils make up approximately 60 percent of the association, Comfort soils make up 20 percent and other soils, mainly Tarpley soils make up 20 percent. The typical surface layer consists of dark reddish-brown cherty clay loam about 10 inches thick. The subsoil to a depth of 28 inches is dark reddish brown extremely stony clay. The soil is mildly alkaline and non-calcareous throughout.

The surface layer of the Comfort soil is dark brown, extremely stony clay to about 7 inches. The subsoil to a depth of 12 inches is dark, reddish-brown, mildly alkaline, extremely stony clay. The underlying material is indurated non-calcareous fractured limestone throughout. All soils in this association are well-drained with moderate surface runoff.

A site soils map is included as Figure 4 in this report.

8.0 PREVIOUS SITE INVESTIGATIONS

There are no known previous site investigations conducted for this property according to information received from the property developer.

9.0 DESCRIPTION OF SITE FEATURES

During a site visit conducted on July 25, 2007 there were no features identified within the site boundary.

10.0 SUMMARY OF FINDINGS

No geologic or manmade features were identified within the site boundary.

11.0 RECOMMENDATIONS

As there are no features found within the site boundary, there are no recommendations for the site.

aci consulting

12.0 REFERENCES

Barnes, V.E. 1974. Geologic Atlas of Texas, Austin Sheet. Bureau of Economic Geology, The University of Texas at Austin.

Soil Conservation Service. 1974. Soil Survey of Comal County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station. 136 pp.

(TCEQ) Texas Commission on Environmental Quality. 2001. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. November 28, 2001. Austin, Texas.

feature appears to be less than one acre. Infiltration rate is moderate (26 points) and the TCEQ sensitivity rating is 46.

Recommendations: Excavation of feature to determine extent and recharge potential or installation of a minimum 50-foot setback corresponding to the drainage area.

Feature 6
GPS: N 29.71452 W -98.16544

This feature is a manmade feature in bedrock (hand dug well/cistern). The depth of the feature is unknown as it was full of water. Infiltration rate is high (35 points) and the TCEQ sensitivity rating is 65.

Recommendations: If this feature is not going to be preserved as part of development on the site, then it should be plugged and abandoned by a licensed water well driller prior to commencement of development activities.

10.0 SUMMARY OF FINDINGS

A total of 6 geologic or manmade features identified within the subject area. Four of the features were rated as sensitive under TCEQ guidelines.

11.0 RECOMMENDATIONS

Recommendations for each feature are included below the individual feature descriptions.

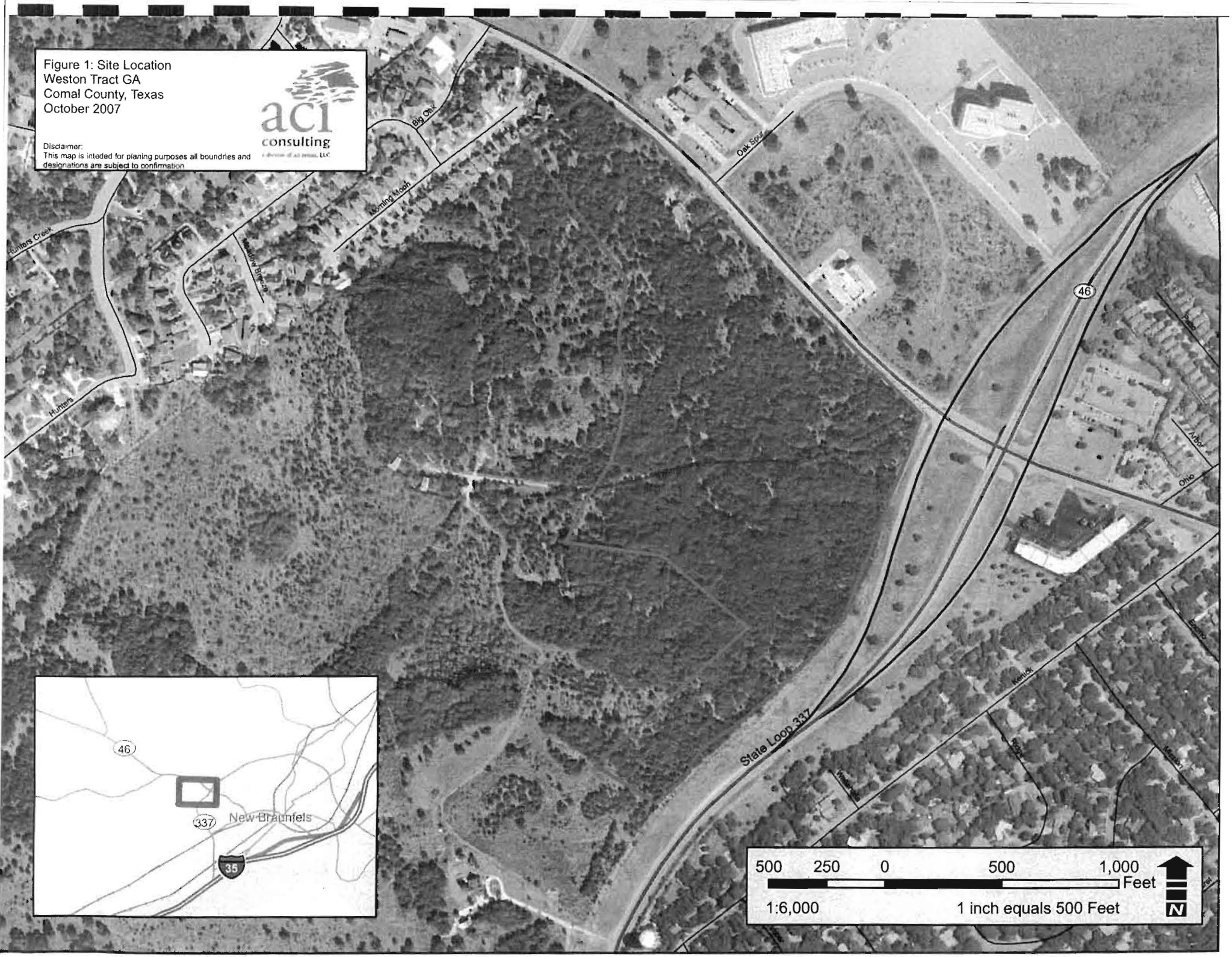


Figure 1: Site Location
Weston Tract GA
Comal County, Texas
October 2007
aci consulting
Disclaimer:
This map is inteded for planing purposes all boundries and designations are subject to confirmation
Big Oak
Oak Spur
Morning Mosh
Meadow Brook
Hunters Creek
Hunters
46
Ohio
State Loop 337
Kenlick
500 250 0 500 1,000 Feet
1:6,000
1 inch equals 500 Feet
N
46
337
New Braunfels
35

Figure 2
Stratigraphic Column
Weston Tract

System	Group or Formation	Thickness	Description
Cretaceous	Del Rio Clay (Kdr)	Unknown	Dark gray to olive brown, calcareous clay, some pyritic
Cretaceous	Edwards Limestone (Ked)	Unknown	Mostly hard and dense, thin bedded, dark gray, fine to medium grained limestone, some dolomitic. Tree cover is sparse in western portion of formation.

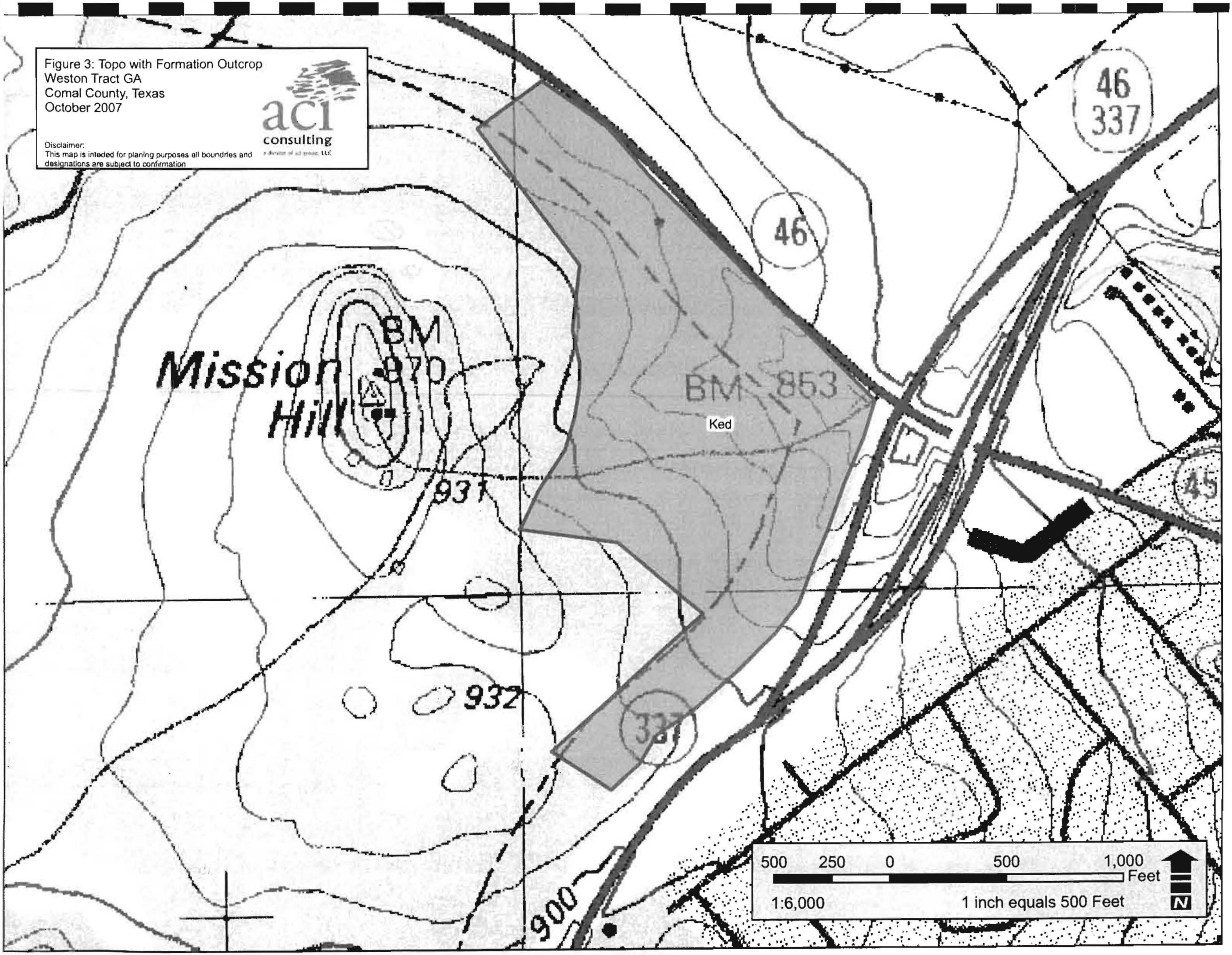


Figure 3: Topo with Formation Outcrop
Weston Tract GA
Comal County, Texas
October 2007
Disclaimer:
This map is inteded for planing purposes all boundries and designations are subject to confirmation
aci consulting
Mission Hill
BM 870
931
932
BM 853
Ked
46
46 337
337
45
900
500 250 0 500 1,000 Feet
1:6,000
1 inch equals 500 Feet
N

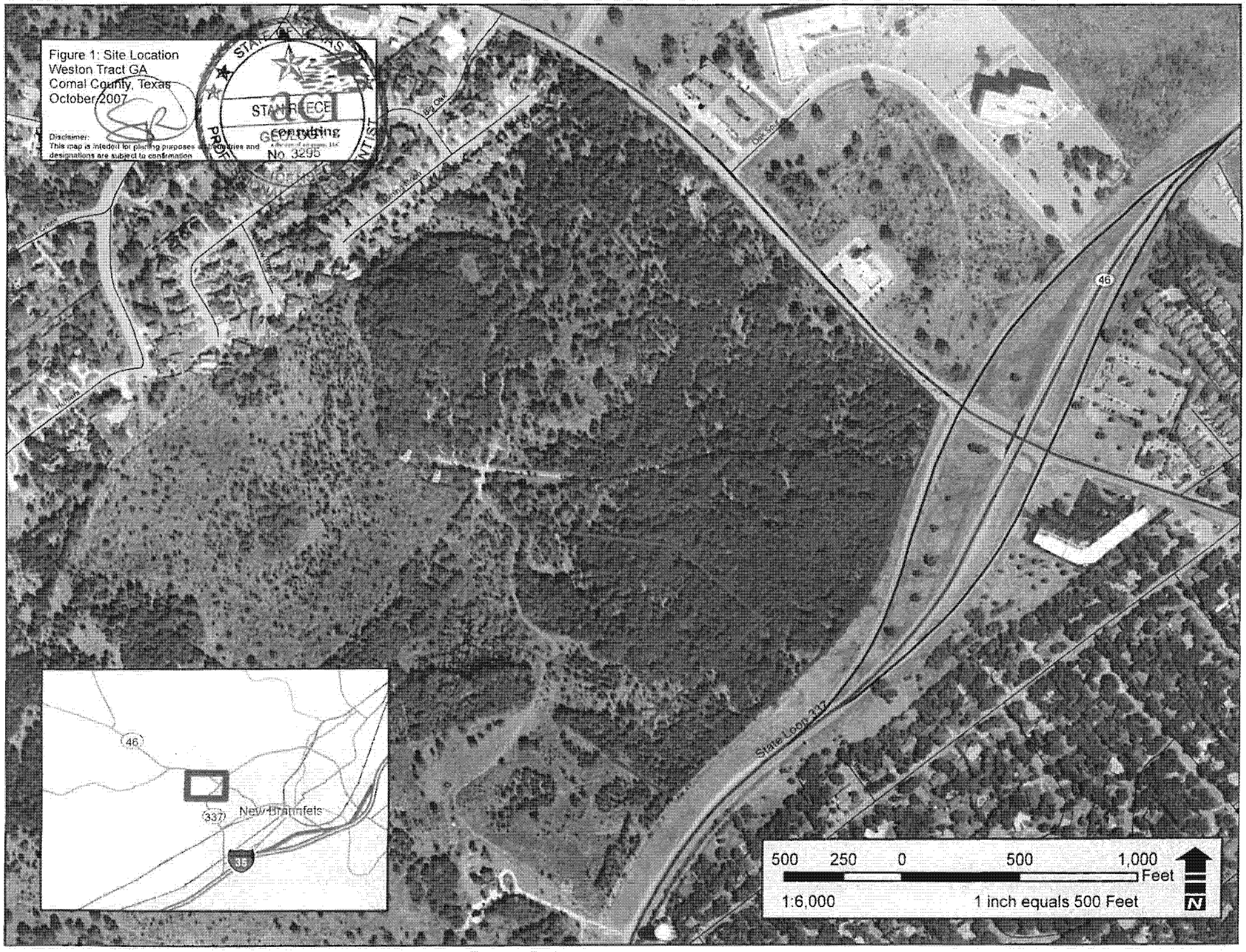


Figure 1: Site Location
Weston Tract GA
Comal County, Texas
October 2007
Disclaimer:
This map is intended for planning purposes only. Boundaries and designations are subject to confirmation
STATE OF TEXAS
STAN REECE
GEOLOGY
No. 3295
46
337
35
New Braunfels
State Loop 337
500 250 0 500 1,000
Feet
1:6,000
1 inch equals 500 Feet
N


Figure 5: Feature Locations
Weston Tract GA
Comal County, Texas
October 2007
Disclaimer:
This map is inteded for planing purposes all boundries and designations are subject to confirmation
aci consulting
a division of aci group, LLC
STATE OF TEX
REECE
250 125 0 250
Feet
1:2,400
1 inch equals 200 Feet
N

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: ***Westpointe***

REGULATED ENTITY INFORMATION

1. The type of project is:
   __ Residential: # of Lots: _____
   __ Residential: # of Living Unit Equivalents: _____
   √ Commercial
   __ Industrial
   √ Other: ***Road project***

2. Total site acreage (size of property): ***45.96***

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

   There will be no permanent population.

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 ***(Water Tower)***	***3,318***	÷ 43,560 =	***0.08***
Parking	***-0-***	÷ 43,560 =	***-0-***
Other paved surfaces ***(Road & Driveways)***	***378,101***	÷ 43,560 =	***8.68***
Total Impervious Cover	***381,419***	÷ 43,560 =	***8.76***
Total Impervious Cover) Total Acreage x 100 =			***19.06%***

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

   Potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the site during construction include:

   - ***Soil erosion due to the clearing of the site;***
   - ***Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings;***
   - ***Hydrocarbons from asphalt paving operations;***
   - ***Miscellaneous trash and litter from construction workers and material wrappings;***
   - ***Concrete truck washout;***
   - ***Spills/overflow from portable toilet(s).***

Potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the site after development include:

- ***Oil, grease, fuel and hydraulic fluid contamination from vehicle drippings;***
- ***Dirt and dust which may fall off vehicles; and***
- ***Miscellaneous trash and litter.***

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

FOR ROAD PROJECTS ONLY
Complete questions 7-12 if this application is exclusively for a road project.

