TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 9, 2006

Mr. Laurence Dahl
Eden Home, Inc.
631 Lakeview Boulevard
New Braunfels, TX 78130-4098

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Eden Home Expansion; Located at 631 Lakeview Boulevard; New Braunfels, Texas
TYPE OF PLAN: Request for Modification of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program File No. 1282.01
Regulated Entity ID: RN101762425
Investigation Number: 512694

Dear Mr. Dahl:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the request for modification of the approved WPAP for the referenced project submitted to the San Antonio Regional Office by The Schultz Group, Inc. on behalf of Eden Home, Inc. on September 8, 2006. 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

This facility was previously approved by letters dated May 25, 1988, May 6, 1997, December 31, 1997, and August 10, 1999. Construction began on this site in 1956 prior to Edwards Aquifer regulations.

As presented, the proposed modifications to the site will consist of the demolition of existing facilities, construction of new cottages and apartments, and expansion and renovation of the existing skilled nursing

care facility on the 20.66 acre Eden Home Campus. Plans are to conduct activities in three phases. The first phase will include construction on the east side of the site that will replace four existing cottages with four new duplex type cottages. The second phase will be the construction on the east side outside of the circle and would consist of replacing four existing cottages with two apartment/town home type facilities and additional parking. The third phase would be to renovate and expand the existing skilled nursing facility, remove of the existing parking lots, and construct new parking areas.

The proposed impervious cover for the development will be increased from 9.98 acres (48.42 percent) to approximately 11.17 acres (54.17 percent) of the total area of the site.

Project wastewater will continue to be disposed of by conveyance to the existing Gruene Road Wastewater Treatment Plant owned by the New Braunfels Utilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent pollution of stormwater runoff originating on-site and potentially flowing across and off the site after construction, one partial sedimentation filtration basin designed using the TCEQ technical guidance document, *Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* (2005) will be constructed. The approved measures have been presented to meet the required 80 percent removal of the increased load in total suspended solids caused by the project. The pollution abatement measures are sized based on the information in the following tables.

Drainage Area	Total Area (acres)	Existing Imp. Cover (acres)	Post Imp. Cover (acres)	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Design Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Design Filter Area (ft^2)	Target TSS Removal (lb/yr)[E]	Design TSS Removal (lb/yr)
A1-A3 & B1-B10	7.29	3.67	4.80	0.13	1,906[D]	2,127[F]	191[D]	192	1,014	1068[A]
A4[B]	0.35	0.02	0.02	-	-	-	-	-	0	0
C[C]	1.90	0.48	0.49	-	-	-	-	-	9	0
D[B]	5.87	3.32	3.32	-	-	-	-	-	0	0
E[C]	2.62	1.43	1.48	-	-	-	-	-	45	0
F[B]	2.59	1.06	1.06	-	-	-	-	-	0	0
Totals	20.62	9.98	11.17	-	1,906	2,127	191	192	1,068	1,068

[A] Includes over-treatment from Drainage Areas C and E, not otherwise treated.
[B] No treatment required, no increase in impervious cover.
[C] Required TSS removal for this basin added to Basin A1-A3 & B1-B10 for over-treatment.
[D] Includes volume necessary for over-treatment.
[E] For drainage areas, individually.
[F] Represents 1,463 ft^3 (sedimentation), and 835 ft^3 (filtration)

GEOLOGY

According to the geologic assessment included with the application, eight man-made features, not assessed as sensitive, were identified on the site. The San Antonio Regional Office site inspection of October 3, 2006, revealed that the site is as described by the geologic assessment and no additional geologic or manmade features were observed.

SPECIAL CONDITIONS

I. The proposed permanent pollution abatement measures shall be operational prior to occupancy of structures constructed in Phase 1.

II. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all measures contained in the approved application.

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

IV. The sedimentation/filtration basin is designed in accordance with the TCEQ technical guidance document, *Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* (2005). The basins will incorporate sedimentation and filtration as described above.

V. All sediment and or media removed from the partial sedimentation/filtration basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335 as applicable.

VI. For any future modifications to any of the permanent BMPs on this site, the summary tables in this letter must be updated and included in the application. It is the responsibility of the applicant to maintain this information and keep it current.

VII. 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.

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.

Prior to Commencement of Construction:

2. 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, covered by the Edwards Aquifer protection plan, 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.

3. 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.

4. 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.

5. 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 file 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 of an approved plan.

6. 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.

7. All borings with depths greater than or equal to 20 feet must be plugged with a 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>

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, 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.

9. If any sensitive feature 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 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.

10. No wells exist on the site. All identified abandoned water wells, including injection, dewatering, and monitoring wells must be plugged pursuant to requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Licensing and Regulation of Water Well Drillers and Water Well Pump Installers) and all other locally applicable rules, as appropriate. If any abandoned wells (including water, injection (injection well referenced in Item 7), dewatering, and monitoring well) are encountered during construction, they must be plugged pursuant to requirements of the Texas Department of Licensing and Regulation (16 TAC Chapter 76) and all other locally applicable rules, as appropriate.

11. 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%. 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).

12. 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.

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

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

14. Owners of permanent BMPs and measures must insure that the 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 San Antonio Regional Office within 30 days of site completion.

15. 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. Such 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 the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

16. 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.

17. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50% 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.

18. 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 Lynn M. Bumguardner of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210/403-4023.

Sincerely,

Bobby D. Caldwell

for Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/lmb/eg

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

cc: Mr. Stephen E. Schultz, The Schultz Group, Inc.
Mr. Michael Short, P.E., City of New Braunfels
Mr. Tom Hornseth, P.E. Comal County
Mr. Robert J. Potts, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 5, 2012

Mr. Laurence Dahl
Eden Home Inc.
631 Lakeview Blvd.
New Braunfels, Texas 78130

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Eden Home Expansion; Located on 631 Lakeview Boulevard, New Braunfels, Texas

TYPE OF PLAN: Solution Feature Closure Plan/Sensitive Feature; 30 Texas Administrative Code (TAC) §213.5(f)(2)

Edwards Aquifer Protection Program San Antonio File No. 1282.03; Investigation No. 1014922; Regulated Entity No. RN 101762425

Dear Mr. Dahl:

The Texas Commission on Environmental Quality (TCEQ) received a plan which addresses protection of a solution feature encountered during drilling of a borehole for a pier at the above referenced project. The plan was received by the San Antonio Regional Office on June 20, 2012. The feature location and assessment is outlined in Table I, below.

Table I

Feature No.	Feature Dimensions	Location	Sensitivity
1	Unknown	Feature is located 16 feet below land surface near base of borehole	Yes

The feature was reportedly discovered on June 7, 2012 and assessed by the geologist on June 13, 2012. The Solution Feature Protection Plan was submitted for review and approval to the San Antonio Region Office on June 20, 2012 and then resubmitted with modifications on July 2, 2012. The San Antonio Region Office site assessment conducted on June 25, 2012 revealed that the site was generally as described in the Solution Feature Protection Plan.

The feature closure method is described in the narrative description (see Enclosures). Based on the information provided by Mr. Steve Frost, P.G., the feature protection plan is approved with the following conditions:

1. The location of the solution cavity shall be shown on the "as-built" plans.

2. In accordance with TAC § 213.5(f)(2), immediately notify the TCEQ if a new feature is discovered with continuation of construction activities.

3. The treatment method is designed to address environmental concerns related to surface water infiltration and is not intended to address structural integrity issues.

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

Sincerely,

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

LB/DP/eg

Enclosures: Site Map
Narrative Description
Schematic of Borehole

cc: Mr. Daryl D. Pawelek, P.E., Pawelek & Moy, Inc.
Mr. James C. Klein, P.E., City of New Braunfels
Mr. Thomas H. Hornseth, P.E., Comal County
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

THE Schultz Group INC.

P.O. BOX 310483 • NEW BRAUNFELS, TX 78131-0483 • Phone: (830) 606-3913 • Fax: (830) 625-2204

MODIFICATION OF A PREVIOUSLY APPROVED WATER POLLUTION ABATEMENT PLAN

for

EDEN HOME EXPANSION
NEW BRAUNFELS, TEXAS

prepared by

THE SCHULTZ GROUP, INC.

PROJECT NO. 06-08-2006

SEPTEMBER 2006

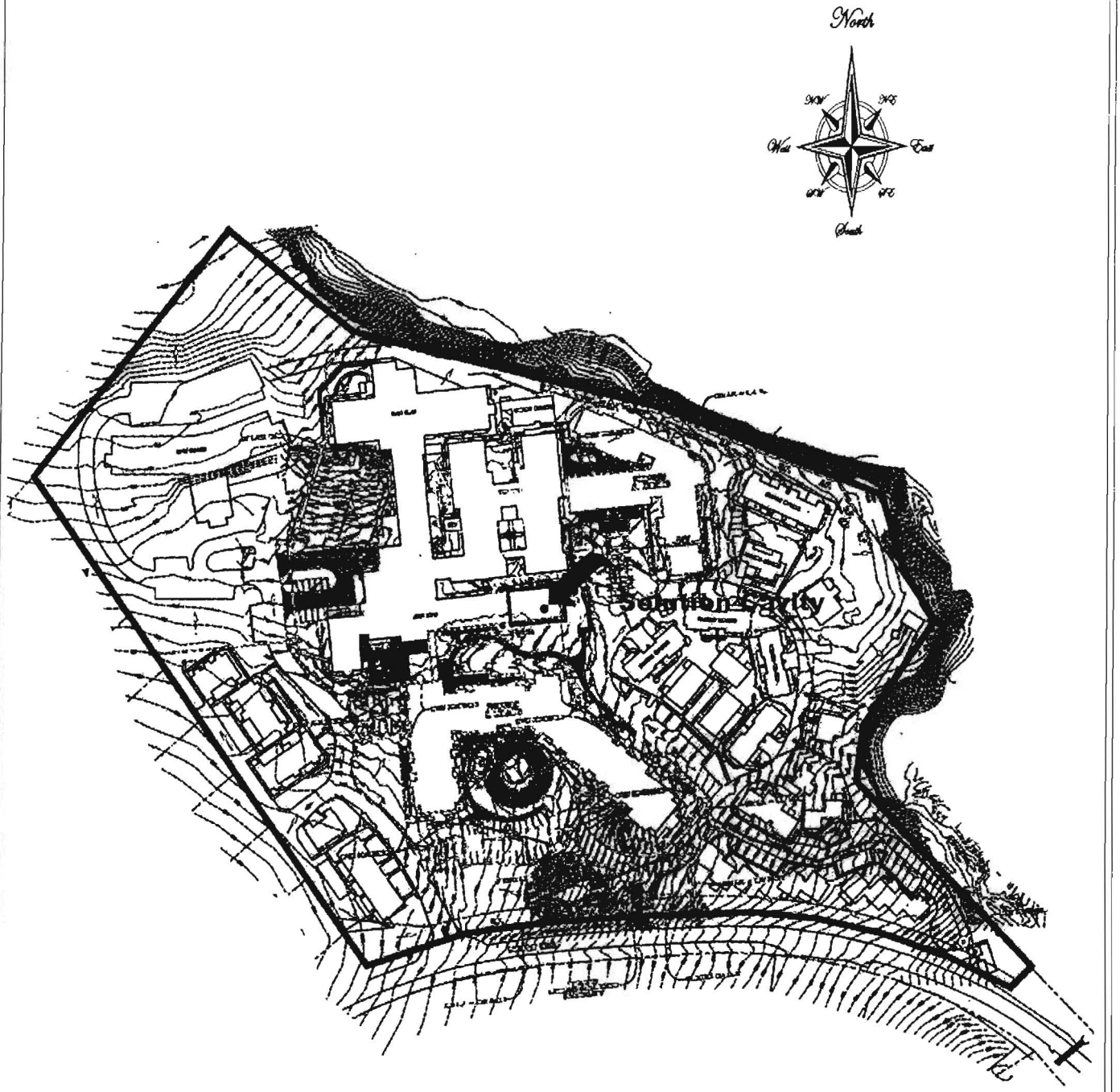
LOIS M. SCHULTZ
PRESIDENT

STEPHEN E. SCHULTZ, R.P.L.S.
VICE-PRESIDENT

BOBBIE L. HASERT, P.E., R.P.L.S.
CHIEF ENGINEER

CONSULTING ENGINEERS AND LAND SURVEYORS

Frost GeoSciences



PROJECT NAME:	Site Plan	
Solution Cavity Inspection Report Eden Home Wellness Center, Pier 8 @ E-8 New Braunfels, Texas	PROJECT NO.: FGS-E12193	DATE: June 29, 2012