This project is primarily a road project; thus the following information is provided:

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: _____

Independence Parkway

9. Length of Right of Way (R.O.W.): ***2,378*** feet.
   Width of R.O.W.: ***60*** feet.
   L x W = ***142,680*** Ft²) 43,560 Ft²/Acre = ***3.28*** acres.

Oak Run Parkway

Length of Right of Way (R.O.W.): ***2,885*** feet.
Width of R.O.W.: ***92*** feet ***(average)***.
L x W = ***265,420*** Ft²) 43,560 Ft²/Acre = ***6.09*** acres.

Independence Parkway

10. Length of pavement area: ***2,378*** feet.
    Width of pavement area: ***52*** feet.
    L x W = ***123,275*** Ft²) 43,560 Ft²/Acre = ***2.83*** acres.
    Pavement area ***2.83*** acres) R.O.W. area ***3.28*** acres x 100 = ***86.28***% impervious cover.

Oak Run Parkway

Length of pavement area: ***2,885*** feet.
Width of pavement area: ***68.9*** feet ***(average)***.
L x W = ***198,777*** Ft²) 43,560 Ft²/Acre = ***4.56*** acres.
Pavement area ***4.56*** acres) R.O.W. area ***6.09*** acres x 100 = ***74.88***% impervious cover.

11. ___ A rest stop will be included in this project.
    √ A rest stop will **not** be included in this project.

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

approval from the TCEQ.

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

13. √ **ATTACHMENT B - Volume and Character of Stormwater.** A description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is provided ~~at the end of this form~~ ***below***. The estimates of stormwater runoff quality and quantity should be based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Stormwater runoff will increase as a result of this development. For a 25-year storm event, the overall project will generate approximately 96 cfs. The runoff coefficient for the site changes from approximately 53, before development, to approximately 95 after development. Values are based on the Rational Method using runoff coefficients per the City of San Antonio. The stormwater can be characterized as overland flow.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

As this is primarily a road project, no wastewater will be generated.

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

N/A % Domestic	_____ gallons/day
__ % Industrial	_____ gallons/day
__ % Commingled	_____ gallons/day
TOTAL	_____ 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.

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

N/A Sewage Collection System (Sewer Lines):

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

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

- __ The SCS was previously submitted on _____.
- __ The SCS was submitted with this application.
- __ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to executive director approval.

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

- __ existing.
- __ proposed.

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

SITE PLAN REQUIREMENTS

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

17. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = ***200'***.

18. 100-year floodplain boundaries
__ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
√ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
FEMA FIRM Community –Panel Number 485463 0100C (Revised September 29, 1986

19. √ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Show lots, recreation centers, buildings, roads, etc.
__ The layout of the development is shown with existing contours. Finished topographic contours will not differ ***significantly*** from the existing topographic configuration and are not shown.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
__ There are ___(#) 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 30 TAC §238.
√ 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 and possibly sensitive** geologic or manmade features identified in the Geologic Assessment are shown and labeled.
__ No **sensitive and possibly 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 in ATTACHMENT D provided at the end of this form. Geologic or manmade features were found and are shown and labeled.
N/A **ATTACHMENT D - Exception to the Required Geologic Assessment.** An exception to the Geologic Assessment requirement is requested and explained in ATTACHMENT D provided at the end of this form. No geologic or manmade features were found.

The geologic features within the project limits are shown on Exhibits 1 and 2.

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

Drainage patterns are illustrated by arrows. Slopes vary throughout the site. Typical slopes in this project will range from 1.25% to 25.00%. Catch basin will be sloped at 3:1 max.

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

Areas will be disturbed per the Area of Disturbance exhibit attached. In addition,

the construction plans include a note, which will require the contractor to revegetate disturbed areas with seeding, hydromulch or sod and sprinkling.

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

Temporary BMPs and Permanent BMPs are shown on Exhibits 1 and 2, respectively.

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

Areas will be disturbed per the Area of Disturbance exhibit attached. In addition, the construction plans include a note, which will require the contractor to revegetate disturbed areas with seeding, hydromulch or sod and sprinkling.

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

There are no surface waters onsite.

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

ADMINISTRATIVE INFORMATION

28. √ One (1) original and three (3) copies of the completed application have been provided.

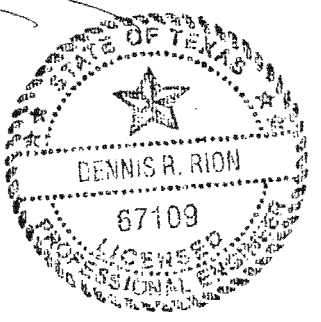
29. √ Any modification of this WPAP will require TCEQ executive director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

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

Pape-Dawson Engineers, Inc.
Dennis R. Rion, P.E.
Print Name of ~~Customer~~/Agent

Signature of ~~Customer/Agent~~

3-31-08
Date



LOCATION MAP
N.T.S.

LEGEND

LIMITS OF DISTURBANCE

NOT TO SCALE

REVISIONS:

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

WESTPOINTE
WATER POLLUTION ABATEMENT PLAN
AREA OF DISTURBANCE EXHIBIT

JOB NO. 6858-10
DATE MARCH 2008
DESIGNER MGB
CHECKED DR DRAWN RO
SHEET 1 of 1

Date: Mar 28, 2008, 4:24pm User ID: ROlivarez
File: P:\GIS\10\Design\Environmental\AREA OF DISTURBANCE.DWG

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: ***Westpointe***

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

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

   √ Aboveground storage tanks with a cumulative storage capacity of less that 250 gallons ~~will~~ ***may*** be stored on the site for less than one (1) year.
   __ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
   __ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An **Aboveground Storage Tank Facility Plan** application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
   __ Fuels and hazardous substances will not be stored on-site.

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

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

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

4. √ **ATTACHMENT B - Potential Sources of Contamination.** Describe ***below*** ~~in an attachment at the end of this form~~ any other activities or processes which may be a potential source of contamination.
   √ There are no other potential sources of contamination.

   Other potential sources of contamination during construction include:
   Potential Source • ***Asphalt products used on this project.***
   Preventative Measure ■ ***After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain.***

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

Preventative Measure ■ *Vehicle maintenance when possible will be performed within the construction staging area.*

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

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

Potential Source • *Construction debris.*

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

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

Preventative Measure ■ *Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets.*

■ *Portable toilets will be placed on a level ground surface.*

■ *Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.*

SEQUENCE OF CONSTRUCTION

5. √ **ATTACHMENT C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is provided ~~at the end of this form~~ ***below***. For each activity described, an estimate of the total area of the site to be disturbed by each activity is given.

The sequence of major activities which disturb soil during construction on this site will be divided into two stages. The first is site preparation that will include clearing and grubbing of vegetation where applicable. This will disturb approximately 45.17 acres. The second is construction of new pavement area, the elevated tank, installation of permanent BMPs, landscaping and site cleanup. This will disturb approximately 45.17 acres.

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

√ TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information has been provided ~~in the attachment at the end of this form~~ ***below***.

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

Upgradient flow will cross the project limits southwest of Oak Run Parkway. This area is undeveloped. Volume has been provided in "Catch Basin B" to capture this area.

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

Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of this work can begin, the clearing and grading contractor will be responsible for the installation of all on-site control measures. The methodology for pollution prevention of on-site stormwater will include: (1) erection of silt fences along the downgradient boundary of construction activities for temporary erosion and sedimentation controls, (2) installation of rock berms downgradient from areas of concentrated stormwater flow for temporary erosion control, (3) installation of stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, (4) installation of construction staging area(s), and (5) excavation of the catch basins for use as temporary sediment basins.

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

There are no surface streams onsite. Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features. Silt fence will be placed as appropriate, around naturally occurring sensitive features identified in the Geologic Assessment (GA).

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

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended

solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features.

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

BMP measures utilized in this plan are intended to allow stormwater to continue downstream after passing through the BMPs. Silt fence will be placed, as appropriate, around naturally-occurring sensitive features identified in the GA. This will allow stormwater runoff to continue downgradient to streams or features that may exist downstream of the site.

If any sensitive features are discovered during construction, all regulated activities near the sensitive feature shall be suspended. The TCEQ Regional office will be notified immediately and a plan will be submitted to TCEQ for treatment of the feature. See note 3 of TCEQ's WPAP General Construction Notes on Exhibit 1.

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

N/A **ATTACHMENT E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is provided at the end of this form. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

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

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

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

- ***Erection of silt fences along the downgradient boundary of construction activities and rock berms for secondary protection.***
- ***Installation of stabilized construction entrance/exit(s) and construction staging area(s).***
- ***Installation of inlet protection.***
- ***Installation of concrete truck washout pit(s), as required.***
- ***Excavation of the holding basins to provide temporary sediment basins.***

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

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

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

— For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to

protect down slope and side slope boundaries of the construction area.

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

A combination of measures such as silt fence, rock berms, gravel filter bags and sediment basins will be used within each disturbed area to protect down slope and side slope boundaries of the construction area.

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 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~~ ***below***.

The holding basins at either end of Oak Run Parkway will be used as temporary sediment basins during site construction for their respective watersheds. The basins will be converted to permanent holding basins after 70% of the pavement areas in each watershed have been paved.

Sediment Basin A = 17,196 cf x (1 acre/3,600 cf) = 4.78 acres (max. drainage area)

Sediment Basin B = 7,423 cf x (1 acre/3,600 cf) = 2.06 acres (max. drainage area)

These sediment basins will be used, along with silt fence, rock berms and gravel filter bags as temporary BMPs. All are adequate for the drainage areas they serve and are designed in accordance with TCEQ's TGM RG-348 (2005).

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

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

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

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

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

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

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

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

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

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

ADMINISTRATIVE INFORMATION

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

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

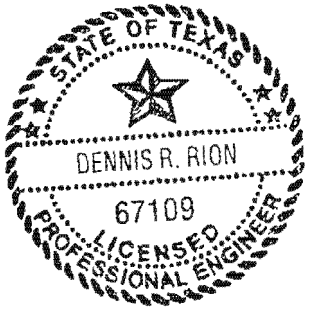
22. √ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

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

Pape-Dawson Engineers, Inc.
Dennis R. Rion, P.E.
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

3-31-08
Date



Spill Response Actions

In the event of an accidental spill:

- Contractor shall take action to contain spill. Contractor may use sand or other absorbent material stockpiled on site to absorb spill. Absorbent material should be spread over the spill area to absorb the spilled product.

- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms downgradient of the spill with sand or other absorbent material to contain and absorb the spilled product.

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

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

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

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

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

INSPECTIONS

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

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

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

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

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

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

Inspector's Name _____ Inspector's Signature _____

Name of Owner/Operator (Firm) _____ Date _____

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

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date

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

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date

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

REGULATED ENTITY NAME: ***Westpointe***

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

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

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

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

   — A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is provided below
   The use of Stormceptor®s in conjunction with a holding basin is not specifically addressed in the TCEQ TGM Addendum of 12/14/07. An exception is requested from 30 TAC 213.5(b)(4)(D)(II)(C)(ii)(I) which states quantities must be calculated in accordance with technical guidance prepared by the executive director and request acceptance of this alternate method as it removes the prescribed amount of TSS. See calculations attached.

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

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

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

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

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

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

N/A **ATTACHMENT A - 20% or Less Impervious Cover Waiver.** This site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is found at the end of this form.

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

√ This site will not be used for multi-family residential developments, schools, or small business sites.

6. **ATTACHMENT B - BMPs for Upgradient Stormwater.**

√ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is identified ~~as **ATTACHMENT B** at the end of this form~~ ***below***.

— 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.

Upgradient flow will cross the project limits southwest of Oak Run Parkway. This area is undeveloped. Volume has been provided in "Catch Basin B" to capture this area.

7. **ATTACHMENT C - BMPs for On-site Stormwater.**

√ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is identified ~~as **ATTACHMENT C** at the end of this form~~ ***below***.

— 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.

Stormceptors® and engineered vegetative filter strips will serve as the Permanent Best Management Practices for the site. Both BMPs have been designed in accordance with TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increased Total Suspended Solids (TSS) from the project area.

8. √ **ATTACHMENT D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is provided ~~at the end of this form~~ ***below***. Each feature identified in the Geologic Assessment as "sensitive" or "possibly sensitive" has been addressed.

There are no surface streams onsite. The sensitive features, F-4 and F-5, will be protected in a 50' diameter preservation area to be undeveloped and undisturbed. Onsite and upgradient stormwater will be treated in Permanent BMPs before being discharged. Stormceptors® and VFSs will serve as the Permanent BMPs for the site. Both BMPs have been designed in accordance with TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increased Total Suspended Solids (TSS) from the project area.

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

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

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

The following table lists the proposed treatment for features in the project area identified in the GA. Only features F-4 and F-5 of the "Weston 121-acre Tract" fell within the project limits. All other features lie within areas outside the scope of this plan. They will be addressed in future WPAPs at the time these outlying areas are to be developed.

#[1]	Feature Type	Relative Infiltration Rate (refer to Geologic Assessment)	Sensitivity Of Feature	Permanent Pollution Abatement Measure[2]
121-Acre Weston Tract				
F-4	***Solution Cavity***	***Moderate***	***Sensitive***	***50' diameter buffer***
F-5	***Sinkhole***	***Moderate***	***Sensitive***	***50' diameter buffer***

10. √ **ATTACHMENT F - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided ~~at the end of this form~~ ***in the Exhibits section of this WPAP***. Design Calculations, TCEQ Construction Notes, all man-made or naturally occurring

geologic features, all proposed structural measures, and appropriate details must be shown on the construction plans.

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

Investor Grosenbacher Partnership is currently assuming responsibility for inspection, maintenance, repair and retrofit of the permanent BMPs. However, the City of New Braunfels will ultimately accept this responsibility. A Change in Responsibility form will be filed with the TCEQ to document this transfer.

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

— Pilot-scale field testing (including water quality monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.

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

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

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

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

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

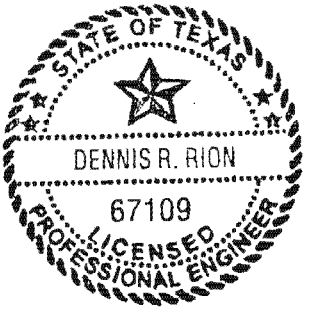
15. √ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development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

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

Pape-Dawson Engineers, Inc.
Dennis R. Rion, P.E.
Print Name of ~~Customer~~/Agent

Signature of ~~Customer~~/Agent

3-31-08
Date



STORMCEPTOR® SYSTEM
MAINTENANCE PLAN

Maintenance Task Item[1]	Description of Maintenance/Repairs to be Performed[2]	Typical Frequency
Basin and Inlet[3]	Visually inspect and note items which need repair or maintenance (cracks, voids or undermining, etc.). Check for erosion areas inside and outside the basin[3]. Insure the inlet is not clogged.	Each site visit during regular inspections
Trash Removal	Remove trash from the basin[3]. If Stormceptor® Model has optional trash screen, remove all trash and debris engaged with the trash screen. Properly dispose of all removed material[5].	Each site visit during regular inspections
Oil Removal	Check for oil using a dipstick tube. Remove any oil separately through the oil port using a small portable pump. Recycle the removed oils at the appropriate facility.	Once a year or when directed by the pollutant levels in Table 1
Sediment Removal	Remove sludge/sediments from the bottom of the unit using a vacuum truck. Properly dispose of removed materials in accordance with applicable regulations.	Once a year or when directed by the pollutant levels in Table 1
Security Fencing[3]	Observe that the fence around the catch basin is closed with locked gates at all times, and fence is undamaged[4].	Each site visit during regular inspections
Documentation[7]	Prepare site visit report noting all items of maintenance, repair, or replacement performed during each site visit on the "Stormceptor® Monitoring/Maintenance Plan Summary sheet". Include manifest from vacuum service.	Each site visit during regular inspections

Table 1 – Stormceptor® Maximum Pollutant Levels

Model	Down Pipe Orifice	Sediment Depth	*Sediment Capacity (ft^3)	Oil Depth	Oil Capacity (U.S. Gal.)
STC 450i	4"	8"	9	12"	86
STC 900	6"	8"	19	16"	251
STC 1200	6"	10"	25	16"	251
STC 1800	6"	15"	37	16"	251
STC 2400	8"	12"	49	44"	840
STC 3600	8"	17"	75	44"	840
STC 4800	10"	15"	101	44"	909
STC 6000	10"	18"	123	44"	909
STC 7200	12"	15"	149	44"	1059
STC 11000	10"	17"	224**	44"	2797
STC 13000	10"	20"	268**	44"	2797
STC 16000	12"	17"	319**	44"	3055

* Capacity prior to recommended maintenance

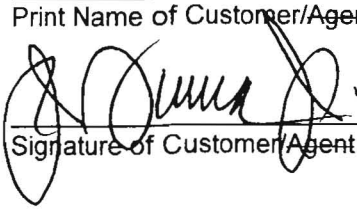
** Total both structures combined

Notes:

(1) Maintenance of installed Stormceptor® systems is carried out by the vacuum service industry.
(2) All maintenance activities will be performed in accordance with applicable OSHA regulations.
(3) Where Stormceptor® (s) is/are connected to a catch basin.
(4) Owner will be notified of repair or maintenance items, and facility concerns.
(5) Properly dispose of trash and sediment in accordance with applicable regulations.
(6) Documentation to be maintained.