Frost GeoSciences
Geotechnical • Construction Materials
Forensics • Environmental

13402 Western Oak
Helotes, Texas 78023
Phone (210) 372-1315
Fax (210) 372-1318
www.frostgeosciences.com
TBPE Firm Registration # F-9227
TBPG Firm Registration # 50040

June 29, 2012

Greenbrier Development
3232 McKinney Avenue, Suite 1160
Dallas, Texas 75204

Attn.: Mr. Brian Devlin

Re: Solution Cavity Inspection Report
Eden Home
Wellness Center, Pier 8 @ E-8
New Braunfels, Texas

Frost GeoSciences, Inc. Control No. FGS-E12193

Dear Sir:

Mr. Steve Frost, C.P.G., President and Senior Geologist of Frost GeoSciences, Inc., has completed the solution cavity inspection at the above referenced project site. Mr. Frost is a Licensed Professional Geoscientist in the State of Texas (License # 315), and is a Certified Professional Geologist with the American Institute of Professional Geologist (Certification # 10176). Our investigation was conducted in general accordance with the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04). The EAPP Solution Cavity Forms have been modified for this specific cavity and are included in the report. The results of our investigation along with recommendations for Best Management Practices (BMP's) are provided in the following report.

A copy of the New Braunfels Street Map indicating the location of the project site is indicated on Plate 1. The solution cavity is located within the existing Eden Home development, in the Wellness Center, Pier 8 @ Plan Location E-8. A site plan of Eden Home, indicating the location of the solution cavity is included in this report on Plate 2. A copy of the U.S.G.S. 7.5 Minute Quadrangle Map, New Braunfels West33, Texas

Sheet (1994), indicating the location of the project site and the location of the solution cavity9 is included on Plate 3.

This location plots the solution cavity on the Edwards Aquifer Recharge Zone. A copy of the Edwards Underground Water District Reference Map (March 1988) indicating the location of the project site is included on Plate 4.

The solution cavity is located on the Cretaceous Edwards Person Limestone. A copy of the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle indicating the location of the project site and the solution cavity is included in this report on Plate 5.

A copy of the 2010 Aerial photograph indicating the location of the project site and the solution cavity is included on Plate 6.

The feature was encountered during the drilling of Pier 8 on the Wellness Center at Pier Location E-8. The actual cavity was not apparent during drilling but was noted when an attempt was made to fill the pier hole with concrete. The concrete kept sinking and filling up the cavity. The pier is a 24 inch diameter pier and was drilled to a depth of 16.83 feet below ground surface. Based on information obtained from Mr. David Bates with JE Dunn Construction, the current level of the top of concrete is approximately 12 feet. Mr. Bates also stated that each pier holds between 2 and 3 cubic yards of concrete and that he estimated that as much as 6 cubic yards of concrete may have entered the solution cavity. As a result, the bottom of the solution cavity appears be located at a depth of approximately 12 feet. Due to the steel reinforcing cage and the limited access to the cavity opening, a detailed description or dimensions of the cavity was not possible.

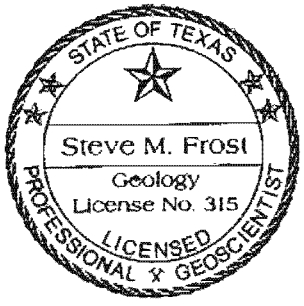
In a telephone conversation with Mr. Rick Webb, P.E. with Fugro, Frost GeoSciences, Inc. was informed that these piers were designed to support the proposed structure with skin friction only. It is our understanding that no bottom load was taken into the account of the sizing of these piers.

Frost GeoSciences, Inc. recommends that the solution feature be sealed with a shallow plug (2 to 3 feet tall) of low slump (2 to 3 inch Max) concrete (4000 psi). The plug should be set from the existing concrete level to 1 foot above the cavity. Once this sets, the remainder of the pier can be poured to the top with concrete meeting the original plans and specifications. A detailed drawing of the proposed solution is included on Figure 1.

Detailed drawings showing the proposed optional solutions for this feature are included at the end of this report

The EAPP-Solution Cavity Forms have been modified to accomidate this project and filled out with the appropriate information and are included in this report. A color photograph of the pier hole is included in this report.

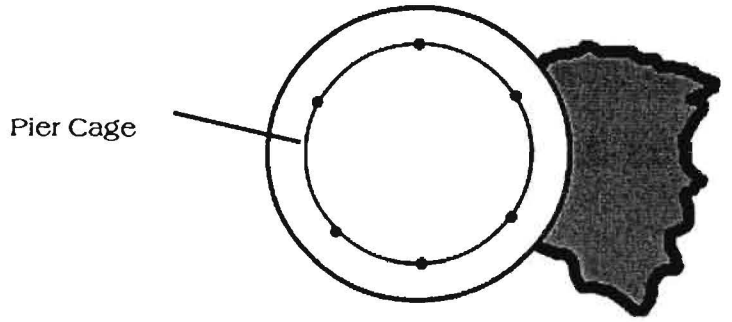
If you have any questions regarding this Solution Cavity Inspection Report, or if Frost GeoSciences, Inc. may be of additional assistance to you on this project, please feel free to call our office. It has been a pleasure to work with you and we wish to thank you for the opportunity to be of service to you on this project. We look forward to being of continued service.

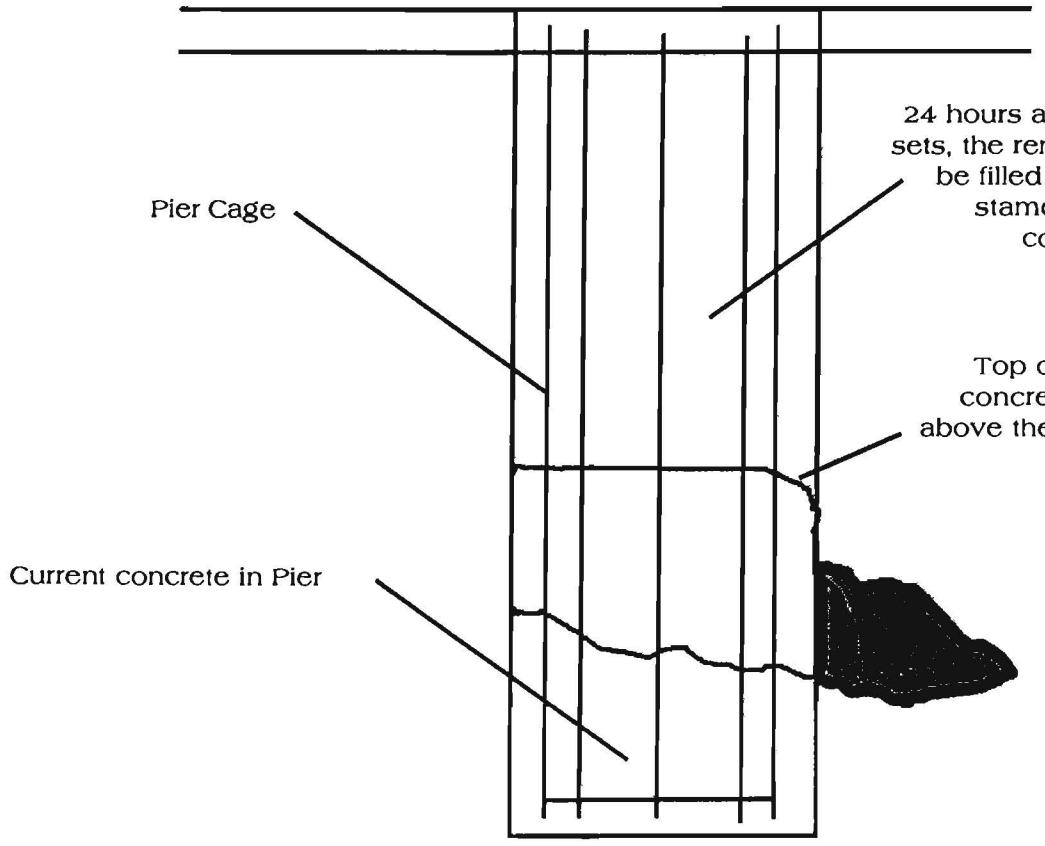


Very truly yours,
Frost GeoSciences, Inc.

Steve Frost, C.P.G., P.G.
President, Senior Geologist

Distribution: (4) Greenbrier Development





PROJECT NAME:	Detail Showing Feature Sealing Solution	
Solution Cavity Inspection Report Eden Home Wellness Center, Pier 8 @ E-8 New Braunfels, Texas	PROJECT NO.: FGS-E12193	DATE: June 29, 2012

MODIFICATION OF A PREVIOUSLY APPROVED WATER POLLUTION ABATEMENT PLAN

for

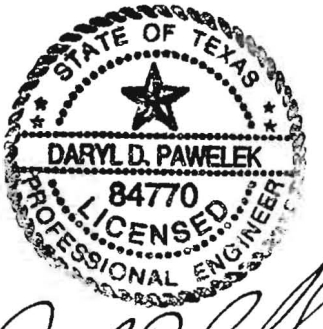
EDEN HOME EXPANSION
NEW BRAUNFELS, TEXAS

prepared by

THE SCHULTZ GROUP, INC.

PROJECT NO. 06-08-2006

SEPTEMBER 2006



P.E.
9/7/06

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: Eden Home Expansion
COUNTY: Comal
STREAM BASIN: Blieders Creek

EDWARDS AQUIFER: X RECHARGE ZONE
__ TRANSITION ZONE

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

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: Laurence Dahl
Entity: Eden Home Inc.
Mailing Address: 631 Lakeview Blvd
City, State: New Braunfels, TX Zip: 78130
Telephone: 830-625-6291 FAX: 830-620-7726

Agent/Representative (If any): The Schultz Group, Inc.

Contact Person: Stephen E. Schultz
Entity: The Schultz Group, Inc
Mailing Address: 2461 Loop 337
City, State: New Braunfels, TX Zip: 78130
Telephone: 830-606-3913 FAX: 830-625-2204

2. X This project is inside the city limits of New Braunfels, Texas.
__ 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.

The proposed expansion of the Eden Home facility is located approximately ¼ of a mile north of intersection of River Road and Lakeview Blvd on Lakeview Blvd.

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

5. X **ATTACHMENT B - USGS / EDWARDS RECHARGE ZONE MAP.** A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached behind this sheet. The map(s) should clearly show:

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

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

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

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

PROHIBITED ACTIVITIES

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

   (1) waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
   (2) new feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
   (3) land disposal of Class I wastes, as defined in 30 TAC §335.1;
   (4) the use of sewage holding tanks as parts of organized collection systems; and
   (5) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

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

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

ADMINISTRATIVE INFORMATION

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

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

13. X 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. X No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the executive director.
N/A 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:

Stephen E. Schultz
Print Name of Customer/**Agent**

Signature of Customer/**Agent** 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.

ATTACHMENT A

ROAD MAP

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 9, 2006

Mr. Laurence Dahl
Eden Home, Inc.
631 Lakeview Boulevard
New Braunfels, TX 78130-4098

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Eden Home Expansion; Located at 631 Lakeview Boulevard; New Braunfels, Texas
TYPE OF PLAN: Request for Modification of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program File No. 1282.01
Regulated Entity ID: RN101762425
Investigation Number: 512694

Dear Mr. Dahl:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the request for modification of the approved WPAP for the referenced project submitted to the San Antonio Regional Office by The Schultz Group, Inc. on behalf of Eden Home, Inc. on September 8, 2006. 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

This facility was previously approved by letters dated May 25, 1988, May 6, 1997, December 31, 1997, and August 10, 1999. Construction began on this site in 1956 prior to Edwards Aquifer regulations.

As presented, the proposed modifications to the site will consist of the demolition of existing facilities, construction of new cottages and apartments, and expansion and renovation of the existing skilled nursing

care facility on the 20.66 acre Eden Home Campus. Plans are to conduct activities in three phases. The first phase will include construction on the east side of the site that will replace four existing cottages with four new duplex type cottages. The second phase will be the construction on the east side outside of the circle and would consist of replacing four existing cottages with two apartment/town home type facilities and additional parking. The third phase would be to renovate and expand the existing skilled nursing facility, remove of the existing parking lots, and construct new parking areas.

The proposed impervious cover for the development will be increased from 9.98 acres (48.42 percent) to approximately 11.17 acres (54.17 percent) of the total area of the site.

Project wastewater will continue to be disposed of by conveyance to the existing Gruene Road Wastewater Treatment Plant owned by the New Braunfels Utilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent pollution of stormwater runoff originating on-site and potentially flowing across and off the site after construction, one partial sedimentation filtration basin designed using the TCEQ technical guidance document, *Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* (2005) will be constructed. The approved measures have been presented to meet the required 80 percent removal of the increased load in total suspended solids caused by the project. The pollution abatement measures are sized based on the information in the following tables.

Drainage Area	Total Area (acres)	Existing Imp. Cover (acres)	Post Imp. Cover (acres)	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Design Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Design Filter Area (ft^2)	Target TSS Removal (lb/yr)[E]	Design TSS Removal (lb/yr)
A1-A3 & B1-B10	7.29	3.67	4.80	0.13	1,906[D]	2,127[F]	191[D]	192	1,014	1068[A]
A4[B]	0.35	0.02	0.02	-	-	-	-	-	0	0
C[C]	1.90	0.48	0.49	-	-	-	-	-	9	0
D[B]	5.87	3.32	3.32	-	-	-	-	-	0	0
E[C]	2.62	1.43	1.48	-	-	-	-	-	45	0
F[B]	2.59	1.06	1.06	-	-	-	-	-	0	0
Totals	20.62	9.98	11.17	-	1,906	2,127	191	192	1,068	1,068

[A] Includes over-treatment from Drainage Areas C and E, not otherwise treated.
[B] No treatment required, no increase in impervious cover.
[C] Required TSS removal for this basin added to Basin A1-A3 & B1-B10 for over-treatment.
[D] Includes volume necessary for over-treatment.
[E] For drainage areas, individually.
[F] Represents 1,463 ft^3 (sedimentation), and 835 ft^3 (filtration)

GEOLOGY

According to the geologic assessment included with the application, eight man-made features, not assessed as sensitive, were identified on the site. The San Antonio Regional Office site inspection of October 3, 2006, revealed that the site is as described by the geologic assessment and no additional geologic or manmade features were observed.

SPECIAL CONDITIONS

I. The proposed permanent pollution abatement measures shall be operational prior to occupancy of structures constructed in Phase 1.

II. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all measures contained in the approved application.

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

IV. The sedimentation/filtration basin is designed in accordance with the TCEQ technical guidance document, *Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices* (2005). The basins will incorporate sedimentation and filtration as described above.

V. All sediment and or media removed from the partial sedimentation/filtration basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335 as applicable.

VI. For any future modifications to any of the permanent BMPs on this site, the summary tables in this letter must be updated and included in the application. It is the responsibility of the applicant to maintain this information and keep it current.

VII. 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.

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.

Prior to Commencement of Construction:

2. 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, covered by the Edwards Aquifer protection plan, 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.

3. 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.

4. 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.

5. 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 file 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 of an approved plan.

6. 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.

7. All borings with depths greater than or equal to 20 feet must be plugged with a 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>

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, 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.

9. If any sensitive feature 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 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.

10. No wells exist on the site. All identified abandoned water wells, including injection, dewatering, and monitoring wells must be plugged pursuant to requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Licensing and Regulation of Water Well Drillers and Water Well Pump Installers) and all other locally applicable rules, as appropriate. If any abandoned wells (including water, injection (injection well referenced in Item 7), dewatering, and monitoring well) are encountered during construction, they must be plugged pursuant to requirements of the Texas Department of Licensing and Regulation (16 TAC Chapter 76) and all other locally applicable rules, as appropriate.

11. 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%. 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).

12. 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.

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

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

14. Owners of permanent BMPs and measures must insure that the 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 San Antonio Regional Office within 30 days of site completion.

15. 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. Such 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 the San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

16. 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.

17. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50% 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.

18. 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 Lynn M. Bumguardner of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210/403-4023.

Sincerely,

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/lmb/eg

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

cc: Mr. Stephen E. Schultz, The Schultz Group, Inc.
Mr. Michael Short, P.E., City of New Braunfels
Mr. Tom Hornseth, P.E. Comal County
Mr. Robert J. Potts, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

Deed Recordation Affidavit
Edwards Aquifer Protection Plan

THE STATE OF TEXAS §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ who, being duly sworn by me, deposes and says:

(1) That my name is _____and that I own the real property described below.

(2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.

(3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on _____.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

(4) The said real property is located in _____ County, Texas, and the legal description of the property is as follows:

_____
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this _ day of _____, ____.

_____
NOTARY PUBLIC

THE STATE OF _____ §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ 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 _ day of _____, ____.

_____
NOTARY PUBLIC

_____
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

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

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

Customer: _____

Regulated Entity Name: _____

Site Address: _____

City, Texas, Zip: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____

Telephone: _____ FAX: _____

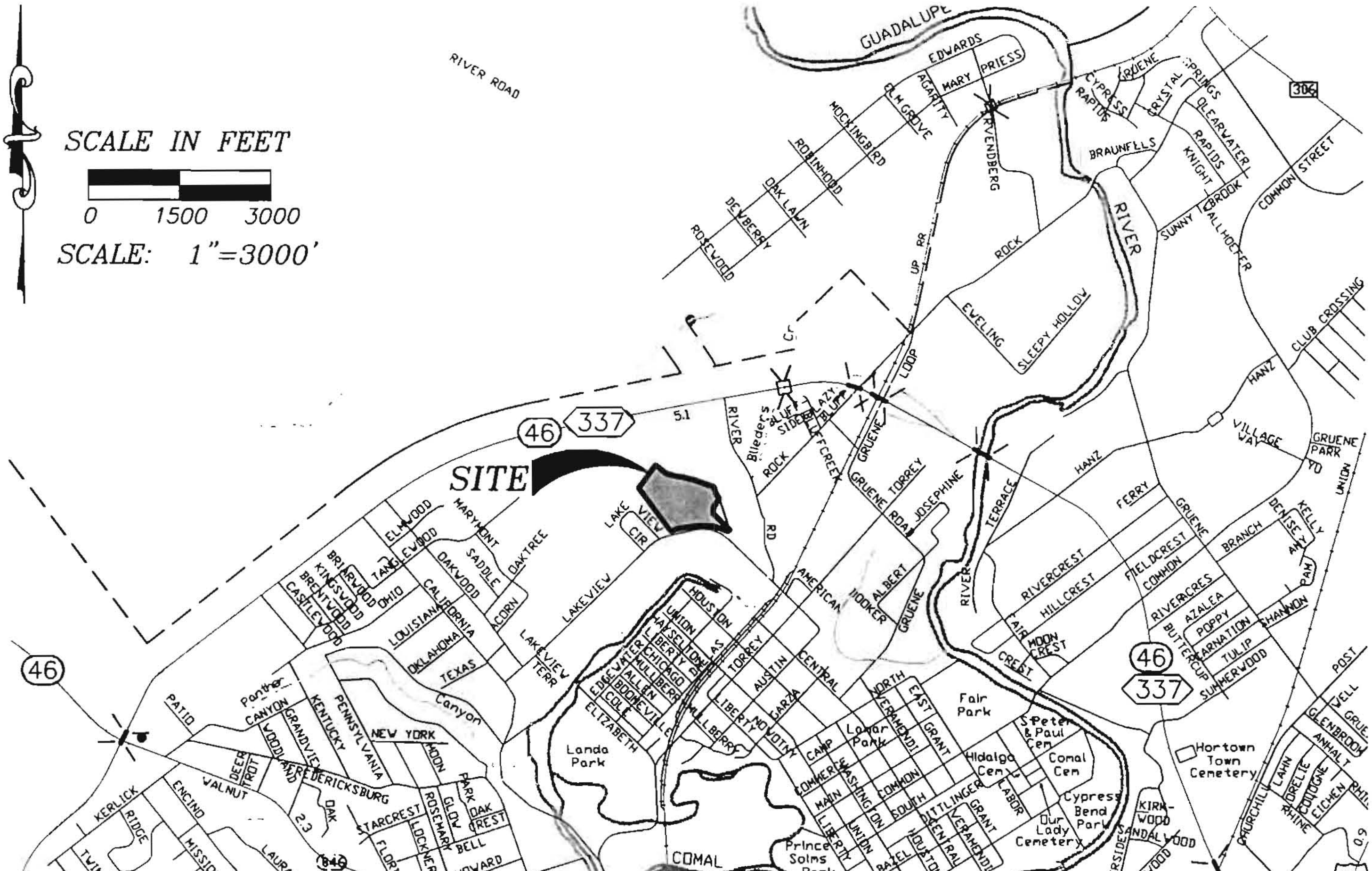
_____ _____

Signature of New Responsible Party Date

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

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

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



ATTACHMENT A
ROAD MAP

THE Schultz Group, INC.