J.L. Guerra, Jr.

Print Name of Customer/~~Agent~~



Signature of Customer/~~Agent~~

3/3/08

Date

Monitoring / Maintenance Completion - Summary

Company Name: _____

Company Address: _____

City/State/Zip: _____

Phone: _____

Engineer: _____

Engineers Address: _____

City/State/Zip: _____

Phone: _____

Property Owner: _____

*Stormceptor Model _____

Monitoring / Maintenance Table

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Oil Depth (inches)												
Sediment Depth (inches)												
Completed By:												
Date												
Floatables (Optional)												

I hereby certify that the monitoring and maintenance of the Stormceptor® unit was completed in accordance with the directions of the Stormceptor® monitoring / maintenance plan.

_____

(Signed by property owner or designee)

** Note – This form must be completed for both chambers of the STC 11000, STC 13000, and STC 16000.

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

I, ***J.L. Guerra, Jr.***,
Print Name

Manager
Title - Owner/President/Other

of ***Investor Grosenbacher Partnership***
Corporation/Partnership/Entity Name

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

of ***Pape-Dawson Engineers, Inc.***
Print Name of Firm

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

I also understand that:

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

2. For applicants 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.

Applicant's Signature

3/3/08
Date

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared J.L. Guerra Jr. 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 3rd day of March, 2008.

Melanie A. Pierce
NOTARY PUBLIC

Melanie A. Pierce
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 2/16/2009

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

I ***Judith Friesenhahn, P.E.***,
Print Name

San Antonio District – Transportation Planning
Title - Owner/President/Other

of ***Texas Department of Transportation***
Corporation/Partnership/Entity Name

have authorized ***Investor Grosenbacher Partnership***
Print Name of Agent/Engineer

of ***Investor Grosenbacher Partnership***
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 applicants 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.

Applicant's Signature

3/26/08
Date

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Judith Friesenhahn 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 26th day of March, 2008

NOTARY PUBLIC

David L. Bullerwell
Typed or Printed Name of Notary

DAVID L. BULLERWELL
NOTARY PUBLIC
State of Texas
Comm. Exp. 04-09-2011
Notary without Bond

MY COMMISSION EXPIRES: 04-09-2011

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

NAME OF PROPOSED REGULATED ENTITY: ***Westpointe***
REGULATED ENTITY LOCATION: ***West of the intersection of Hwy. 46 and Loop 337***
NAME OF CUSTOMER: ***Investor Grosenbacher Partnership***
CONTACT PERSON: ***J.L. Guerra, Jr.*** PHONE: ***(210) 495-8777***
(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
☐ Kinney
☐ Medina
☐ 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):

☒ **SAN ANTONIO REGIONAL OFFICE**
☐ **Mailed to TCEQ**:
TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

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

Type of Plan	Size	Fee Due
Water Pollution Abatement, One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement, Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement, Non-residential	***45.96 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	$

Signature

3-31-08
Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.
Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Application Fee Schedule
30 TAC §213.14 (effective 11/14/97) & 30 TAC §213.9 (effective 6/1/99)

Water Pollution Abatement Plans and Modifications

PROJECT	PROJECT AREA IN ACRES	FEE
One Single Family Residential Dwelling	<5	$500
Multiple Single Family Residential and Parks	<5 5 < 10 10 < 50 ∃50	$1,000 $2,000 $3,000 $5,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 ∃10	$2,000 $3,000 $4,000 $5,000

Organized Sewage Collection Systems and Modifications

PROJECT	COST PER LINEAR FOOT	MINIMUM FEE MAXIMUM FEE
Sewage Collection Systems	$0.50	$500 - $5,000

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	$500	$500 - $5,000

Exception Requests

PROJECT	FEE
Exception Request	$250

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$100

INVESTOR GROSENBACHER PARTNERSHIP
11202 DISCO DRIVE
SAN ANTONIO, TX 78216-2860

INTERNATIONAL BANK OF COMMERCE
30-1328/1140

2003

3/3/2008

PAY TO THE ORDER OF Texas Commission On Environmental Quality $ **5,000.00

Five Thousand Only********** DOLLARS

Texas Commission On Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
PO Box 13088
Austin, TX 78711-3088

MEMO WPAP Submittal for Westpointe

Melanie A. Price MP

⑈002003⑈ ⑆114013284⑆ 2410532330⑈

EXHIBITS

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

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

☒ Yes ☐ No — Water Pollution Abatement Plan and Exhibits

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

SECTION II: Customer Information

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

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

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

7. General Customer Information

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

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

8. Type of Customer:			
☐ 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:*

Investor Grosenbacher Partnership

10. Mailing Address: 11202 Disco Drive

City: San Antonio | State: TX | ZIP: 78216 | ZIP + 4:

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

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

13. Telephone Number	14. Extension or Code	15. Fax Number *(if applicable)*
(210) 495-8777		(210) 499-4217

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)*
83-034691			

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)*

Westpointe

24. Street Address of the Regulated Entity: (No P.O. Boxes)	not yet assigned							
	City		State		ZIP		ZIP + 4	
25. Mailing Address:	11202 Disco Drive							
	City	San Antonio	State	TX	ZIP	78216	ZIP + 4	

26. E-Mail Address:		
27. Telephone Number	28. Extension or Code	29. Fax Number (if applicable)
(210) 495-8777		(210) 499-4217

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)
1611	6552	234110	23811

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

Roadway Construction

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

35. Description to Physical Location:	West of the intersection of Hwy. 46 and Loop 337

36. Nearest City	County	State	Nearest ZIP Code
New Braunfels	Comal	TX	78132

37. Latitude (N) In Decimal:	98.16671		38. Longitude (W) In Decimal:	29.71595	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
98	10	0.1560	29	42	57.42

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

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

SECTION IV: Preparer Information

40. Name:	Miranda G. Briones, E.I.T.	41. Title:	Engineer II

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 375-9000	585	(210) 375-9010	

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 9 and/or as required for the updates to the ID numbers identified in field 39.

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

Company:	Pape-Dawson Engineers, Inc.	Job Title:	Engineer II
Name *(In Print)* :	Miranda G. Briones	Phone:	(210) 375-9000
Signature:		Date:	3/31/08

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

1. WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.

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

3. IF ANY SENSITIVE FEATURE IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM IS INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.

5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.

6. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS TO WATER QUALITY (E.G., FUGITIVE SEDIMENT IN STREET BEING WASHED INTO SURFACE STREAMS OR SENSITIVE FEATURES BY THE NEXT RAIN).

7. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.

8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES (E.G., SCREENING OUTFALLS, PICKED UP DAILY).

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

10. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARY OR PERMANENTLY CEASE IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.

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

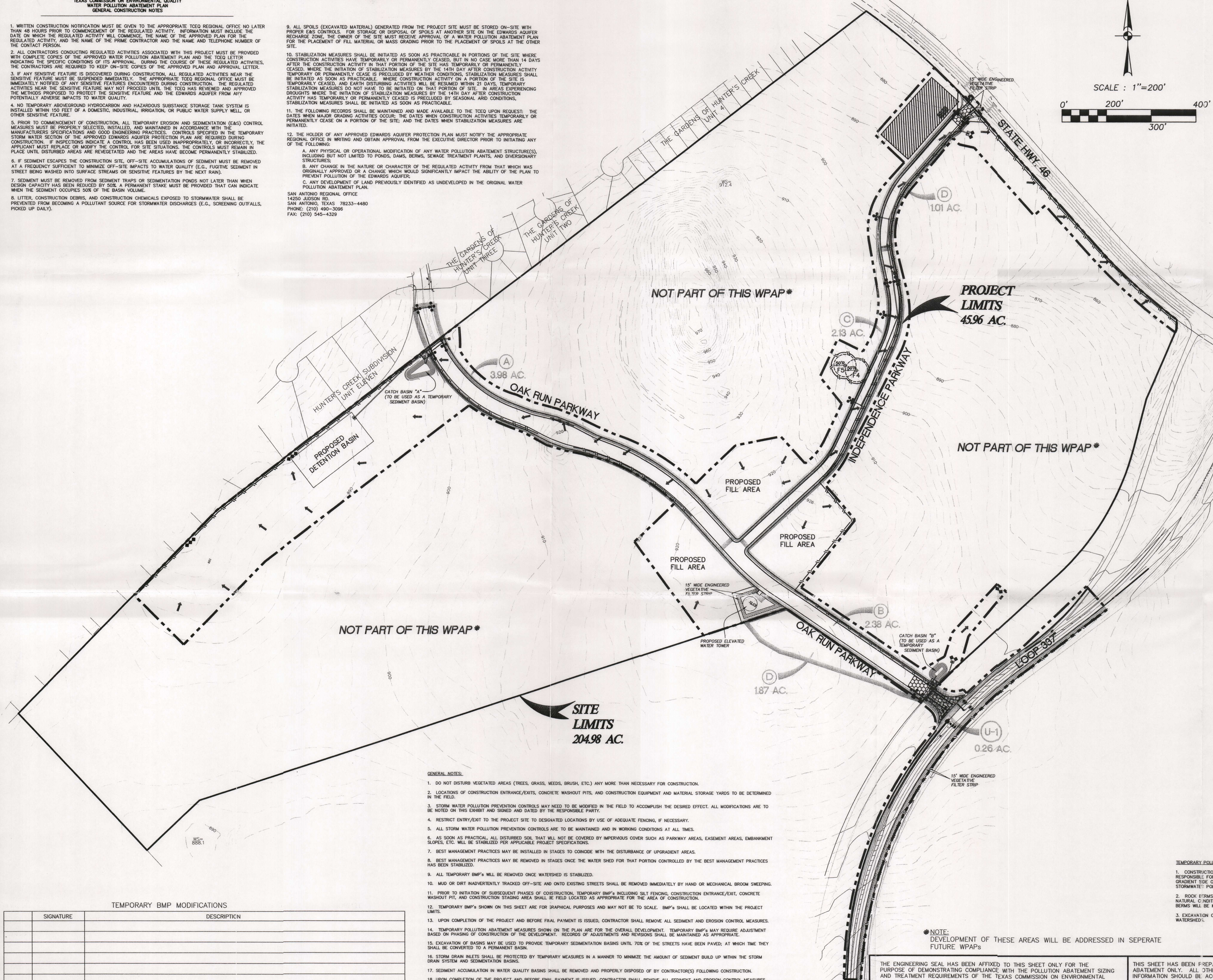
12. THE HOLDER OF ANY APPROVED EDWARDS AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

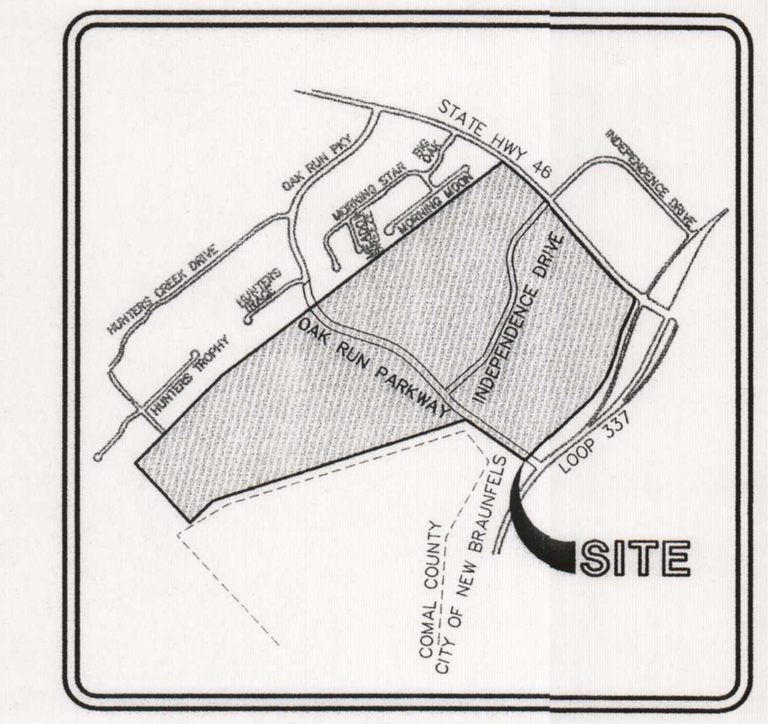
A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;

B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;

C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

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





LOCATION MAP
NTS

LEGEND

— · — · —	PROJECT LIMITS
880	EXISTING CONTOURS
	WATERSHED BOUNDARY
(A)	WATERSHED DESIGNATION
	STABILIZED CONSTRUCTION ENTRANCE/EXIT
	CONSTRUCTION STAGING AREA (TO BE FIELD LOCATED)
	CONCRETE TRUCK WASHOUT PIT (TO BE FIELD LOCATED)
—//—//—	SILT FENCE
→	DRAINAGE FLOW (EXISTING)
	INLET W/PROTECTION
◆◆◆	ROCK BERM
	UNCAPTURED AREA (TO BE OVERTREATED FOR)
	ENGINEERED VEGETATIVE FILTER STRIP
F#	GEOLOGIC FEATURE
⊕	FEATURE w/BUFFER

GENERAL NOTES:

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

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

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

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

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

6. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

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

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

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

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

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

12. TEMPORARY BMP's SHOWN ON THIS SHEET ARE FOR GRAPHICAL PURPOSES AND MAY NOT BE TO SCALE. BMP's SHALL BE LOCATED WITHIN THE PROJECT LIMITS.

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

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

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

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

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

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

TEMPORARY POLLUTION ABATEMENT NOTES:

1. CONSTRUCTION WITHIN THE DEVELOPMENT MAY NOT BE CONTINUOUS. THE CONTRACTOR IS RESPONSIBLE FOR PLACING SILT FENCE OR MAINTAINING PROPER VEGETATION ALONG THE DOWN GRADIENT SIDE OF EACH LOT DURING CONSTRUCTION OR OTHER BMP TO PREVENT EROSION AND STORMWATER POLLUTION. ALL SILT FENCE SHALL BE PLACED PERPENDICULAR TO DRAINAGE FLOW.

2. ROCK BERMS SHALL BE PLACED IN AREAS WHERE DRAINAGE FLOW IS CONCENTRATED DUE TO NATURAL CONDITIONS OR CONSTRUCTION ACTIVITIES SUCH AS AT DRAINAGE STRUCTURES. THESE BERMS WILL BE MAINTAINED UNTIL THE WATERSHED IS STABILIZED.

3. EXCAVATION OF THE BASINS SHALL SERVE AS SEDIMENT BASINS FOR THEIR RESPECTIVE BASIN WATERSHEDS.

*NOTE:
DEVELOPMENT OF THESE AREAS WILL BE ADDRESSED IN SEPERATE FUTURE WPAPs

TEMPORARY BMP MODIFICATIONS

SIGNATURE	DESCRIPTION

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

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

EXHIBIT 1

REVISIONS:

STATE OF TEXAS
DENNIS R. RION
67109
LICENSED PROFESSIONAL ENGINEER
3-31-08

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

WestPointe
NEW BRAUNFELS, TEXAS
WATER POLLUTION ABATEMENT PLAN
TEMPORARY POLLUTION ABATEMENT PLAN

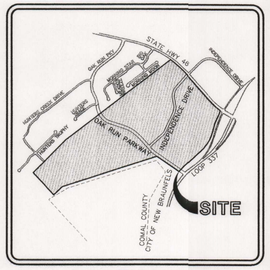
JOB NO.	6858-05
DATE	MARCH, 2008
DESIGNER	MGB
CHECKED	DR DRAWN RO
SHEET	1 of 1

Date: Mar 28, 2008, 4:35pm User ID: ROlivarez
File: P:\68\58\10\Design\Environmental\TM685810.DWG

SCALE : 1"=200'

0' 100' 300'

200'



LOCATION MAP
NTS

THE GARDENS OF HUNTER'S CREEK UNIT 4

THE GARDENS OF HUNTER'S CREEK UNIT THREE

THE GARDENS OF HUNTER'S CREEK UNIT TWO

HUNTER'S CREEK SUBDIVISION UNIT ELEVEN

PROPOSED DETENTION BASIN

STAGING AREA

15' WIDE ENGINEERED VEGETATIVE FILTER STRIP

STATE HIGHWAY 46

SEE DETAIL "D"

(D) 1.01 AC.

SEE DETAIL "C"

PROJECT LIMITS 45.96 AC.

NOT PART OF THIS WPAP*

(C) 2.13 AC.

NO DISTURBANCE OR DEVELOPMENT TO OCCUR WITHIN BUFFERS

50% FS 50% FA

SEE DETAIL "A"

(A) 3.98 AC.