CONSULTING ENGINEERS LAND SURVEYORS

P.O. BOX 310483 NEW BRAUNFELS, TEXAS 78131 (830) 606-3913

FAX (830) 625-2204

DRAWN BY: RTS	DATE: JULY 2006
CHECKED BY: DDP	JOB NO.: 060806

ATTACHMENT B

USGS/EDWARDS RECHARGE ZONE MAP

ATTACHMENT C

PROJECT DESCRIPTION

The proposed project consist of demolition of existing facilities, construction of new cottages and apartments, and expansion and renovation of the existing skilled nursing care facility on the existing 20.62 acre Eden Home campus. At the time of this submittal the plans are to construct the improvements in three phases. The first phase would be the construction within the circle on the east side of the site, replacing four existing cottages with four new duplex type cottages. The second phase would be the construction on the east side(outside) of the circle and would consist of replacing four existing cottages with two apartment/townhome type facilities with additional parking. The third phase would be to renovate and expand the existing skilled nursing facility and removal of existing parking lots and construction of new parking. The project site is located approximately ¼ of a mile north of the intersection of River Road and Lakeview Blvd.

The majority of the project site where the proposed improvements are planned slopes from the northwest to the southeast. A partial sedimentation and filtration pond sized for the proposed increase in impervious cover that will be caused by the improvements for all three phases will be constructed in the southeast corner of the property.

Geologic Site Assessment (WPAP)

for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone

Eden Home
631 Lakeview Blvd - 20.62 Acres
New Braunfels, Texas

Frost GeoSciences Control # FGS-06273

July 31, 2006

Prepared exclusively for

Eden Home, Inc.
631 Lakeview Blvd
New Braunfels, TX 78130

Frost GeoSciences

Geologic and Environmental Consulting

13402 Western Oak • Helotes, Texas 78023 • Phone: (210) 372-1315 • Fax: (210) 372-1318

Frost GeoSciences
Geologic and Environmental Consulting

13402 Western Oak
Helotes, Texas 78023
Phone (210) 372-1315
Fax (210) 372-1318
www.frostgeosciences.com

Steve Frost, C.P.G.

July 31, 2006

Eden Home, Inc.
631 Lakeview Blvd.
New Braunfels, TX 78130

Attn: Mr. Larry Dahl, Executive Director

Re: Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home
631 Lakeview Boulevard - 20.62 Acres
New Braunfels, Texas

Frost GeoSciences, Inc. Control # FGS-06273

Gentlemen:

Attached is a copy of the Geologic Assessment Report completed for the above referenced project site as it relates to 30 TAC §213.5(b)(3), effective June 1, 1999. Our investigation was conducted, and this report was prepared in general accordance with the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-01-04). The results of our investigation along with any required recommendations for Best Management Practices (BMP's) are provided in the following report.

If you have any questions regarding this report, or if Frost GeoSciences, Inc. may be of additional assistance to you on this project, please feel free to call our office. It has been a pleasure to work with you and we wish to thank you for the opportunity to be of service to you on this project. We look forward to being of continued service.

Sincerely,
Frost GeoSciences, Inc.

Chris Wickman
Senior Geologist

STATE OF TEXAS
Steve M. Frost
Geology
License No. 315
LICENSED
PROFESSIONAL GEOSCIENTIST

Steve Frost, C.P.G.
Executive Vice President

Distribution: (1) Eden Home, Inc.
(5) The Shultz Group, Inc.

Table of Contents

GEOLOGIC ASSESSMENT FORM 1
STRATIGRAPHIC COLUMN 3
GEOLOGIC ASSESSMENT TABLE 4
LOCATION 5
METHODOLOGY 5
RESEARCH & OBSERVATIONS 6
7.5 Minute Quadrangle Map Review 6
Recharge/Transition Zone 6
100-Year Floodplain 7
Soils 7
Narrative Description of the Site Geology 9
BEST MANAGEMENT PRACTICES 10
DISCLAIMER 11
REFERENCES 11

APPENDIX

A: Plate 1: Site Plan
Plate 2: Street Map
Plate 3: U.S.G.S. Topographic Map
Plate 4: Official Edwards Aquifer Recharge Zone Map
Plate 5: FEMA Flood Map
Plate 6: U.S. Geological Survey, Water Resources Investigation # 94-4117
Plate 7: 2005 Aerial Photograph, 1"=500'
Plate 8: 2005 Aerial Photograph with PRF's, 1"=200'
Plate 9: 1973 USDA Aerial Photograph, 1"=500'

B: Site Photographs

C: Site Geologic Map

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: Eden Home - 20.62 Acres

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

LOCATION OF PROJECT: ✓ Recharge Zone __ Transition Zone __ Contributing Zone within the Transition Zone

PROJECT INFORMATION

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

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

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Rumple-Comfort Assoc.	C/D	0.5 to 2
Eckrant-Rock Complex.	D	0.5 to 1.5
Comfort-Rock Outcrop Complex	D	0.5 to 1.5

* Soil Group Definitions (Abbreviated)

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

3. ✓ A **STRATIGRAPHIC COLUMN** is attached at the end of this form that shows formations, members, and thicknesses. The outcropping unit should be at the top of the stratigraphic column.

4. ✓ A **NARRATIVE DESCRIPTION OF SITE SPECIFIC GEOLOGY** is attached at the end of this form. The description must include a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure, and karst characteristics of the site.

5. ✓ Appropriate **SITE GEOLOGIC MAP(S)** are attached:

The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1" : 400'

Applicant's Site Plan Scale	1" = 50 '
Site Geologic Map Scale	1" = 50 '
Site Soils Map Scale (if more than 1 soil type)	1" = 500 '

6. Method of collecting positional data:

✓ Global Positioning System (GPS) technology.
✓ Other method(s). 2005 Aerial Photograph

7. ✓ The project site is shown and labeled on the Site Geologic Map.

8. ✓ Surface geologic units are shown and labeled on the Site Geologic Map.

9. ✓ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
__ Geologic or manmade features were not discovered on the project site during the field investigation.

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

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

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

ADMINISTRATIVE INFORMATION

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

Date(s) Geologic Assessment was performed: July 28, 2006
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.

Steve Frost, C.P.G. (210) 372-1315
Print Name of Geologist Telephone

STATE OF TEXAS
Steve M. Frost
Geology
License No. 315
LICENSED PROFESSIONAL GEOSCIENTIST

(210) 372-1318
Fax

Steve Frost
Signature of Geologist

July 31, 2006
Date

Representing: Frost GeoSciences, Inc.
(Name of Company)

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

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

Stratigraphic Column

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

Hydrogeologic subdivision			Group, formation, or member			Hydrologic function	Thickness (feet)	Lithology	Field identification	Cavern development	Porosity/ permeability type
Upper Cretaceous	Upper confining units		Eagle Ford Group			CU	30 – 50	Brown, flaggy shale and argillaceous limestone	Thin flagstones; petroliferous	None	Primary porosity lost/ low permeability
			Buda Limestone			CU	40 – 50	Buff, light gray, dense mudstone	Porcelaneous limestone with calcite-filled veins	Minor surface karst	Low porosity/low permeability
			Del Rio Clay			CU	40 – 50	Blue-green to yellow-brown clay	Fossiliferous; *Ilymatogyra arietina*	None	None/primary upper confining unit
Lower Cretaceous	I	Edwards aquifer	Georgetown Formation			Karst AQ; not karst CU	2 – 20	Reddish-brown, gray to light tan marly limestone	Marker fossil; *Waconella wacoensis*	None	Low porosity/low permeability
	II		Edwards Group	Person Formation	Cyclic and marine members, undivided	AQ	80 – 90	Mudstone to packstone; *miliolid* grainstone; chert	Thin graded cycles; massive beds to relatively thin beds; crossbeds	Many subsurface; might be associated with earlier karst development	Laterally extensive; both fabric and not fabric/water-yielding
	III				Leached and collapsed members, undivided	AQ	70 – 90	Crystalline limestone; mudstone to grainstone; chert; collapsed breccia	Bioturbated iron-stained beds separated by massive limestone beds; stromatolitic limestone	Extensive lateral development; large rooms	Majority not fabric/one of the most permeable
	IV				Regional dense member	CU	20 – 24	Dense, argillaceous mudstone	Wispy iron-oxide stains	Very few; only vertical fracture enlargement	Not fabric/low permeability; vertical barrier
	V			Kainer Formation	Grainstone member	AQ	50 – 60	*Miliolid* grainstone; mudstone to wackestone; chert	White crossbedded grainstone	Few	Not fabric/ recrystallization reduces permeability
	VI				Kirschberg evaporite member	AQ	50 – 60	Highly altered crystalline limestone; chalky mudstone; chert	Boxwork voids, with neospar and travertine frame	Probably extensive cave development	Majority fabric/one of the most permeable
	VII				Dolomitic member	AQ	110 – 130	Mudstone to grainstone; crystalline limestone; chert	Massively bedded light gray, *Toucasia* abundant	Caves related to structure or bedding planes	Mostly not fabric; some bedding plane-fabric/water-yielding
	VIII				Basal nodular member	Karst AQ; not karst CU	50 – 60	Shaly, nodular limestone; mudstone and *miliolid* grainstone	Massive, nodular and mottled, *Exogyra texana*	Large lateral caves at surface; a few caves near Cibolo Creek	Fabric; stratigraphically controlled/large conduit flow at surface; no permeability in subsurface
	Lower confining unit		Upper member of the Glen Rose Limestone			CU; evaporite beds AQ	350 – 500	Yellowish tan, thinly bedded limestone and marl	Stair-step topography; alternating limestone and marl	Some surface cave development	Some water production at evaporite beds/relatively impermeable

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Eden Home, 631 Lakeview Blvd - 20.62 Acres FGS-06273

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B*	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT²)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						< 40	> 40	<1.6	>1.6	
S-1	N29° 43' 27.4"	W98° 7' 38.4"	MB	30	Kcp	3	3	?	-	-	-	-	X	7	37	37		Yes		Hillside
S-2	N29° 43' 24.4"	W98° 7' 35.8"	MB	30	Kcp	3	3	?	-	-	-	-	X	7	37	37		Yes		Hillside
S-3	N29° 43' 23.5"	W98° 7' 32.7"	MB	30	Kcp	3	3	?	-	-	-	-	X	7	37	37		Yes		Hillside
S-4	N29° 43' 27.9"	W98° 7' 42.6"	MB	30	Kcp	3	3	?	-	-	-	-	X	7	37	37		Yes		Hillside
S-5	N29° 43' 27.9"	W98° 7' 42.6"	MB	30	Kcp	3	3	?	-	-	-	-	X	7	37	37		Yes		Hillside
S-6	N29° 43' 29.4"	W98° 7' 47.9"	MB	30	Kcp	4	4	?	-	-	-	-	X	7	37	37		Yes		Hillside
S-7	N29° 43' 24.2"	W98° 7' 43.5"	MB	30	Kcp	4	3	?	-	-	-	-	X	7	37	37		Yes		Hillside
S-8	N29° 43' 26.8"	W98° 7' 38.9"	MB	30	Kcp	2	2	?	-	-	-	-	X	7	37	37		Yes		Hillside

* DATUM 1927 North American Datum (NAD27)

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 213.

STATE OF TEXAS
Steve M. Frost
Geology
License No. 315
LICENSED PROFESSIONAL GEOSCIENTIST

Signature Steve Frost Date July 31, 2006 Sheet 1 of 1

Frost GeoSciences
Geologic and Environmental Consulting

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

LOCATION

The project site is located at 631 Lakeview Boulevard in New Braunfels, Texas. An overall view of the area is shown on copies of the site plan, a street map, the U.S.G.S. Topographic Map, the Edwards Underground Water District Reference Map, the FIRM Map, a geologic map, a 2005 Aerial Photograph at a scale of 1"=500', a 2005 Aerial Photograph at a scale of 1"=200', and a 1973 Photograph at a scale of 1"=500', Plates 1, 2, 3, 4, 5, 6, 7, 8, and 9 in Appendix A.

METHODOLOGY

The Geologic Assessment was performed by Mr. Chris Wickman, Senior Geologist with Frost GeoSciences, Inc. under the supervision of Mr. Steve Frost, C.P.G., Executive Vice President of Frost GeoSciences, Inc. Mr. Frost is a Licensed Professional Geoscientist in the State of Texas (License # 315), and is a Certified Professional Geologist with the American Institute of Professional Geologist (Certification # 10176).

Frost GeoSciences, Inc. researched the geology of the area near 631 Lakeview Boulevard in New Braunfels, Texas. The research included, but was not limited to, the Bureau of Economic Geology, Geologic Atlas of Texas, San Antonio Sheet, FEMA maps, Edwards Aquifer Recharge Zone Maps, U.S.G.S. 7.5 Minute Quadrangle Maps, the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the U.S.G.S. Water-Resources Investigations Report 94-4117, and the U.S.D.A. Soil Survey of Comal & Hays Counties, Texas.

After reviewing the available information, a field investigation was performed to identify any geologic or man made potential recharge features. A transect spacing of approximately 50 feet, or less depending on vegetation thickness, was used to inspect the project area. A 2005 aerial photograph, in conjunction with a hand held Garmin eTrex Summit Global Positioning System with an Estimated Potential Error ranging from 12 to 15 feet, was used to navigate around the property and identify the locations of potential recharge features, as recommended in the "Instructions to Geologists",

TCEQ-0585-Instructions (Rev. 10-01-04). The Site Geologic Map indicating the limits of the project site and the locations of potential recharge features is included in Appendix C. A copy of a 2005 Aerial Photograph at an approximate scale of 1"=200' indicating the limits of the project site and the locations of potential recharge features is included on Plate 8 in Appendix A. The Geologic Assessment Form, Stratigraphic Column, and the Geologic Assessment Table have been filled with the appropriate information for this project site and are included on pages 1-4 of this report.

RESEARCH & OBSERVATIONS

7.5 Minute Quadrangle Map Review

According to the U.S.G.S. 7.5 Minute Quadrangle Map, New Braunfels West, Texas Sheet (1988), the elevation across the project site ranges from 620 to 720 feet. Surface runoff from the project site flows to the southeast and east into Blieders Creek. The Eden Home Retirement Village is located on the project site. Lakeview Boulevard is located immediately south of the project site. State Loop 337 is located north of the project site. A water tank is located south of the project site, across Lakeview Boulevard. A gravel pit is located east of the project site. Areas of residential development are located south, southeast, and west of the project site. A high school is located west of the project site, along State Loop 337. The Guadalupe River is located east of the project site. A sewage disposal plant is located is of the project site, across State Loop 337. A copy of the U.S.G.S. 7.5 Minute Quadrangle Map indicating the location of the project site is included on Plate 3 in Appendix A.

Recharge / Transition Zone

According to the Official Edwards Aquifer Recharge Zone Map, New Braunfels West, Texas Sheet (1988), the project site is located within the Recharge Zone of the Edwards Aquifer. A copy of the Official Edwards Aquifer Recharge Zone Map indicating the location of the project site is included on Plate 4 in Appendix A.

100-Year Floodplain

According to the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) Panel # 485493-0006 C, revised 06-17-86, no portion of the project site is located within the 100 year floodplain. The project site is located within Zone C. According the panel legend, Zone C is defined as areas of minimal flooding. A copy of the above referenced FIRM panel indicating the location of the project site is included on Plate 5 in Appendix A.

Soils

According to the United States Department of Agriculture, Soil Conservation Service, Soil Survey of Comal & Hays Counties, Texas, (1984), the project site is located on Comfort-Rock Outcrop complex (CrD), and the Eckrant-Rock Complex (ErG), the Rumple-Comfort Association (RUD). A copy of the 1973 aerial photograph (approximate scale: 1"=500') from the U.S.D.A. Soil Survey of Comal & Hays Counties, Texas indicating the location of the project site and the soil types is included on Plate 9 in Appendix A.

The Comfort-Rock Outcrop Complex consists of shallow, clayey soils and Rock Outcrop on side slopes and on hilltops and ridgetops on uplands in the Edwards Plateau Land Resource Area. The Comfort Extremely Stony Clay makes up 49 to more than 95 percent of the complex, but on the average it makes up 70 percent. Rock Outcrop and areas of soil less than 4 inches deep make up 5 to 36 percent, but the average is 15 percent. Typically, the surface layer of the Comfort soil is dark brown extremely stony clay about 6 inches thick. Cobbles and stones as much as 4 feet across cover about 45 percent of the surface. The subsoil extends to a depth of 13 inches. It is dark reddish brown extremely stony clay. The underlying material is indurated fractured limestone. The soil is mildly alkaline and noncalcareous throughout. The Comfort Soil is well drained. Surface runoff is slow to medium. Permeability is slow, and the available water capacity is very low. Water erosion is a slight hazard.

This soil has a USDA Texture Classification of extremely stony clay, stony clay, very stony clay, and weathered bedrock. The Unified Classification is CH, GC, CL, or SC. The AASHO Classification is A-2-7, and A-7-6. This soil has an average permeability from 0.06 to 0.2 inches/hour.

The Eckrant-Rock Outcrop Complex consists of shallow, clayey soils and rock outcrops on uplands in the Edwards Plateau Land Resource Area. The Eckrant Soil makes up 50 to 80 percent of the complex, but on the average it makes up 70 percent. Rock Outcrop makes up 9 to 30 percent of the complex, but the average is 20 percent. Typically, the surface layer of the Eckrant Soil is very dark gray extremely stony clay about 10 inches thick. It is about 35 percent, by volume, cobbles and stones in the upper part and about 75 percent, by volume, stones in the lower part. The underlying layer is indurated fractured limestone. The soil is moderately alkaline and noncalcareous throughout. Typically, the Rock Outcrop consists of barren exposures of indurated limestone. In a few areas as much as 4 inches of clayey soil material overlies the bedrock, and dark colored clay is in cracks and fractures. The Eckrant Soil is well drained. Surface runoff is rapid. Permeability is moderately slow, and the available water capacity is very low. Water erosion is a severe hazard.

This soil has a USDA Texture Classification of extremely stony clay and weathered bedrock. The Unified Classification is GC, SC, or CH. The AASHO Classification is A-7-6, and A-2-7. This soil has an average permeability from 0.2 to 0.6 inches/hour.

The Rumple-Comfort Association consists of shallow and moderately deep soils on uplands in the Edwards Plateau Land Resource Area. The surface layer of the Rumple Soil is dark reddish brown very cherty clay loam about 10 inches thick. Rounded chert and limestone cobbles and gravel cover about 20 percent of the surface. The subsoil to a depth of 14 inches is dark reddish-brown very cherty clay, and to a depth of 28 inches it is dark reddish-brown extremely stony clay. The underlying material is indurated fractured limestone. The Comfort Soil is dark brown, neutral, extremely stony clay about 7 inches thick. The subsoil to a depth of 12 inches is dark reddish-brown, mildly alkaline, extremely stony clay.

The underlying material is indurated fractured limestone. The soil is noncalcareous throughout. The soils in this association are well drained. Surface runoff is medium, but varies due to the occurrence of caves, fracture zones, and sinks. Permeability is moderately slow. Water erosion is a moderate hazard.

This soil has a USDA Texture Classification of very cherty clay loam, stony clay, very stony clay, extremely stony clay, and weathered bedrock. The Unified Classification is GC, CL or SC. The AASHO Classification is A-2-6, A-6, and A-2-7. This soil has an average permeability from 0.2 to 0.6 inches/hour.

Narrative Description of the Site Geology

Based on a visual inspection of the ground surface, the overall potential for fluid flow from the project site into the Edwards Aquifer appears to be low.

No natural karst features were noted on the project site at the time of the field investigation. However, eight man-made features were noted on the project site at the time of the on-site inspection. Color photographs of the project site and the man made features are included in Appendix B.

The property exists as the Eden Home Retirement Village. The Eden Home consists of several multiple story buildings and numerous single story cottages with associated parking, roadways, and landscaping. The project site supports a sparse stand of vegetative cover with a moderate stand of grasses. Overall vegetation on the project site consists of live oak and other trees and shrubs for the purpose of landscaping.

Potential Recharge Features #S-1 through #S-5 are man hole covers associated with a sanitary sewer line crossing the eastern portion of the project site. Frost GeoSciences rates these features as low on figure 1 of the TNRCC-0585-Instructions (Rev. 10-01-04). These features score a 37 on the sensitivity scale, column 10 in the Geologic Assessment Table on page 4 of this report.

Potential Recharge Features #S-6 through #S-8 are water utility access vaults and irrigation controls. Frost GeoSciences rates these features as low on figure 1 of the TNRCC-0585-

Instructions (Rev. 10-01-04). These features score a 37 on the sensitivity scale, column 10 in the Geologic Assessment Table on page 4 of this report.

In an interview with Ray Cook, Environmental Services Supervisor, Frost GeoSciences, Inc. was informed that the buildings and cottages are on city sewer utilities. To his knowledge there are no septic systems in operation. Mr. Cook also stated, there have never been any reports of problems with septic tanks during the 11 years he has worked at Eden Home.

According to the site plan provided by the Shultz Group, Inc., the surveyed elevations on the project site range from 646 feet along the northeastern and eastern property lines to 734 feet along the southwest property line, adjacent to Lakeview Blvd. A copy of the site plan indicating the boundary of the project site and the elevations is included on the Site Plan on Plate 1 in Appendix A and the Site Geologic Map in Appendix C of this report.

According to the U.S. Geological Survey Water Resources Investigations 94-4117, the project site is located on the Leached and Collapsed Member of the Cretaceous Edwards Person Limestone.

The Leached and Collapsed Member of the Edwards Person Limestone consists of crystalline limestone, mudstone to grainstone with chert, and collapsed breccia. This member is stromatolitic limestone. The Leached and Collapsed Member is characterized by bioturbated iron stained beds separated by massive limestone beds. This member is typically one of the most permeable and has extensive lateral development with large rooms. Overall thickness ranges from 70 to 90 feet thick.

A copy of the U.S.G.S. Water Resources Investigation 94-4117 indicating the location of the project site is included on Plate 6 in Appendix A.

BEST MANAGEMENT PRACTICE (BMP)

Based on a visual inspection of the ground surface and the research performed for this project, the overall potential for fluid flow from the project site into the Edwards Aquifer appears to be low. However, the potential always exists to encounter subsurface features that lack a surface expression. Construction personnel should be informed of the potential to encounter

subsurface karst features during excavating activities. Construction personnel should also be informed of the proper protocol to follow in the event that a solution cavity and/or cave is encountered during the excavation and development of the property.