OAK RUN PARKWAY

INDEPENDENCE PARKWAY

25%

NOT PART OF THIS WPAP*

PROPOSED FILL AREA 1.25%

PROPOSED FILL AREA

PROPOSED FILL AREA

LOOP 337

15' WIDE ENGINEERED VEGETATIVE FILTER STRIP

NOT PART OF THIS WPAP*

PROPOSED ELEVATED WATER TOWER

(B) 2.38 AC.

SEE DETAIL "B"

OAK RUN PARKWAY

(D) 1.87 AC.

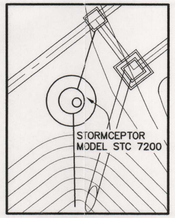
SITE LIMITS 204.98 AC.

(U-1) 0.26 AC.

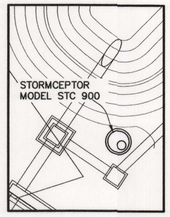
15' WIDE ENGINEERED VEGETATIVE FILTER STRIP

LEGEND

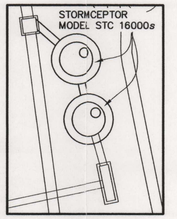
- PROJECT LIMITS
- 890 EXISTING CONTOURS
- (910) FINISHED CONTOURS
- DRAINAGE FLOW (PROPOSED)
- WATERSHED BOUNDARY
- (A) WATERSHED DESIGNATION
- ENGINEERED VEGETATIVE FILTER STRIP
- UNCAPTURED AREA (TO BE OVERTREATED FOR)



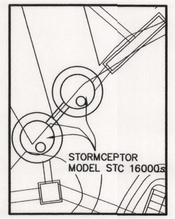
DETAIL "A"
SCALE: 1"=20'



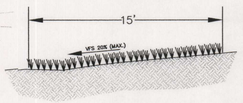
DETAIL "B"
SCALE: 1"=20'



DETAIL "C"
SCALE: 1"=20'



DETAIL "D"
SCALE: 1"=20'



VEGETATIVE FILTER STRIP DETAIL
N.T.S.

*NOTE:
DEVELOPMENT OF THESE AREAS WILL BE ADDRESSED IN SEPERATE FUTURE WPAPS

SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

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

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

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

4.) PERMANENT BMP'S FOR THIS SITE INCLUDE IMPROVEMENTS TO AN EXISTING SEDIMENTATION/FILTRATION BASIN. THE PERMANENT BMP'S HAVE BEEN DESIGNED TO REMOVE AT LEAST 80% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) FOR THE 45.96 ACRES IN ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL (TGM) RG-348 (2005).

5.) TYPICAL SLOPES ONSITE WILL RANGE FROM 0.% TO 0%. SEE PLAN VIEW.

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

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EXHIBIT 2

REVISIONS:

STATE OF TEXAS
DENNIS R. RION
67109
3-31-08
REGISTERED PROFESSIONAL ENGINEER

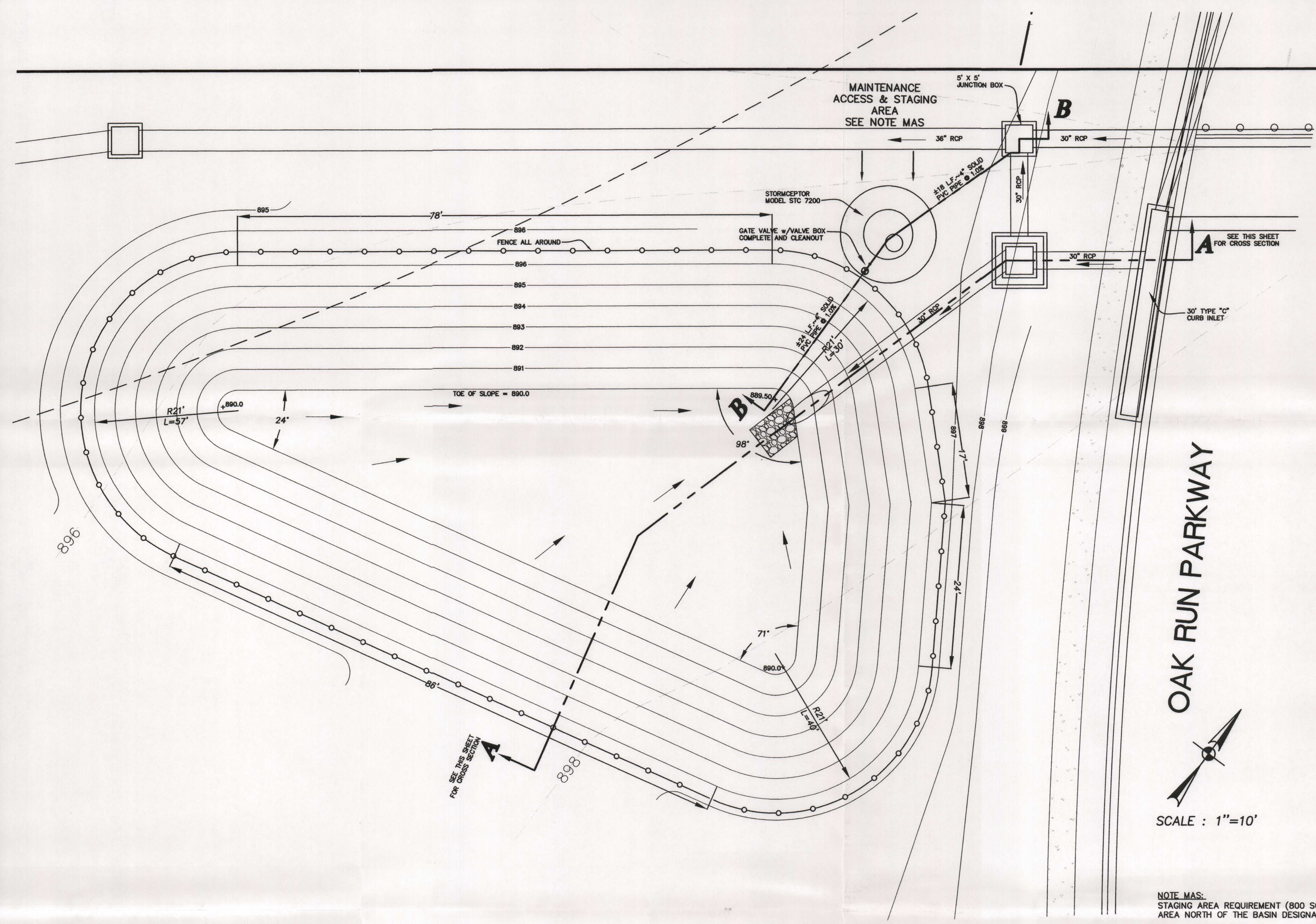
PAPE-DAWSON ENGINEERS
555 EAST RAMSEY | SAN ANTONIO TEXAS 78216 | PHONE: 210.375.9000 FAX: 210.375.9010

WestPointe

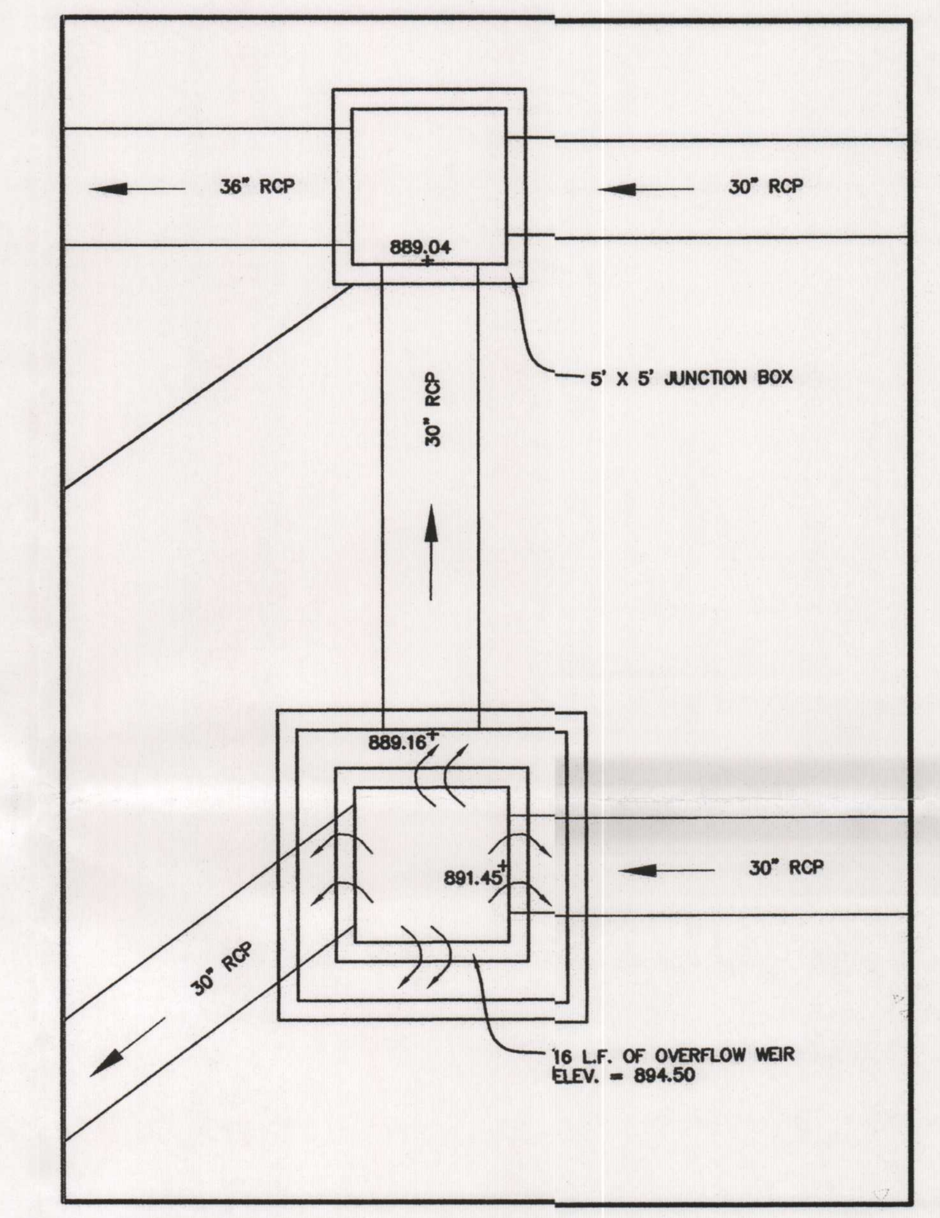
NEW BRAUNFELS, TEXAS
WATER POLLUTION ABATEMENT PLAN
PERMANENT POLLUTION ABATEMENT PLAN

JOB NO. 6858-05
DATE MARCH, 2008
DESIGNER MGB
CHECKED DR DRAWN RO
SHEET 1 of 1

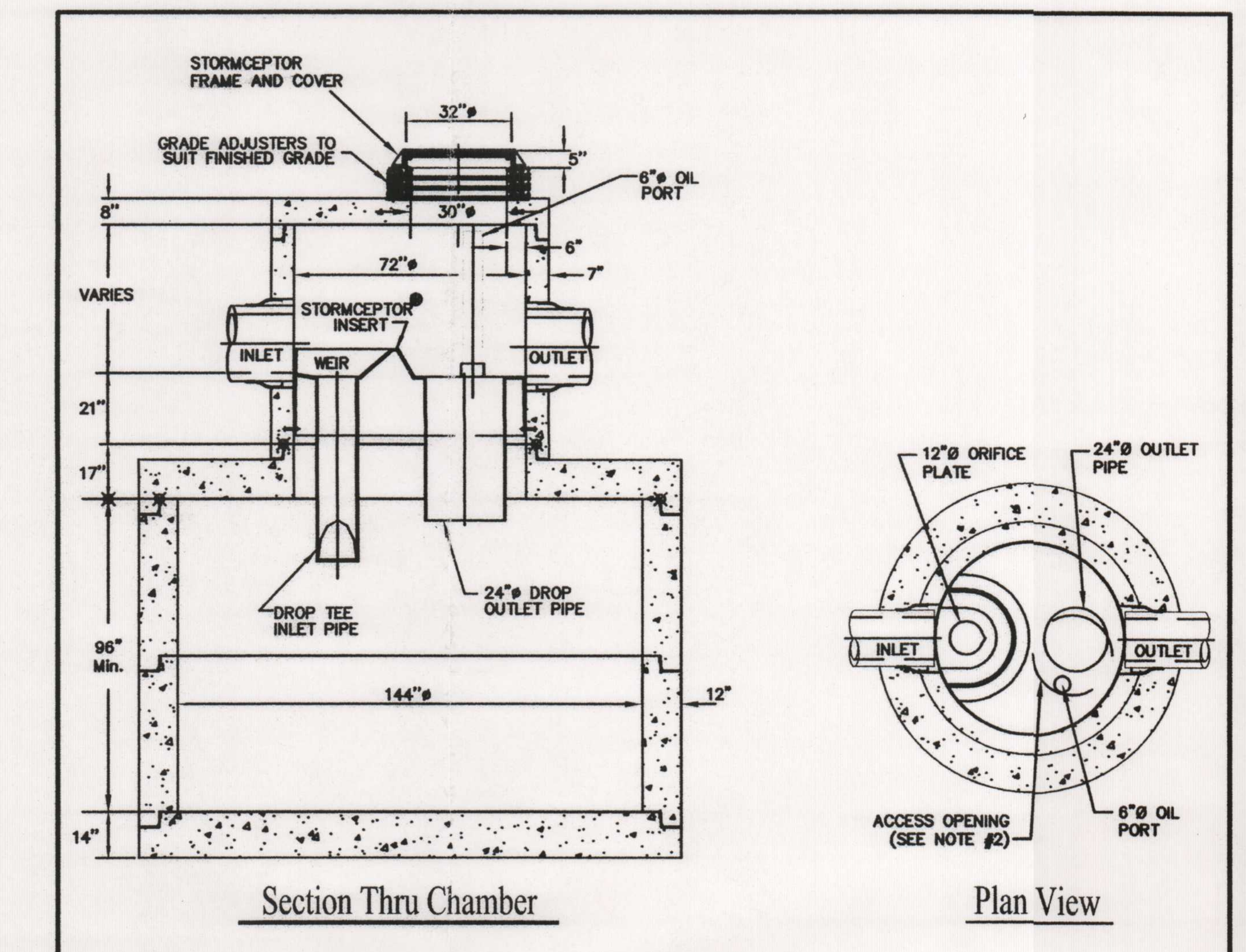
Date: Mar 28, 2008, 4:33pm User ID: ROlivarez
File: P:\6858\10\Design\Environmental\PM6858E10.dwg



NOTE MAS:
STAGING AREA REQUIREMENT (800 SQ. FT.) IS SATISFIED BY UTILIZING PRIVATE AREA NORTH OF THE BASIN DESIGNATED IN THE PLAN VIEW ABOVE.



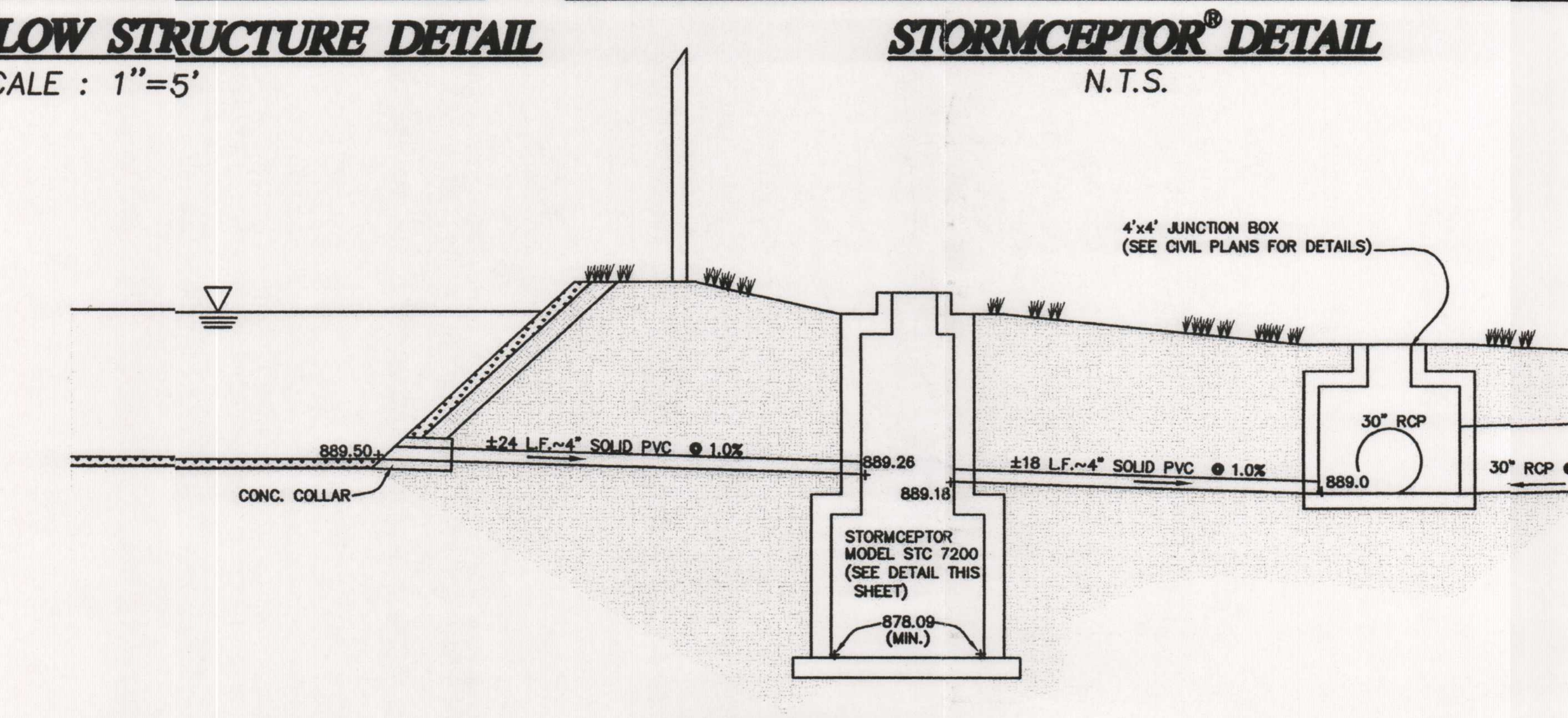
INLET/OVERFLOW STRUCTURE DETAIL
SCALE : 1"=5'



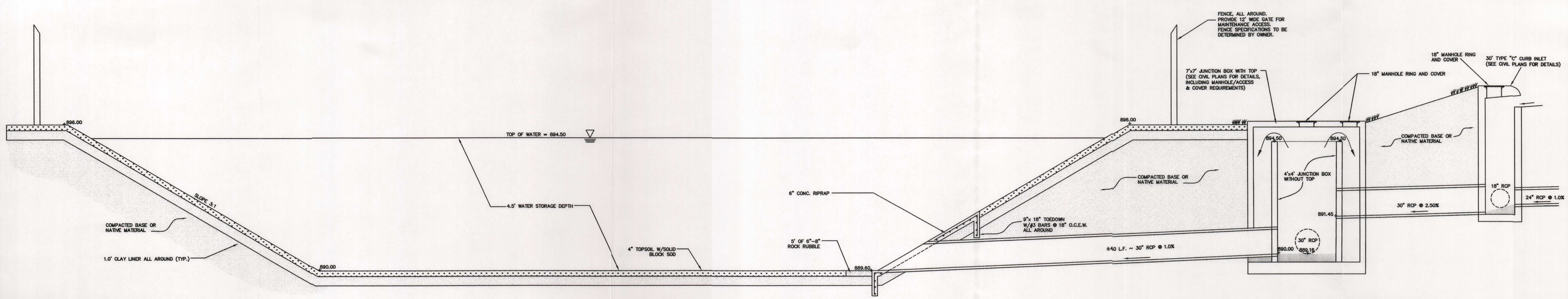
STC 7200 Precast Concrete Stormceptor®
(7200 U.S. Gallon Capacity)
NOT TO SCALE

Notes:
1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
2. The Cover Should be Positioned Over The Inlet Drop Pipe and The Oil Port.
3. The Stormceptor System is protected by one or more of the following U.S.Patents: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.

STORMCEPTOR® DETAIL
N.T.S.



CROSS-SECTION "B-B"
NOT TO SCALE



CROSS-SECTION "A-A"
NOT TO SCALE

DESIGN DATA

WATERSHED AREA	=	173,369 SF (3.98 AC.)
REQUIRED CAPTURE VOLUME	=	15,969 CF
BASIN CAPTURE VOLUME	=	17,196 CF
Q25	=	30 CFS
OVERFLOW WEIR	=	0.72 FT. X 16 FT.

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

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EXHIBIT 3

REVISIONS:

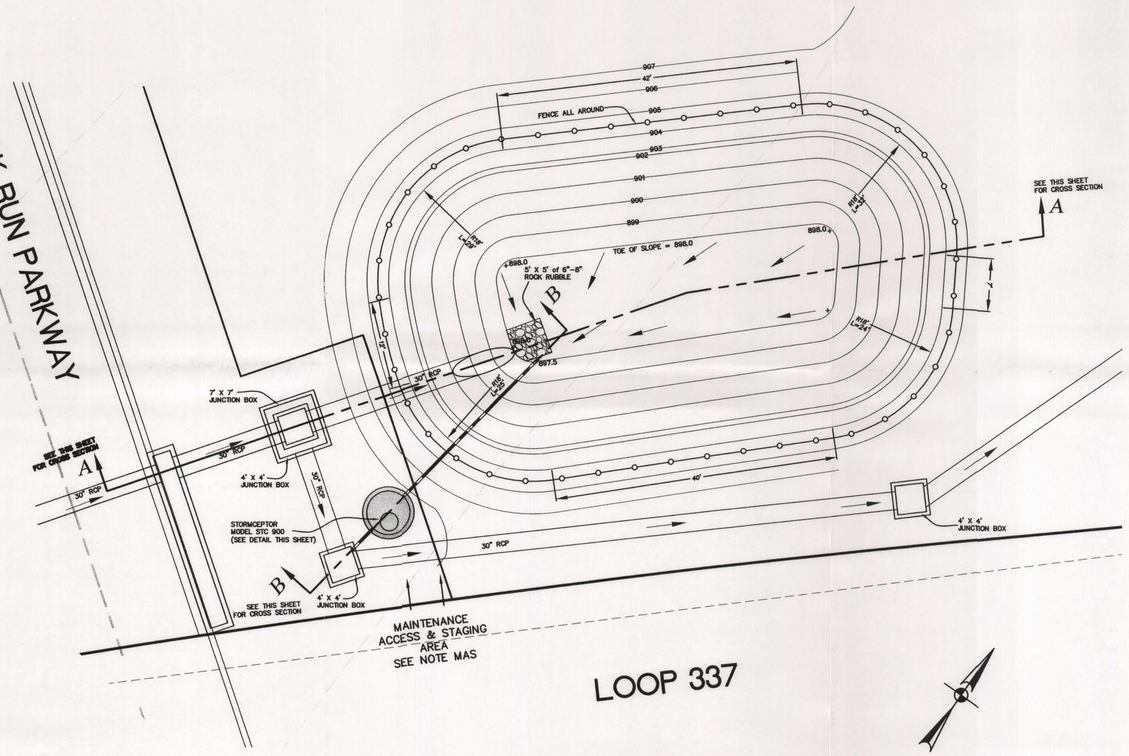
STATE OF TEXAS — DENNIS R. RION — 67109 — 3-31-08

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

WestPointe
NEW BRAUNFELS, TEXAS
PERMANENT POLLUTION ABATEMENT PLAN - BASIN PLAN

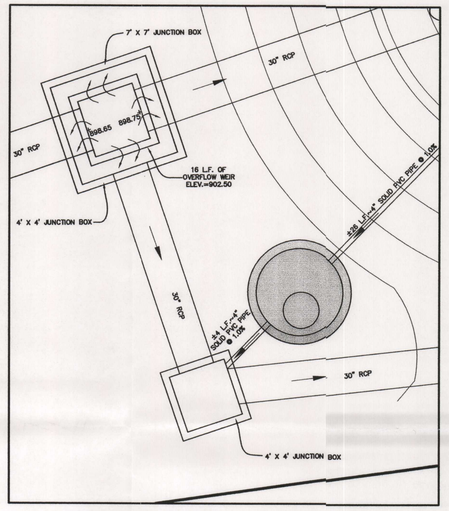
JOB NO. 6858-05
DATE MARCH 2008
DESIGNER MGB
CHECKED DR DRAWN RO
SHEET C7.00

Date: Mar 28, 2008, 4:19pm User ID: ROlivarez
File: P:\68\58\10\Design\Environmental\BA-A685810.dwg

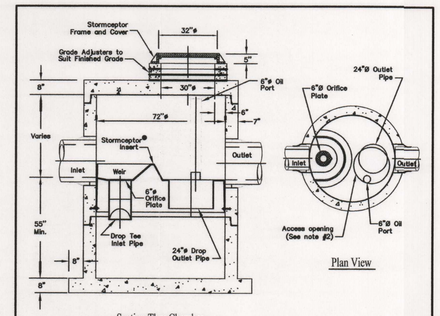


SCALE : 1"=10'

NOTE MAS:
STAGING AREA REQUIREMENT (800 SQ. FT.) IS SATISFIED BY UTILIZING PRIVATE AREA NEAR THE BASIN DESIGNATED IN THE PLAN VIEW ABOVE.



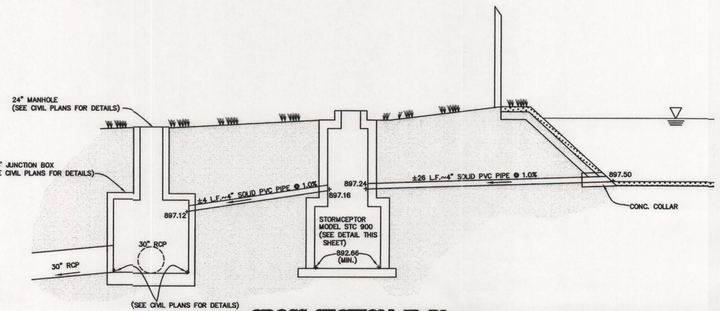
INLET/OVERFLOW STRUCTURE DETAIL
SCALE : 1"=5'



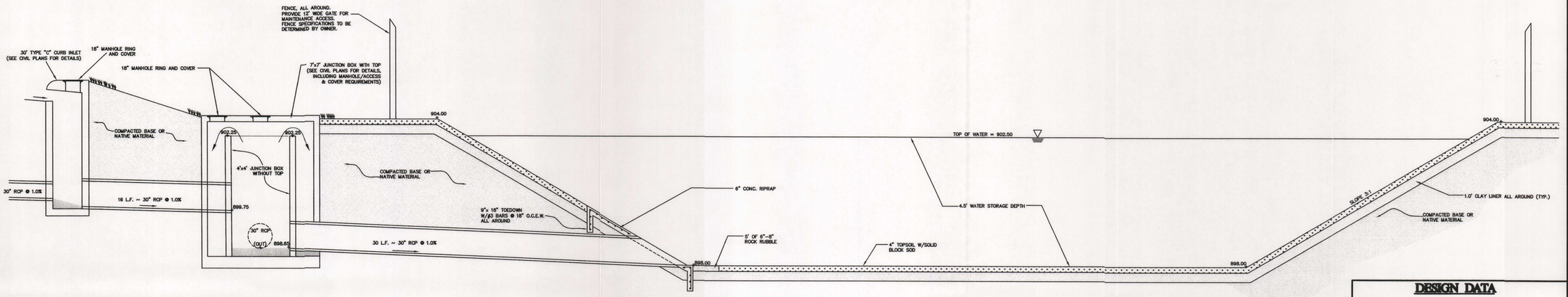
STC 900 Precast Concrete Stormceptor® (900 U.S. Gallon Capacity)
NOT TO SCALE

Notes:
1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
2. The Cover Should be Positioned Over The Inlet Drop Pipe and The Oil Port.
3. The Stormceptor System is protected by one or more of the following U.S.Potents: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.

STORMCEPTOR® DETAIL
N.T.S.



CROSS-SECTION "B-B"
NOT TO SCALE



CROSS-SECTION "A-A"
NOT TO SCALE

DESIGN DATA

WATERSHED AREA	=	185,130 SF (4.25 AC.)
REQUIRED CAPTURE VOLUME	=	7,271 CF
BASIN CAPTURE VOLUME	=	7,423 CF
Q25	=	40 CFS
OVERFLOW WEIR	=	0.87 FT. X 16 FT.

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

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EXHIBIT 4

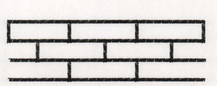
REVISIONS:

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

STATE OF TEXAS
DENNIS R. RION
67109
REGISTERED PROFESSIONAL ENGINEER
3-31-08

WestPointe
NEW BRAUNFELS, TEXAS
PERMANENT POLLUTION ABATEMENT PLAN - BASIN PLAN

JOB NO.	6858-05
DATE	MARCH 2008
DESIGNER	MGB
CHECKED	DR
DRAWN	RO
SHEET	C7.10

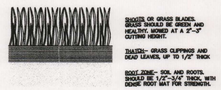


LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

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

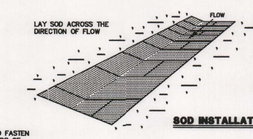
NOTES:

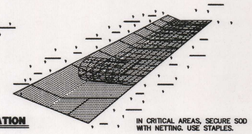
- ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.
- WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.
- MOW WHEN THE SOD IS ESTABLISHED – IN 2–3 WEEKS. SET THE MOWER HIGH (2"–3").



APPEARANCE OF GOOD SOD

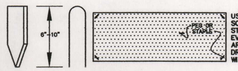
INCORRECT CORRECT





SOD INSTALLATION

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



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

Materials:

(1) Sod should be machine cut at a uniform soil thickness of 3/4 inch (± 1/4 inch) at the time of cutting. This thickness should exclude shoot growth and thatch.

(2) Pieces of sod should be cut to the supplier's standard width and length, with a maximum allowable deviation in any dimension of 5%. Torn or uneven pads should not be acceptable.

(3) Standard size sections of sod should be strong enough to support their own weight and retain their size and shape when suspended from a firm grasp on one end of the section.

(4) Sod should be harvested, delivered, and installed within a period of 36 hours.

Site Preparation:

(1) Prior to soil preparation, areas to be sodded should be brought to final grade in accordance with the approved plan.

(2) The surface should be cleared of all trash, debris and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.

(3) Fertilize according to soil tests. Fertilizer needs can be determined by a soil testing laboratory or regional recommendations can be made by county agricultural extension agents. Fertilizer should be worked into the soil to a depth of 3 inches with a disc, springtooth harrow or other suitable equipment. On sloping land, the final harrowing or discing operation should be on the contour.

Installation in Channels:

(1) Sod strips in waterways should be laid perpendicular to the direction of flow. Care should be taken to butt ends of strips tightly (see Figure above).

(2) After rolling or tamping, sod should be pegged or stapled to resist washout during the establishment period. Mesh or other netting may be pegged over the sod for extra protection in critical areas.

General Installation IVA Dept. of Conservation, 1992):

(1) Sod should not be cut or laid in excessively wet or dry weather. Sod also should not be laid on soil surfaces that are frozen.

(2) During periods of high temperature, the soil should be lightly irrigated immediately prior to laying the sod, to cool the soil and reduce root burning and dieback.

(3) The first row of sod should be laid in a straight line with subsequent rows placed parallel to and butting tightly against each other. Lateral joints should be staggered to promote more uniform growth and strength. Care should be excercised to ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause drying of the roots (see Figure above).

(4) On slopes 3:1 or greater, or wherever erosion may be a problem, sod should be laid with staggered joints and secured by stapling or other approved methods. Sod should be installed with the length perpendicular to the slope (on contour).

(5) As sodding of clearly defined areas is completed, sod should be rolled or tamped to provide firm contact between roots and soil.

(6) After rolling, sod should be irrigated to a depth sufficient that the underside of the sod pad and the soil 4 inches below the sod is thorougly wet.

(7) Until such time a good root system becomes developed, in the absence of adequate rainfall, watering should be performed as often as necessary to maintain moist soil to a depth of at least 4 inches.

(8) The first mowing should not be attempted until the sod is firmly rooted, usually 2–3 weeks. Not more than one third of the grass leaf should be removed at any one cutting.

Inspection and Maintenance Guidelines:

(1) Sod should be inspected weekly and after each rain event to locate and repair any damage.

(2) Damage from storms or normal construction activities such as tire ruts or disturbance of swale stabilization should be repaired as soon as practical.

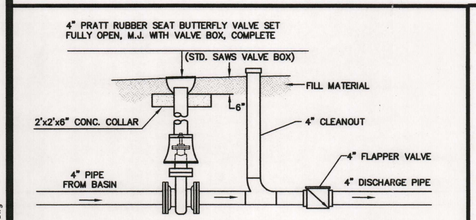
CHANNEL LINING

CLAY LINER SPECIFICATIONS

PROPERTY	TEST METHOD	UNIT	SPECIFICATION
PERMEABILITY	ASTM D–2434	CM/SEC	1×10^{-6}
PLASTICITY INDEX OF CLAY	ASTM D–423 & D–424	%	NOT LESS THAN 15
LIQUID LIMIT OF CLAY	ASTM D–2216	%	NOT LESS THAN 30
CLAY PARTICLES PASSING	ASTM D–422	%	NOT LESS THAN 30
CLAY COMPACTION	ASTM D–2216	%	95% OF STANDARD PROCTOR DENSITY

THE CLAY LINER SHALL HAVE A MINIMUM THICKNESS OF TWELVE (12) INCHES.