DISCLAIMER

This report has been prepared in general accordance with the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-01-04) by a Licensed Texas Professional Geoscientist. All areas of the project site were carefully inspected for features that could contribute to the recharge of the Edwards Aquifer, however, this survey cannot preclude the presence of subsurface karst features that lack surface expression. This report is not intended to be a definitive investigation of all possible geologic or karst features at this site. All conclusions, opinions, and recommendations for Best Management Practices (BMP's) in this report are based on information obtained while researching the project, and on the site conditions at the time of our field investigation.

This report has been prepared for the exclusive use of Eden Home, Inc. and Schultz Group, Inc. This report is based on available known records, a visual inspection of the project site, and the work generally accepted for a Geologic Assessment for Regulated Activities / Developments on the Edwards Aquifer Recharge / Transition Zone, relating to 30 TAC §213.5(b)(3), effective June 1, 1999.

REFERENCES

1) U.S.G.S. 7.5 Minute Quadrangle Map, New Braunfels West, Texas Sheet (1988).

2) Official Edwards Aquifer Recharge Zone Map, New Braunfels West, Texas Sheet (1996).

3) Small, Ted A., and Hanson, John A., 1994, Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County, Texas. U.S. Geological Survey Water Resources Investigations 94-4117.

4) Barnes, V.L., 1983, Geologic Atlas of Texas, San Antonio Sheet, Bureau of Economic

Geology, The University of Texas at Austin, Texas.

5) Federal Emergency Management Agency (FEMA), May 15, 1991, Comal County, Texas and Incorporated Areas, Flood Insurance Rate Map (FIRM), Panel #485493 0006 C FEMA, Washington D.C.

6) U.S.D.A. Soil Conservation Service, Soil Survey of Comal & Hays Counties, Texas (1984).

7) TCEQ-0585-Instructions (Rev. 10-01-04). "Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zone".

8) Collins, Edward, W., 2000, Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, Bureau of Economic Geology, The University of Texas at Austin, Texas.