IF A GEOMEMBRANE LINER IS USED IT SHALL HAVE A MINIMUM THICKNESS OF FORTY (40) MILS. AND BE ULTRAVIOLET RESISTANT. A GEOTEXTILE FABRIC SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

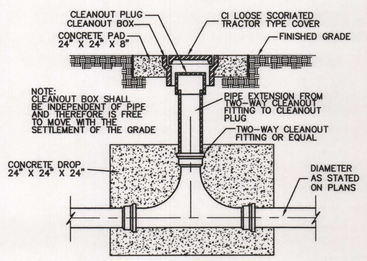


4" PRATT RUBBER SEAT BUTTERFLY & FLAPPER VALVE DETAIL

N.T.S.

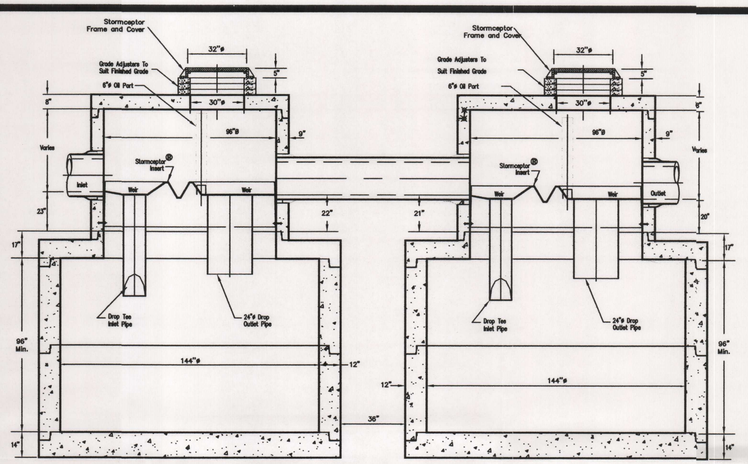
NOTE:

1. VALVE WILL BE SET PARTIALLY CLOSED SO AS TO PROVIDE A MINIMUM DRAWDOWN TIME OF 24 HOURS.
2. CONTRACTOR SHALL PROVIDE OWNER WITH VALVE OPERATING KEY/ROD PRIOR TO PROJECT COMPLETION.
3. CONTRACTOR TO INSTALL 4" PRATT RUBBER SEAT BUTTERFLY VALVE SET FULLY OPEN TO REGULATE BASIN DRAWDOWN. VALVE INSTALLATION SHALL INCLUDE GRADUATED PLATE SET IN CONCRETE AT GROUND SURFACE FOR CONTROL OF VALVE OPENING. CONTRACTOR SHALL PROVIDE FOR OBSERVATION OF AT LEAST TWO RAIN EVENTS WHERE BASIN IS FULL TO VERIFY DRAWDOWN OCCURS WITHIN 24 TO 48 HOURS.



CLEANOUT DETAIL

(DUAL DIRECTION)
NOT–TO–SCALE



Notes:
1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
2. The Cover Should be Positioned Over The Outlet Drop Pipe and The Oil Port.
3. The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.

Section Thru Chambers

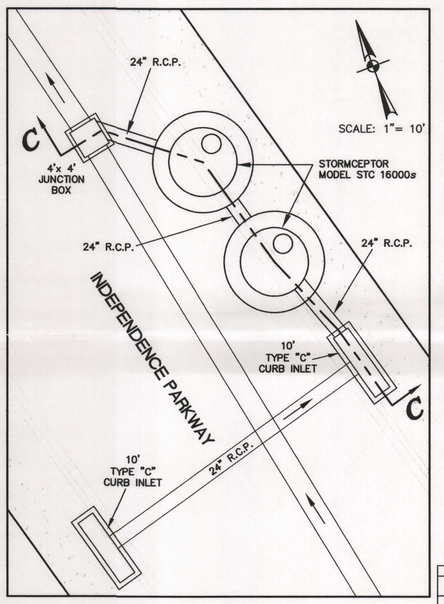
STC 16000s Precast Concrete Stormceptor® (16000 U.S. Gallon Capacity)

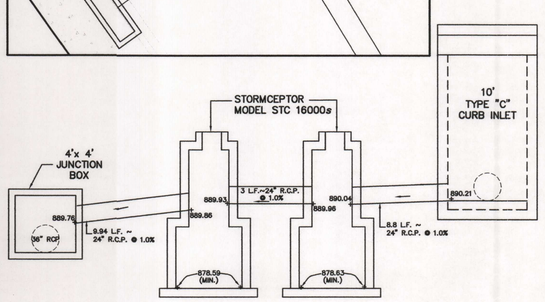
NOTES TO CONTRACTOR FOR EACH PHASE OF BASIN CONSTRUCTION

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

2. CONTRACTOR SHALL NOTIFY THE BMP DISTRIBUTOR (RINKER) PRIOR TO STORMCEPTOR INSTALLATION SO A REPRESENTATIVE CAN BE ON HAND TO SUPERVISE. CONTACT RINKER AT 832–590–5400. CONTRACTOR SHALL NOTIFY ENGINEER FOR A FINAL WALK–THROUGH.

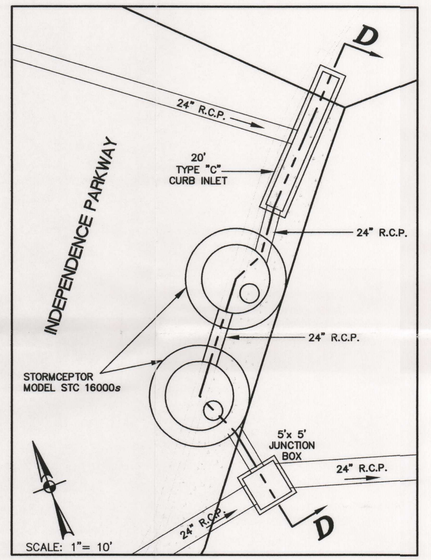
3. CONTRACTOR SHALL PROVIDE THE RINKER REPRESENTATIVE AND THE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BMP WILL BE AT THE REQUIRED STAGE.

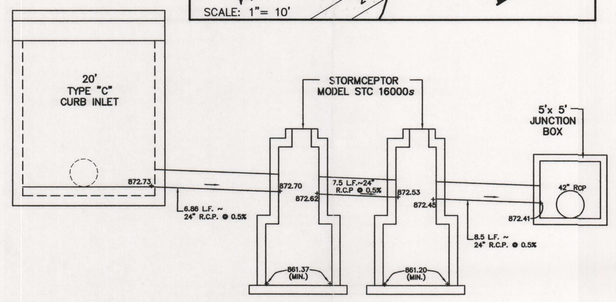




CROSS–SECTION "C–C"

NOT TO SCALE





CROSS–SECTION "D–D"

NOT TO SCALE

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EXHIBIT 5

REVISIONS:

3-31-08

DENNIS R. RION 67109 LICENSED PROFESSIONAL ENGINEER

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

WestPointe
NEW BRAUNFELS, TEXAS
PERMANENT POLLUTION ABATEMENT PLAN - DETAIL SHEET

JOB NO. 6858-05
DATE MARCH 2008
DESIGNER MGB
CHECKED DR DRAWN RO
SHEET C7.20

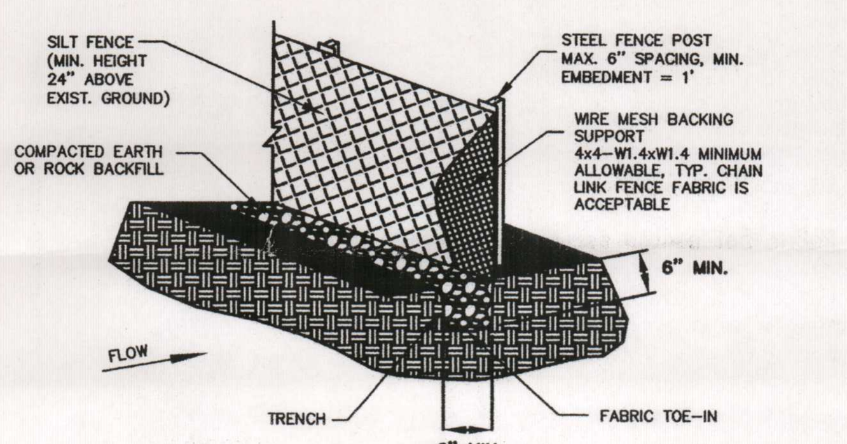
Date: Mar 28, 2008, 4:15pm User ID: ROlivarez
File: P:\68\58\10\Design\Environmental\BADT6858I0.dwg

SILT FENCE

A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out. If not properly installed, silt fences are not likely to be effective.

The purpose of a silt fence is to intercept and detain water-born sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.



ISOMETRIC PLAN VIEW

N.T.S.

Schematic of a Silt Fence Installation (NCTCOG, 1993b)

MATERIALS:

(1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric 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. Posts must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.
(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
(4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
(5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.
(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

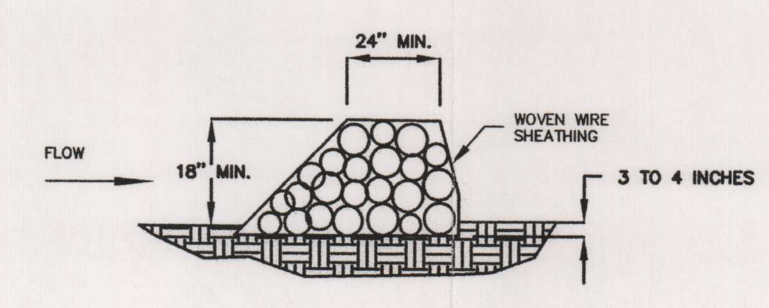
COMMON TROUBLE POINTS:

(1) Fence not installed along the contour causing water to concentrate and flow over the fence.
(2) Fabric not seated securely to ground (runoff passing under fence).
(3) Fence not installed perpendicular to flow line (runoff escaping around sides).
(4) Fence treating too large an area, or excessive channel flow (runoff overtops or collapses fence).

INSPECTION AND MAINTENANCE GUIDELINES:

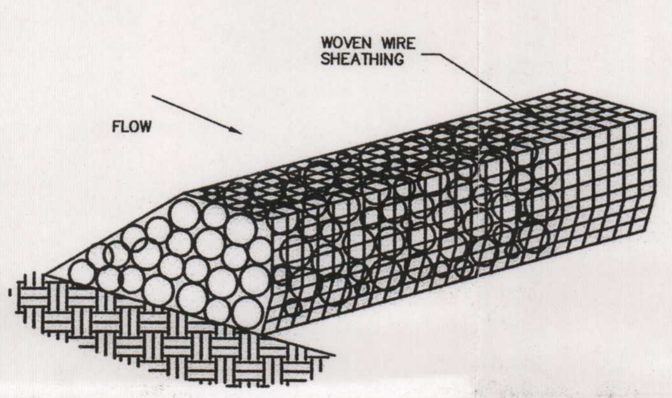
(1) Inspect all fencing weekly, and after rainfall.
(2) Remove sediment when buildup reaches 6 inches.
(3) Replace torn fabric or install a second line of fencing parallel to the torn section.
(4) Replace or repair sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

SILT FENCE



CROSS SECTION

N.T.S.



ISOMETRIC PLAN VIEW

N.T.S.

Schematic Diagram of a Rock Berm (NCTCOG, 1993)

ROCK BERMS

The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures farther up the watershed.

MATERIALS:

(1) The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
(2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

INSTALLATION:

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

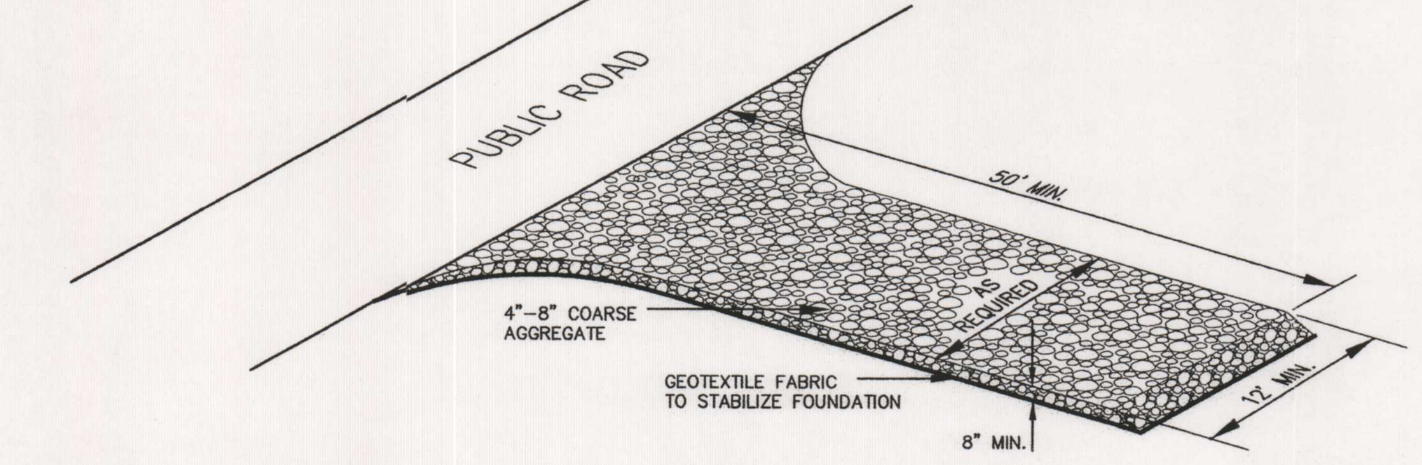
COMMON TROUBLE POINTS:

(1) Insufficient berm height or length (runoff quickly escapes over the top or around the sides of berm).
(2) Berm not installed perpendicular to flow line (runoff escaping around one side).

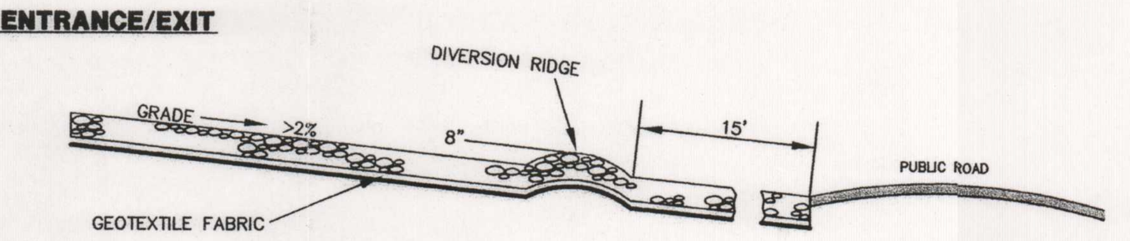
INSPECTION AND MAINTENANCE GUIDELINES:

(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made. (2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
(3) Repair any loose wire sheathing.
(4) The berm should be reshaped as needed during inspection.
(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc. (6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

ROCK BERM



SCHEMATIC OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT



CROSS-SECTION OF A CONSTRUCTION ENTRANCE/EXIT

MATERIALS:

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

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

(3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd^2, a mullen burst rating of 140 lb/in^2, and an equivalent opening size greater than a number 50 sieve.

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

INSTALLATION:

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

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

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

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

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

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

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

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

COMMON TROUBLE POINTS:

(1) Inadequate runoff control-sediment washes onto public road.

(2) Stone too small or geotextile fabric absent, results in muddy condition as stone is pressed into soil.

(3) Pad too short for heavy construction traffic-extend pad beyond the minimum 50 foot length as necessary.

(4) Pad not flared sufficiently at road surface, results in mud being tracked on to road and possible damage to road.

(5) Unstable foundation - use geotextile fabric under pad and/or improve foundation drainage.

INSPECTION AND MAINTENANCE GUIDELINES:

(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.

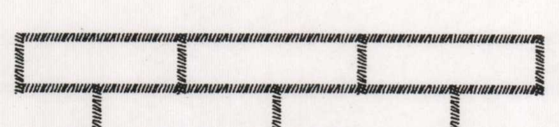
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.

(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.