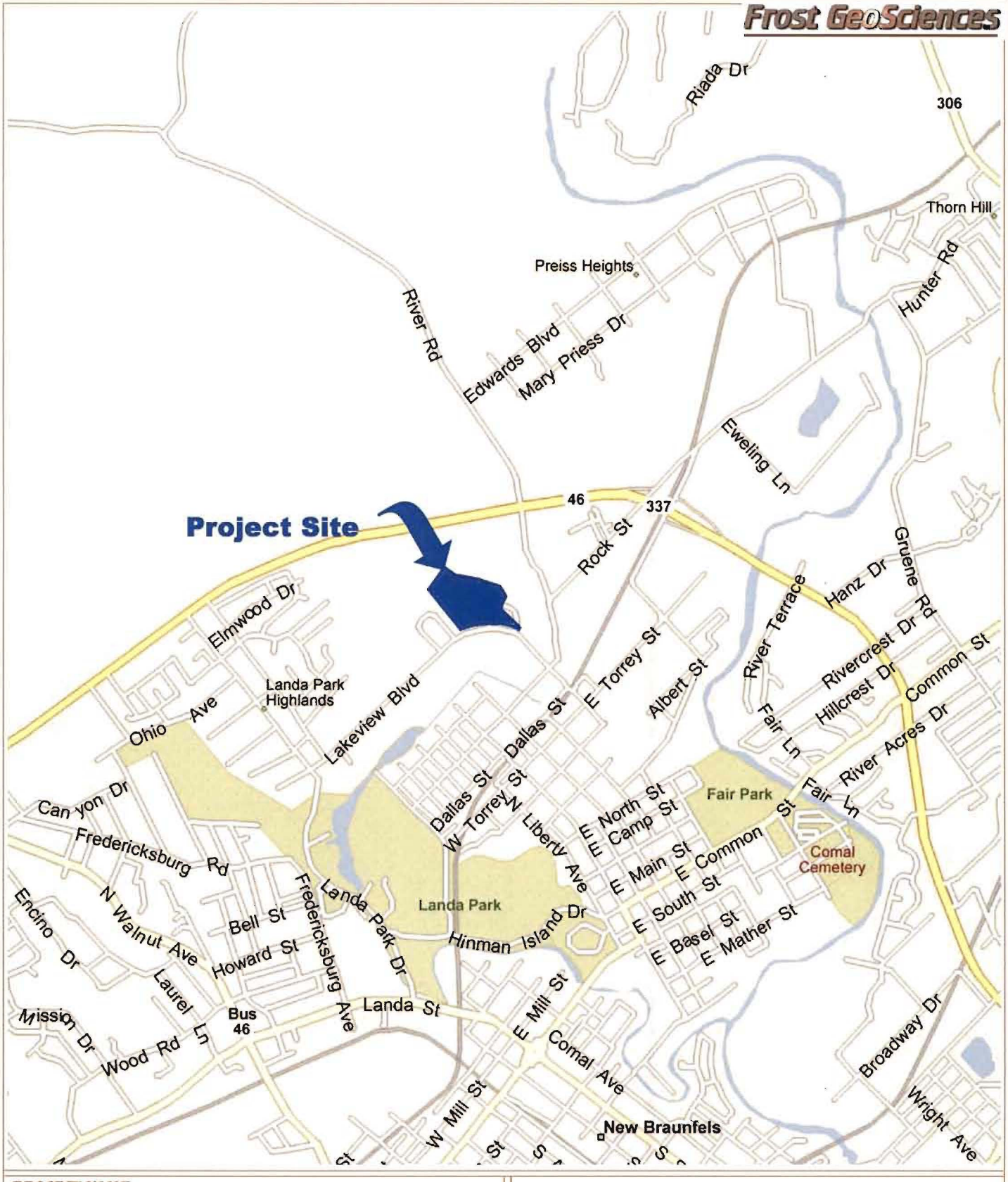
Frost GeoSciences

PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

Site Plan

PROJECT NO.: FGS--06273

DATE: July 31, 2006

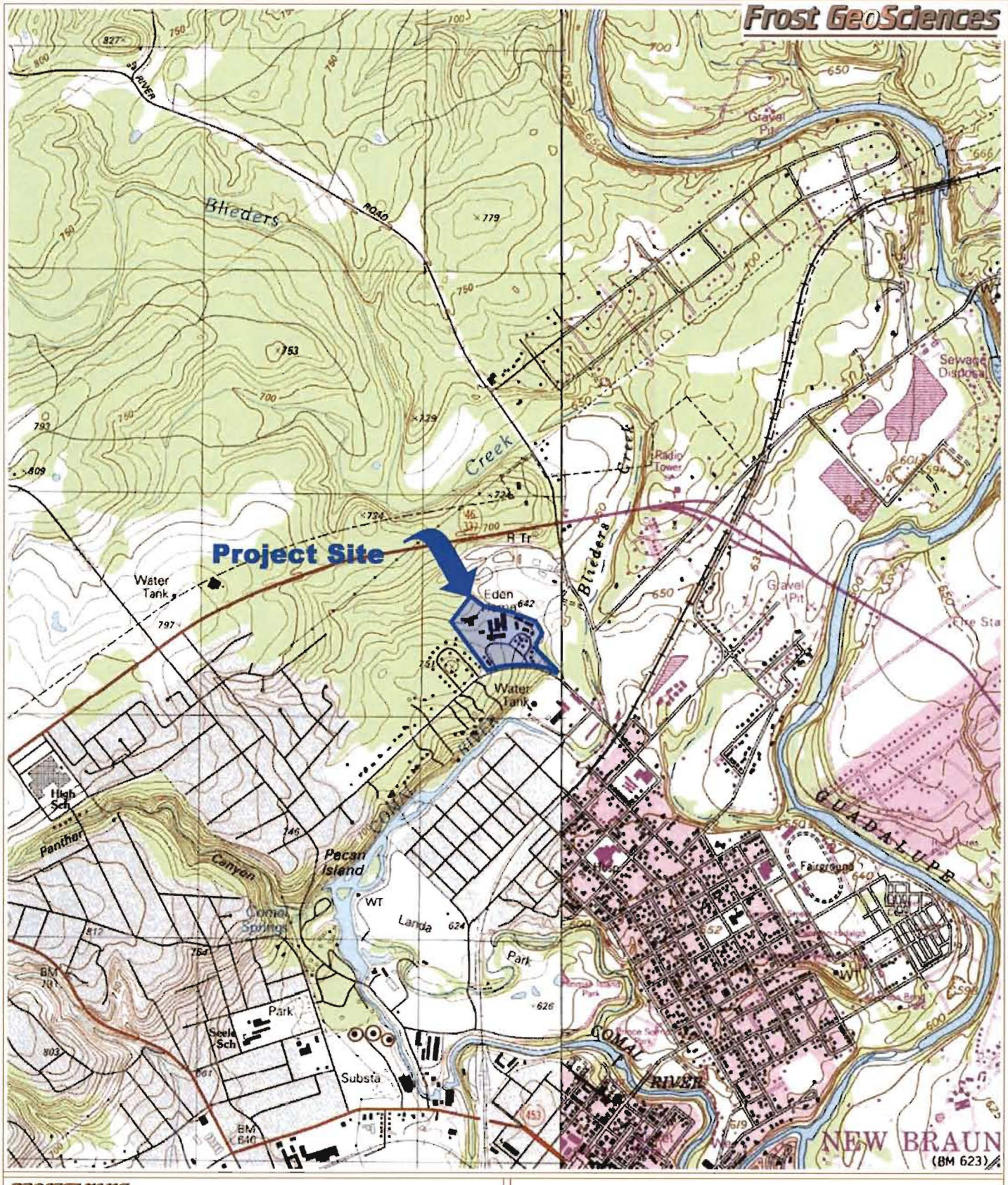


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

Street Map

PROJECT NO.: FGS-06273

DATE: July 31, 2006

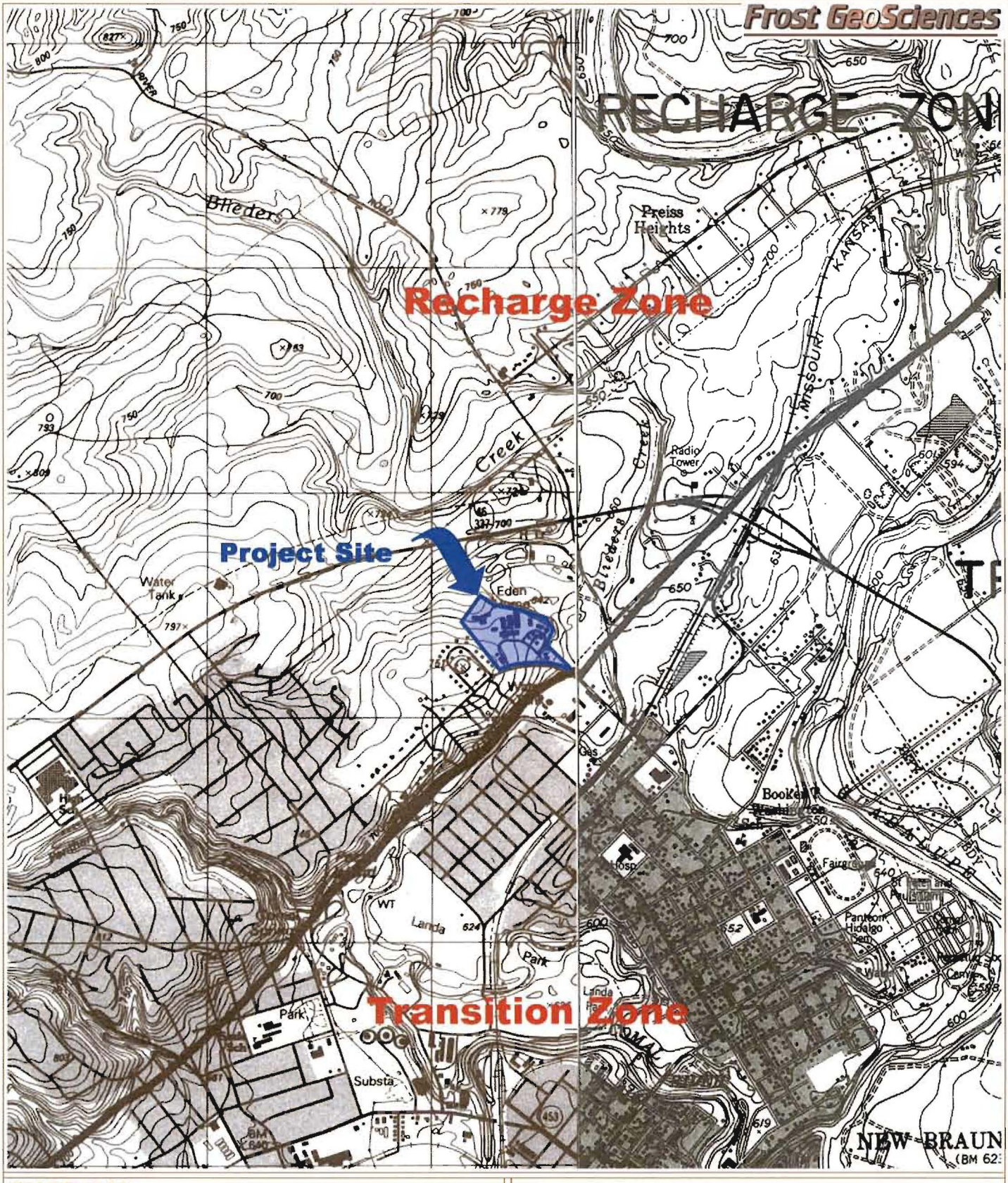


PROJECT NAME:

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

U.S.G.S. 7.5 Minute Quadrangle Map
New Braunfels West, Texas Sheet (1988)

PROJECT NO.:	DATE:
FGS-06273	July 31, 2006



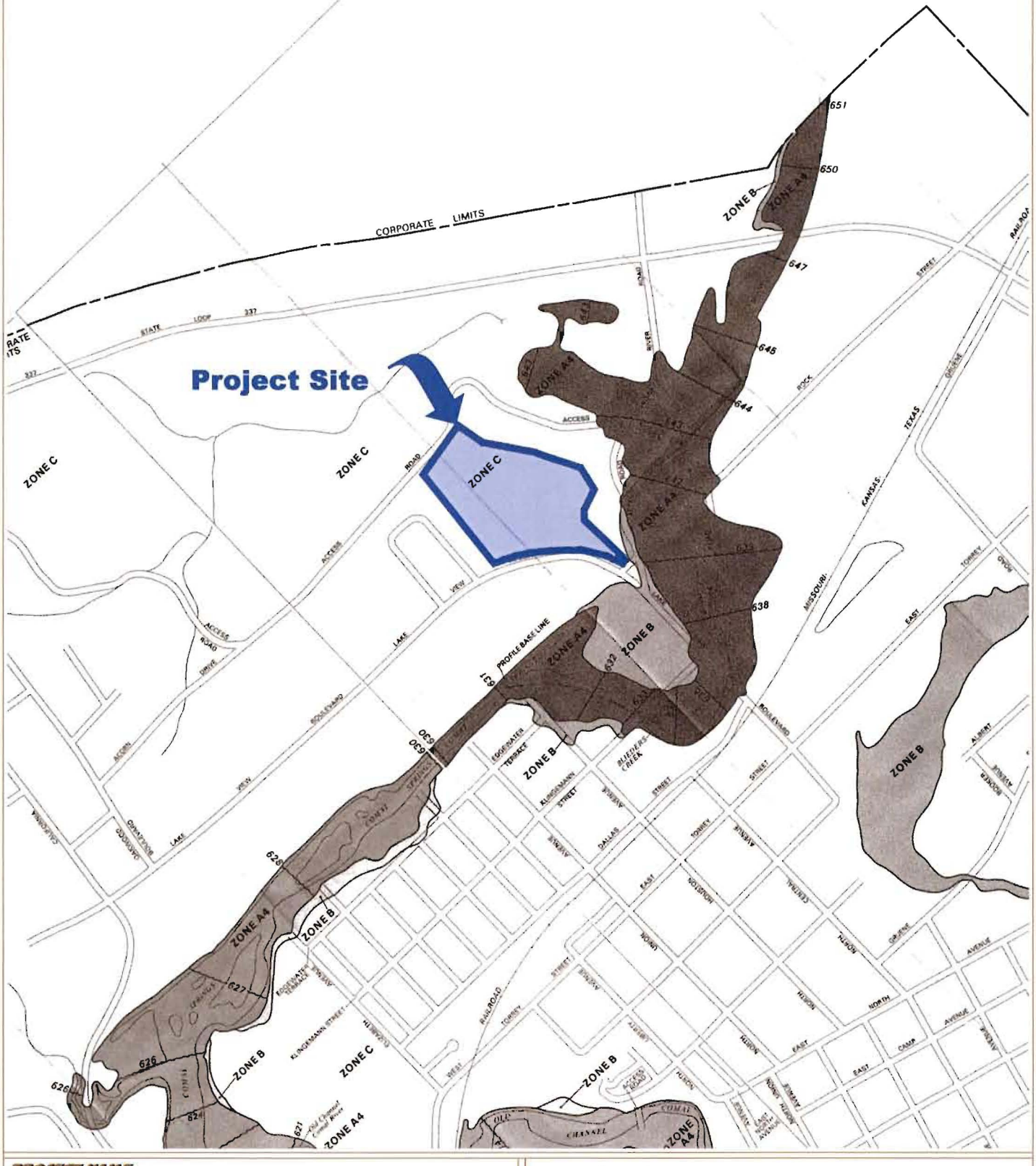
PROJECT NAME:

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

Official Edwards Aquifer Recharge Zone Map
New Braunfels West, Texas Sheet 1988

PROJECT NO.:	DATE:
FGS-06273	July 31, 2006

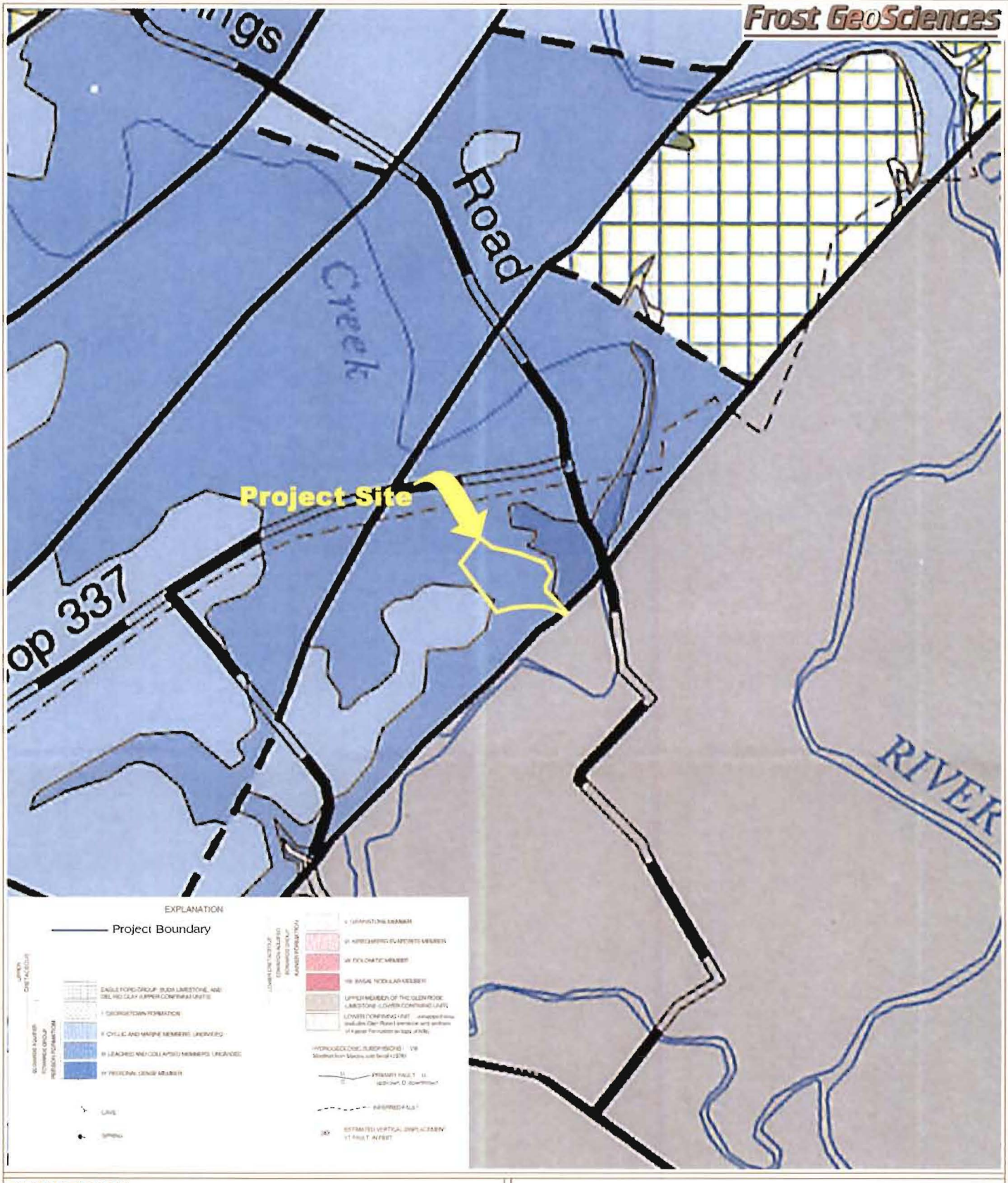
Frost GeoSciences



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

Flood Insurance Rate Map (FIRM)
Community Panel
485493 0006 C (Revised 6-16-86)

PROJECT NO.:	DATE:
FGS-06273	July 31, 2006



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

United States Geologic Survey
Water Resources Investigations #94-4117
Geologic Map of Comal County, Texas