(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

STABILIZED CONSTRUCTION ENTRANCE/EXIT

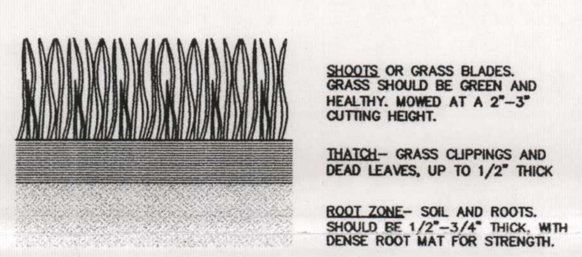


LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

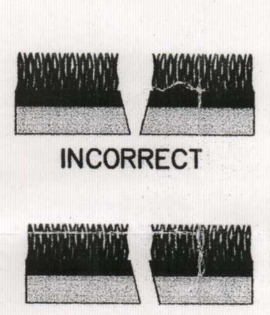
BUTTING - ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

NOTES:

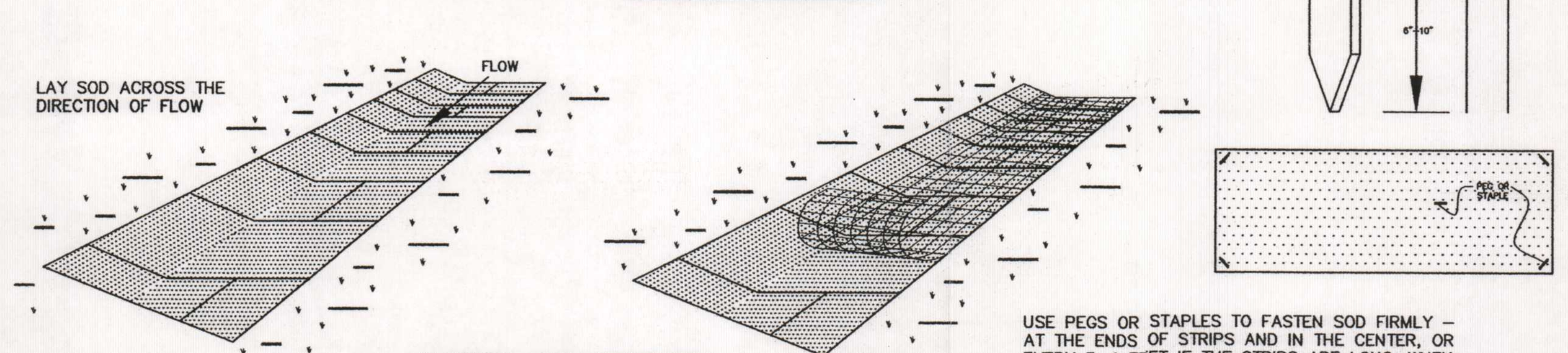
- ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.
- WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.
- MOW WHEN THE SOD IS ESTABLISHED - IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").



APPEARANCE OF GOOD SOD



SOD INSTALLATION



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

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

Materials:

(1) Sod should be machine cut at a uniform soil thickness of 3/4" inch (± 1/4" inch) at the time of cutting. This thickness should exclude shoot growth and thatch.

(2) Pieces of sod should be cut to the supplier's standard width and length, with a maximum allowable deviation in any dimension of 5%. Torn or uneven pads should not be acceptable.

(3) Standard size sections of sod should be strong enough to support their own weight and retain their size and shape when suspended from a firm grasp on one end of the section.

(4) Sod should be harvested, delivered, and installed within a period of 36 hours.

Site Preparation:

(1) Prior to soil preparation, areas to be sodded should be brought to final grade in accordance with the approved plan.

(2) The surface should be cleared of all trash, debris and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.

(3) Fertirlize according to soil tests. Fertilizer needs can be determined by a soil testing laboratory or regional recommendations can be made by county agricultural extension agents. Fertilizer should be worked into the soil to a depth of 3 inches with a disc, springtooth harrow or other suitable equipment. On sloping land, the final harrowing or discing operation should be on the contour.

Installation in Channels:

(1) Sod strips in waterways should be laid perpendicular to the direction of flow. Care should be taken to butt ends of strips tightly (see Figure above).

(2) After rolling or tamping, sod should be pegged or stapled to resist washout during the establishment period. Mesh or other netting may be pegged over the sod for extra protection in critical areas.

General Installation (VA Dept. of Conservation, 1992):

(1) Sod should not be cut or laid in excessively wet or dry weather. Sod also should not be laid on soil surfaces that are frozen.

(2) During periods of high temperature, the soil should be lightly irrigated immediately prior to laying the sod, to cool the soil and reduce root burning and dieback.

(3) The first row of sod should be laid in a straight line with subsequent rows placed parallel to and butting tightly against each other. Lateral joints should be staggered to promote more uniform growth and strength. Care should be excercised to ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause drying of the roots (see above)

(4) On slopes 3:1 or greater, or wherever erosion may be a problem, sod should be laid with staggered joints and secured by stapling or other approved methods. Sod should be installed with the length perpendicular to the slope (on contour).

(5) As sodding of clearly defined areas is completed, sod should be rolled or tamped to provide firm contact between roots and soil.

(6) After rolling, sod should be irrigated to a depth sufficient that the underside of the sod pad and the soil 4 inches below the sod is thorougly wet.

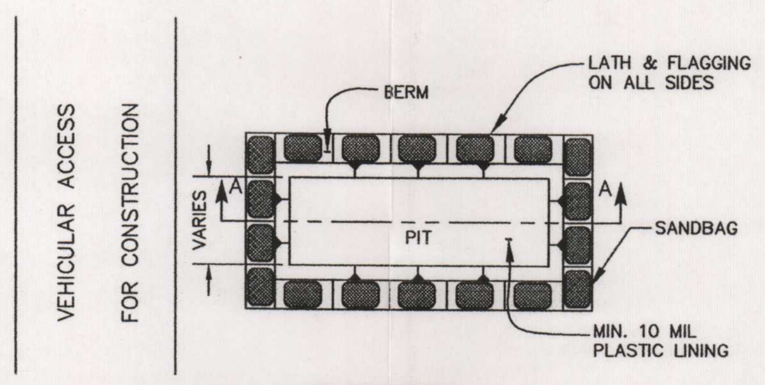
(7) Until such time a good root system becomes developed, in the absence of adequate rainfall, watering should be performed as often as necessary to maintain moist soil to a depth of at least 4 Inches.

(8) The first mowing should not be attempted until the sod is firmly rooted, usually 2-3 weeks. Not more than one third of the grass leaf should be removed at any one cutting.

Inspection and Maintenance Guidelines:

(1) Sod should be inspected weekly and after each rain event to locate and repair any damage.

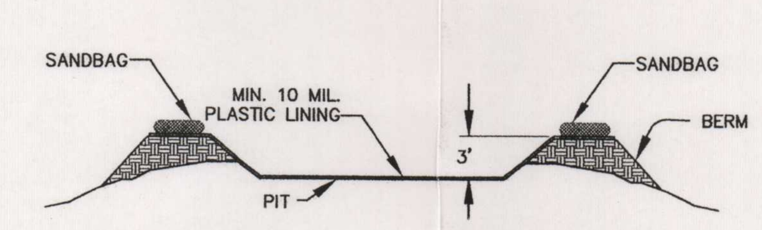
(2) Damage from storms or normal construction activities such as tire ruts or disturbance of swale stabilization should be repaired as soon as practical.



PLAN VIEW

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.
- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies.
- Temporary concrete washout facility should be constructed with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.



SECTION A-A

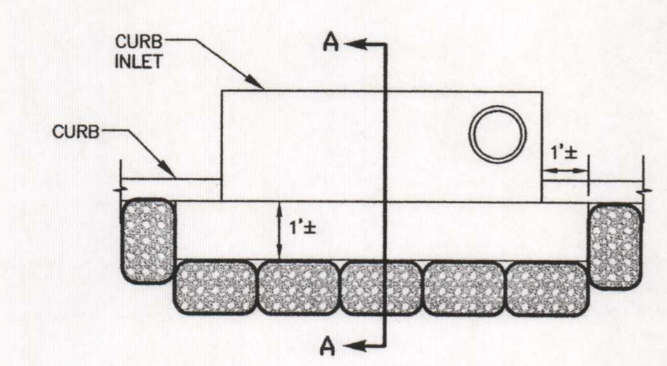
MATERIALS:

- Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

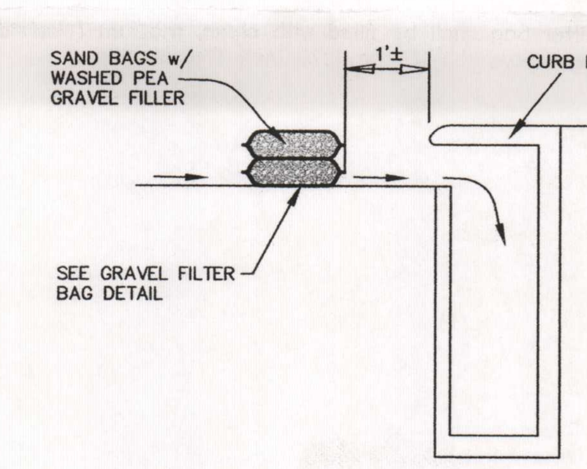
MAINTENANCE:

- When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of.
- Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of.
- Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

CONCRETE TRUCK WASHOUT PIT



PLAN VIEW



SECTION A-A

GENERAL NOTES:

1) The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around inlets.

2) The bags should be tightly abutted against each other to prevent runoff from flowing between the bags.

INSPECTION AND MAINTENANCE GUIDELINES:

1) Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.

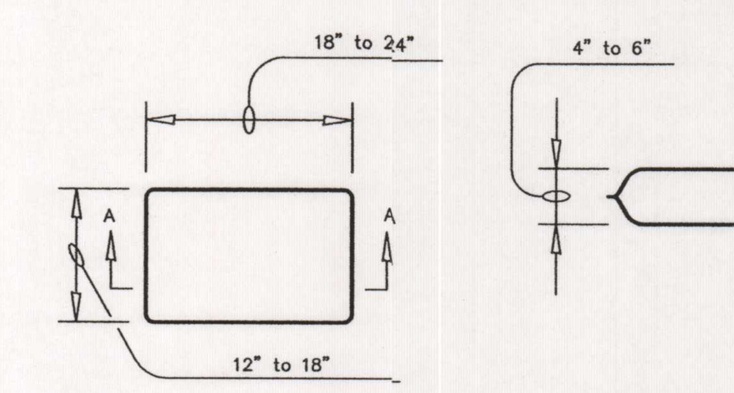
2) Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a matter that it will not erode.

3) Check placement of device to prevent gaps between device and curb.

4) Inspect filter fabric and patch or replace if torn or missing.

5) Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

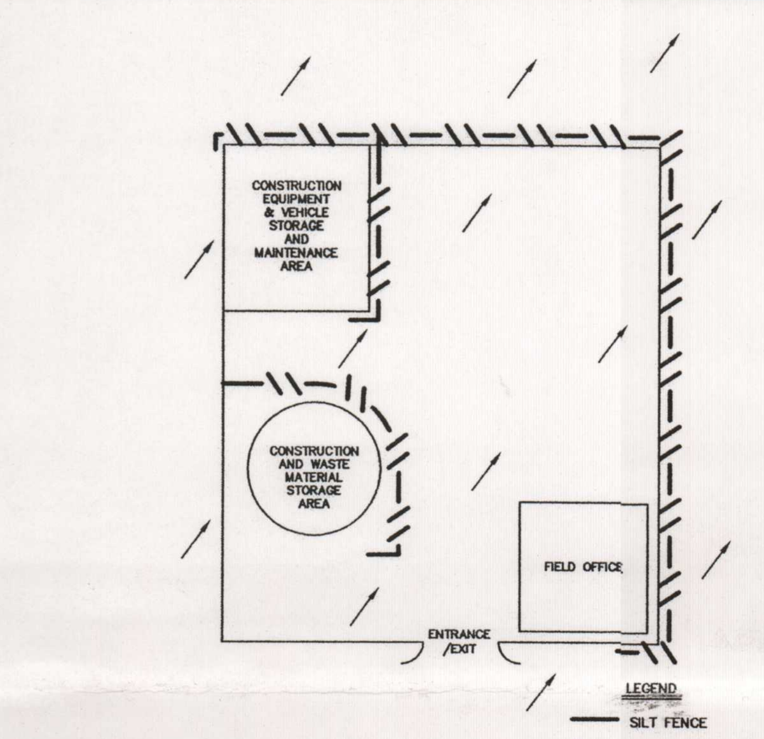
BAGGED GRAVEL CURB INLET PROTECTION



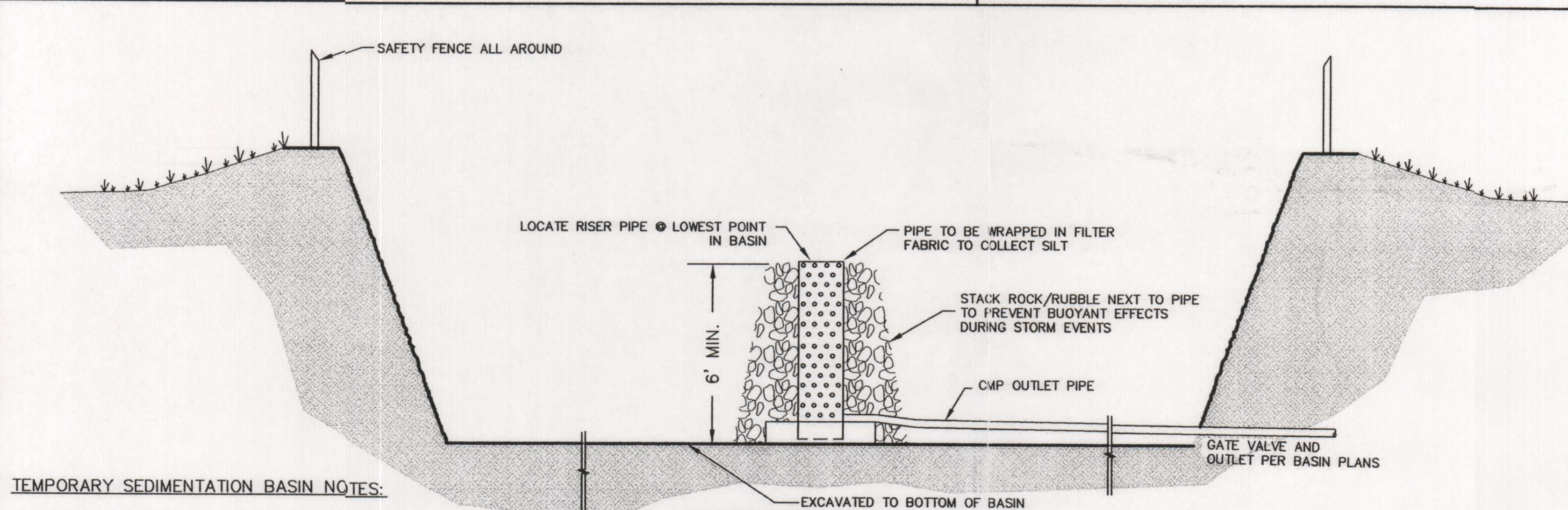
PLAN VIEW **SECTION A-A**

- 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 (washed pea gravel) to coarse gravel (0.31 to 0.75 inch diameter).

GRAVEL FILTER BAG DETAIL



TYP. CONSTRUCTION STAGING AREA



TEMPORARY SEDIMENTATION BASIN NOTES:

1. CONTRACTOR TO CONSTRUCT BASINS IN ACCORDANCE WITH CONSTRUCTION PLANS FOR PERMANENT SEDIMENTATION/FILTRATION WITH THE EXCEPTION OF THE GRAVEL DRAIN LAYER AND SAND FILTER LAYERS.

2. INSTALL PERMANENT STAKE TO INDICATE SEDIMENT LEVEL IN THE BASIN. STAKE SHOULD BE MARKED TO INDICATE WHEN SEDIMENT OCCUPIES 50% OF THE VOLUME OF THE BASIN.

3. SEDIMENT WILL BE REMOVED WHEN MORE THAN 50% OF THE BASIN CAPACITY IS EXCEEDED.

4. CONTRACTOR TO SECURE PIPE TO BOTTOM OF BASIN TO PREVENT BUOYANCY DURING A RAIN EVENT. A CONCRETE ANCHOR MAY BE USED.

5. DISCHARGE PIPE TO BE INSTALLED SO AS TO BE IN PLACE FOR PERMANENT STRUCTURE.

MATERIALS:

1. RISER SHOULD BE CORRUGATED METAL OR REINFORCED CONCRETE PIPE OR BOX AND SHOULD HAVE WATERTIGHT FITTINGS OR END TO END CONNECTIONS OF SECTIONS

2. AN OUTLET PIPE OF CORRUGATED METAL OR REINFORCED CONCRETE SHOULD BE ATTACHED TO THE RISER AND SHOULD HAVE POSITIVE FLOW TO A STABILIZED OUTLET ON THE DOWNSTREAM SIDE OF THE EMBANKMENT.

3. AN ANTI-VORTEX DEVICE AND RUBBISH SCREEN SHOULD BE ATTACHED TO THE TOP OF THE RISER AND SHOULD BE MADE OF POLYVINYL CHLORIDE OR CORRUGATED METAL.

INSPECTION AND MAINTENANCE GUIDELINES:

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.

2. TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE.

3. THE REMOVED SEDIMENT SHOULD BE STOCKPILED OR REDISTRIBUTED IN AREAS THAT ARE PROTECTED FROM EROSION.

TEMPORARY SEDIMENT BASIN TYPICAL DETAIL

NOT-TO-SCALE

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET FOR THE CONSTRUCTION STAGING AREA ONLY. ALL OTHER INFORMATION IS FROM TCEQ'S TECHNICAL GUIDANCE MANUAL.

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

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

EXHIBIT 6

REVISIONS:

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

WESTPOINTE
WATER POLLUTION ABATEMENT PLAN
TEMPORARY WATER POLLUTION ABATEMENT PLAN DETAILS

JOB NO.	6858-10
DATE	MARCH 2008
DESIGNER	MGB
CHECKED	DR
DRAWN	RO
SHEET	1 of 1

Date: Mar 28, 2008, 4:16pm User ID: ROlivarez
File: P:\68\58\10\Design\Environmental\TMDT685810.DWG

Westpointe: Impervious Cover Summary

Area	Impervious (acres)
Oak Run Parkway	4.56
Independence Parkway	2.83
Connection to Loop 337	0.26
Future Connection to Residential	0.04
Independence Tie-in to SH46	0.12
Widening of Loop 337	0.87
Elevated Tank & Pad	0.08
Total	**8.76**

Westpointe: Impervious Cover Summary by BMP

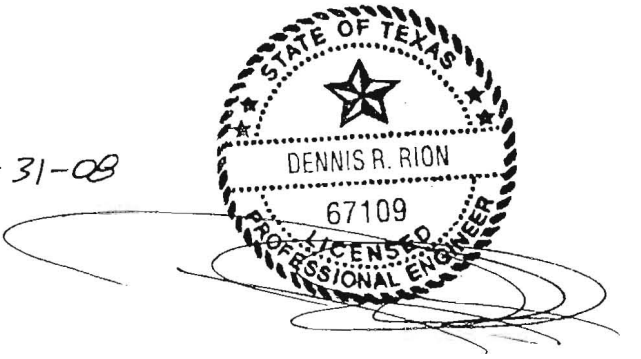
Area	Impervious (acres)	BMP
Oak Run Parkway (East)	1.75	Stormceptor
Oak Run Parkway (West)	2.81	Stormceptor
Independence Parkway (North)	0.96	Stormceptor
Independence Parkway (South)	1.87	Stormceptor
Connection to Loop 337	0.26	Overtreatment
Future Connection to Residential	0.04	Overtreatment
Independence Tie-in to SH46	0.12	VFS
Widening of Loop 337	0.87	VFS
Elevated Tank & Pad	0.08	VFS
Total	**8.76**	

Westpointe: Treatment Summary

Total Impervious Cover= 8.76 ac
Total TSS to be treated= 7862.98 lbs

Area	Impervious (acres)	Lbs TSS to be treated (Lm)	Lbs TSS removed by BMP (Lr)
Oak Run Parkway	4.56	4093.06	4947.12
Independence Parkway	2.83	2540.21	2551.00
Connection to Loop 337	0.26	233.38	
Future Connection to Residential	0.04	35.90	
Independence Tie-in to SH46	0.12	107.71	107.71
Widening of Loop 337	0.87	780.91	780.91
Elevated Tank & Pad	0.08	71.81	71.81
Total	**8.76**	**7862.98**	**8458.55**

8458.55 lbs > 7862.98 lbs



3-31-08

POLLUTANT LOAD AND REMOVAL CALCULATIONS

Stormceptor Treatment Sizing for Edward's Aquifer

PROJECT DETAILS	
Project Name	WestPointe-Oak Run East
Project Location	New Braunfels, TX
	Commercial Project
	New Development
TOTAL ACREAGE =	4.25
% IMPERVIOUS =	41%
% PERVIOUS =	59%
IMPERVOUS ACREAGE =	1.75
PERVIOUS ACREAGE =	2.5
WEIGHTED RUN-OFF "C" =	0.31
COUNTY =	Comal
BMP #1 =	Wet Vault (Stormceptor)
BMP #2 =	None
BMP #3 =	None

Eq 3.11

STEP ONE

EQUATION 3.2

$L_m = 27.2(A_n \times P)$

L_m = Required TSS Removal (pounds)

A_n = Net Increase in Impervius Area (acres)

P = Average Annual Precipitation (inches)

A_n = 1.75

P = 33

L_m = 1570.80

STEP TWO

EQUATION 3.6

$E_{Tot} = [1 - ((1 - E_1) \times (1 - 0.5E_2) \times (1 - 0.25E_3))] \times 100$ (80% Based on Rules)

E_{Tot} = Total TSS Removal Efficiency of BMP's in Series (%)

E_1 = Removal Efficiency of First BMP (decimal fraction)

E_2= Removal Efficiency of Second BMP (decimal fraction)

E_3 = Removal Efficiency of Third BMP (decimal fraction)

E_1 = 92%

E_2 = 0%

E_3 = 0%

E_{Tot} = 92%

STEP THREE

EQUATION 3.8

L_r = (BMP Efficiency) x P x (A_i x 34.6 + A_p x 0.54)

L_r = Load Removed by BMP

BMP Efficiency = TSS Removal Efficiency (expressed as a decimal fraction from Table 3-4)

A_i = Impervious Tributary Area to the BMP (ac)

A_p = Pervious Tributary Area to the BMP (ac)

A_i = 1.75

A_p = 2.5

L_r = 1879.28

Sum L_r = 1879.28

STEP FOUR

EQUATION 3.9

$F = L_m / \text{Sum } L_r$

F = Fraction of the Annual Rainfall Treated by the BMP

F = 0.84

STEP FIVE

EQUATION 3.10

WQV = Rainfall Depth x Runoff Coefficient x Area + 20%

Rainfall Depth (in) = 1.26

Rainfall Depth (ft) = 0.11

WQV = 7270.53 ft^3

Drawdown Flowrate (48 Hrs.) = 0.04

REINFORCED CONCRETE BOX QUANTITY

SPAN	RISE	HAUNCH SIZE	CROSS - SECTIONAL AREA
10	10	12	98

BOX LENGTH = 6

NUMBER OF BOXES REQUIRED = 12

Price/Ft	Total L.F	
$780.00	74	$57,867.50
		$18,235.00
		$76,102.50

STORMCEPTOR SIZING

Area =	4.250	Acreage
% Impervious Cover =	41%	Given
% Pervious Cover =	59%	Given
Run-Off Coefficient=	0.31	(EQUATION 3.11)
Intensity =	1.1	Edwards Aquifer Requirement

Q = 0.04 cfs
Chamber Ø = 23.38 ft^2
Overflow Rate = 1.71E-03 92%

STC Models	Tank(s) Diameter	Surface Area (ft^2)	Orifice Ø	Treatment Chamber Flowrate	Overflow Rate (ft/s)	Maximum Overflow Rate (ft/s)	Check Overflow Rate (ft/s)
450	48	12.57	1.5	0.04	0.00318	0.00171	HIGH VELOCITY
900	72	28.27	1.5	0.04	0.00141	0.00171	O.K.
1200	72	28.27	1.5	0.04	0.00141	0.00171	O.K.
1800	72	28.27	1.5	0.04	0.00141	0.00171	O.K.
2400	96	50.27	1.5	0.04	0.00080	0.00171	O.K.
3600	96	50.27	1.5	0.04	0.00080	0.00171	O.K.
4800	120	78.54	1.5	0.04	0.00051	0.00171	O.K.
6000	120	78.54	1.5	0.04	0.00051	0.00171	O.K.
7200	144	113.10	1.5	0.04	0.00035	0.00171	O.K.
11000	120	157.08	1.5	0.04	0.00025	0.00171	O.K.
13000	120	157.08	1.5	0.04	0.00025	0.00171	O.K.
16000	144	226.19	1.5	0.04	0.00018	0.00171	O.K.

Orifice Ø	Flowrate
4	0.28
6	0.64
8	1.06
10	1.77
12	2.47
20	3.53
24	4.94

Required Load Reduction:

$L_M = 27.2(A_N \times P)$

where, L_M = Required TSS removal
A_N = Net increase in impervious area for site
P = Average annual precipitation, inches

Site Data:

County =	Comal	
Total site area =	3.14	acres
Predevelopment impervious area =	0.00	acres
Post-development impervious area =	2.83	acres
Postdevelopment Impervious fraction	0.90	
P =	33	inches

L_M =	2540	lbs.	Total Project Required Removal

Area	Total Area	Impervious Cover	Impervious Area	Runoff Coef. (C)	Pervious Area	Runoff Coef. (C)	Composite Runoff Coef. (C)	Effective Area	Intensity (I)	Calculated Flow (Q)	Stormceptor Model	Vault Diameter	Vault Surface Area	Orfice Capacity	Intensity Treated	Fraction of Flow Treated (F)	F/0.9	Overflow Rate (ft/s)	Removal Effeciency	Actual Effeciency	Stormceptor Load Reduction (L_R)
[ID]	[ac]	[%]	[ac]		[ac]			[ac]	[in/hr]	[cfs]	#	(ft)	(sf)	(cfs)	[in/hr]	[Figure 3-2]					(lbs)
A-1	2.13	88.0%	1.87	0.9	0.26	0.03	0.80	1.69	1.1	1.86	16000	12	226.19	4.94	1.10	0.90	1.00	8.24E-03	76%	76%	1630
A-2	1.01	95.0%	0.96	0.9	0.05	0.03	0.86	0.87	1.1	0.95	16000	12	226.19	4.94	1.10	0.90	1.00	4.21E-03	84%	84%	921
A-3			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-4			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-5			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-6			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-7			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-8			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-9			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-10			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-11			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-12			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-13			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-14			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-15			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-16			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-17			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-18			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-19			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-20			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-21			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-22			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-23			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-24			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-25			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-26			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
A-27			0.00	0.9	0.00	0.03	#DIV/0!	0.00	1.1	#DIV/0!		#N/A	#N/A	#N/A	#N/A	0.90	1.00	#N/A		0%	0
Total	3.14																				

Total TSS Removed by BMP's Annually = 2551 lbs

2540

Difference 11

2 16000
0 11000
0 7200

Stormceptor Treatment Sizing for Edward's Aquifer

PROJECT DETAILS	
Project Name	Westpointe Oak Run (West)
Project Location	New Braunfels, TX
	Commercial Project
	New Development
TOTAL ACREAGE =	3.98
% IMPERVIOUS =	71%
% PERVIOUS =	29%
IMPERVOUS ACREAGE =	2.81
PERVIOUS ACREAGE =	1.17012
WEIGHTED RUN-OFF "C" =	0.51
COUNTY =	Comal
BMP #1 =	Wet Vault (Stormceptor)
BMP #2 =	None
BMP #3 =	None

Eq. 3.11

STEP ONE

EQUATION 3.2

$L_m = 27.2(A_n \times P)$

L_m = Required TSS Removal (pounds)

A_n = Net Increase in Impervius Area (acres)

P = Average Annual Precipitation (inches)

A_n = 2.81

P = 33

L_m = 2791.54 ← 269.28 lbs

*Treats for bypass of 0.04+0.26 acs

STEP TWO

EQUATION 3.6

$E_{Tot} = [1 - ((1 - E_1) \times (1 - 0.5E_2) \times (1 - 0.25E_3))] \times 100$ (80% Based on Rules)

E_{Tot} = Total TSS Removal Efficiency of BMP's in Series (%)

E_1 = Removal Efficiency of First BMP (decimal fraction)

E_2 = Removal Efficiency of Second BMP (decimal fraction)

E_3 = Removal Efficiency of Third BMP (decimal fraction)

E_1 = 95%

E_2 = 0%

E_3 = 0%

E_{Tot} = 95%

STEP THREE

EQUATION 3.8

$L_r = (BMP\ Efficiency) \times P \times (A_i \times 34.6 + A_p \times 0.54)$

L_r = Load Removed by BMP

BMP Efficiency = TSS Removal Efficiency (expressed as a decimal fraction from Table 3-4)

A_i = Impervious Tributary Area to the BMP (ac)

A_p = Pervious Tributary Area to the BMP (ac)

A_i = 2.81

A_p = 1.17012

L_r = 3067.84

Sum L_r = 3067.84

STEP FOUR

EQUATION 3.9

$F = L_m / \text{Sum } L_r$

F = Fraction of the Annual Rainfall Treated by the BMP

F = 0.91

STEP FIVE

EQUATION 3.10

WQV = Rainfall Depth x Runoff Coefficient x Area + 20%

Rainfall Depth (in) = 1.8

Rainfall Depth (ft) = 0.15

WQV = 15968.99 ft^3

Drawdown Flowrate (48 Hrs.) = 0.09

REINFORCED CONCRETE BOX QUANTITY

SPAN	RISE	HAUNCH SIZE	CROSS - SECTIONAL AREA
10	10	12	98

BOX LENGTH = 6

NUMBER OF BOXES REQUIRED = 27

Price/Ft	Total L.F	
$780.00	163	$127,100.12
		$18,235.00
		$145,335.12

STORMCEPTOR SIZING

Area =	3.980	Acreage
% Impervious Cover =	71%	Given
% Pervious Cover =	29%	Given
Run-Off Coefficient=	0.51	(EQUATION 3.11)
Intensity =	1.1	Edwards Aquifer Requirement

Q = 0.09 cfs
Chamber Ø = 93.48 ft^2
Overflow Rate = 9.63E-04 95%

STC Models	Tank(s) Diameter	Surface Area (ft^2)	Orifice Ø	Treatment Chamber Flowrate	Overflow Rate (ft/s)	Maximum Overflow Rate (ft/s)	Check Overflow Rate (ft/s)
450	48	12.57	2.3	0.09	0.00716	0.00096	HIGH VELOCITY
900	72	28.27	2.3	0.09	0.00318	0.00096	HIGH VELOCITY
1200	72	28.27	2.3	0.09	0.00318	0.00096	HIGH VELOCITY
1800	72	28.27	2.3	0.09	0.00318	0.00096	HIGH VELOCITY
2400	96	50.27	2.3	0.09	0.00179	0.00096	HIGH VELOCITY
3600	96	50.27	2.3	0.09	0.00179	0.00096	HIGH VELOCITY
4800	120	78.54	2.3	0.09	0.00115	0.00096	HIGH VELOCITY
6000	120	78.54	2.3	0.09	0.00115	0.00096	HIGH VELOCITY
7200	144	113.10	2.3	0.09	0.00080	0.00096	O.K.
11000	120	157.08	2.3	0.09	0.00057	0.00096	O.K.
13000	120	157.08	2.3	0.09	0.00057	0.00096	O.K.
16000	144	226.19	2.3	0.09	0.00040	0.00096	O.K.

Orifice Ø	Flowrate
4	0.28
6	0.64
8	1.06
10	1.77
12	2.47
20	3.53
24	4.94

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 2, 2010

Mr. William Vandenbosch
NB Retail, Ltd.
801 Congress Ave., Suite 300
Austin, TX 78701

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: WestPointe Village Unit 3; Located at the southwest corner of Hwy. 46 and Independence Dr. west of Loop 337; 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
Edwards Aquifer Protection Program ID No. 2786.03; Investigation No. 785499; Regulated Entity No. RN105849897

Dear Mr. Vandenbosch:

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 Bury+Partners on behalf of NB Retail, Ltd. on December 1, 2009. Final review of the WPAP was completed after additional material was received on January 22, 2010. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) 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 project will have an area of approximately 7.27 acres. It will include the demolition of an existing residential building, the construction of a public detention pond and storm sewer system and the construction of two driveway aprons. The impervious cover will be 0.06 acres (0.8 percent). Project wastewater will be disposed of by conveyance to the existing Gruene Water Recycling Center owned by New Braunfels Utilities.

PERMANENT POLLUTION ABATEMENT MEASURES

Due to the activities proposed, the total impervious cover is decreasing at the site. The existing residence accounts for 0.16 acres which will be removed and revegetated. The driveway aprons account for 0.06 acres of impervious cover. Therefore, there is not an increase in impervious cover or in total suspended solids (TSS), over background, from the site and permanent BMPs are not required, at this point in time.

GEOLOGY

According to the geologic assessment included with the application, the site is located on the Edwards Limestone formation. The San Antonio Regional Office site assessment conducted on January 11, 2010 revealed the site as described by the geologic assessment and the site plan.

SPECIAL CONDITIONS

1. Only the activities described in the Project Description and in the WPAP application are approved. Any additional activities or development of the individual lots will require a new or modified WPAP and may require permanent BMPs.

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 and/or authorizations from other TCEQ Programs (i.e., Storm Water, 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 storm water discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

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

<u>During Construction:</u>

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

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

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

13. No wells exist on 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 storm water discharge pollutants.

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

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

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

After Completion of Construction:

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

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

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

21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

If you have any questions or require additional information, please contact Charly Fritz of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4065.

Sincerely,

for Mark R. Vickery
Executive Director
Texas Commission on Environmental Quality

MRV/CEF/eg

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

cc: Mr. Armando Niebla, P.E., Bury+Partners
Mr. Bruce Boyer, City of New Braunfels
Mr. Tom Hornseth, P.E., Comal County
Ms. Velma Danielson, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC212

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 7, 2008

RECEIVED
APR 0 9 2008
COUNTY ENGINEER

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: Westpointe located west of the State Highway 46 and Loop 337 intersection, New Braunfels, Texas
PLAN TYPE: Application for Approval of a Water Pollution Abatement Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File Number: 2786.00

Dear Mr. Hornseth:

The enclosed WPAP application received on April 2, 2008, is being forwarded to you pursuant to the Edwards Aquifer Rules. The Texas Commission on Environmental Quality (TCEQ) is required by 30 TAC Chapter 213 to provide copies of all applications to affected incorporated cities and underground water conservation districts for their comments prior to TCEQ approval.

Please forward your comments to this office by May 1, 2008.

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

Lynn M. Bumguardner
Water Section Work Leader
San Antonio Regional Office

LMB/eg