PROJECT NO.: FGS-06273

DATE: July 31, 2006

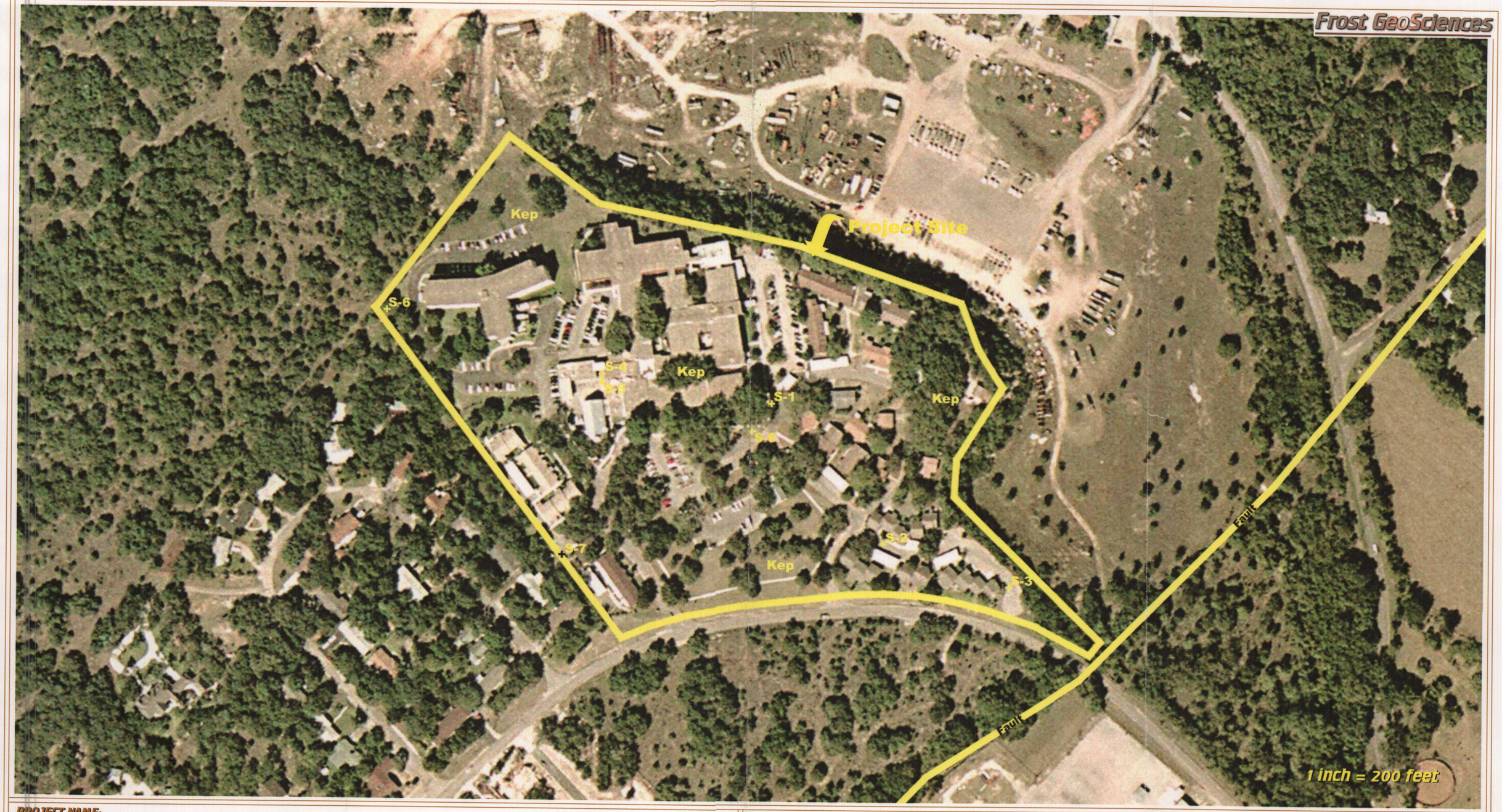
Frost GeoSciences

PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

2005 Aerial Photograph
Landiscor Aerial Information

PROJECT NO.:	DATE:
FGS-06273	July 31, 2006

Frost GeoSciences



PROJECT NAME:

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

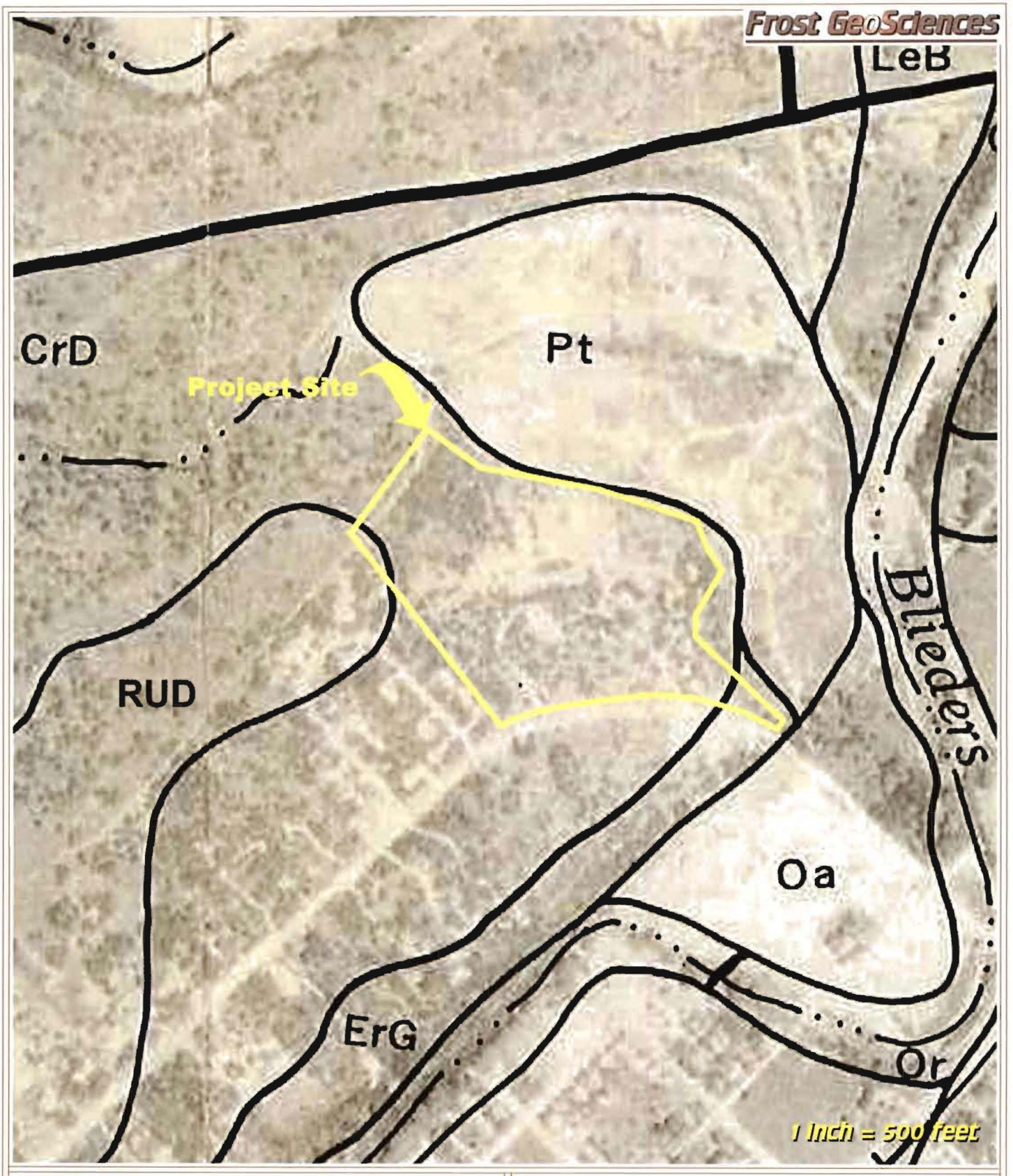
2005 Aerial Photograph with Potential Recharge Features (PRF's)
Landiscor Aerial Information

PROJECT NO.: FGS-06273

DATE: July 31, 2006

Geologic and Environmental Consulting

PLATE NO. 8



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

1973 Aerial Photograph
U.S.D.A. Soil Survey of
Comal & Hays Counties, Texas

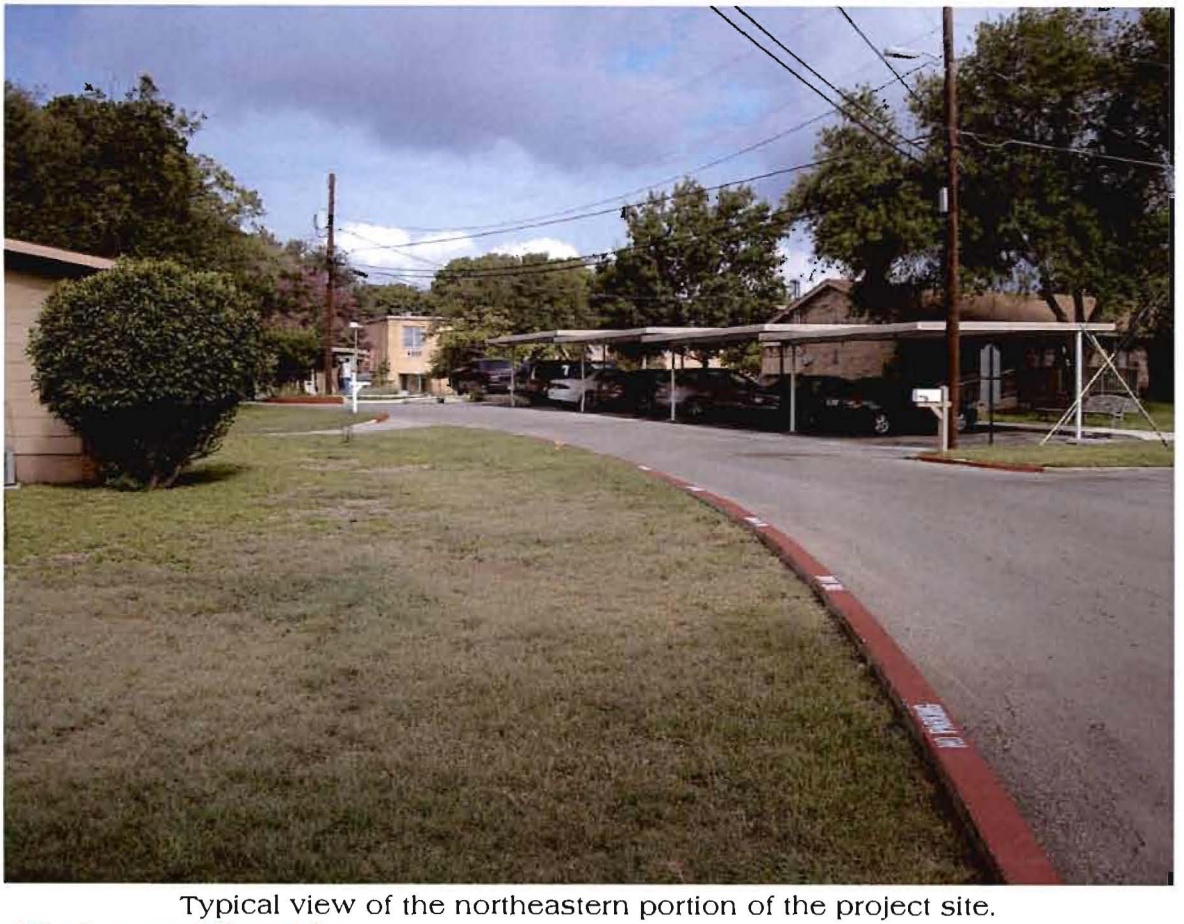
PROJECT NO.: FGS-06273

DATE: July 31, 2006

Typical view of the northern portion of the project site.

Typical view of the northern portion of the project site.

Typical view of the northeastern portion of the project site.



Typical view of the northeastern portion of the project site.

Typical view of the northwestern portion of the project site.

Typical view of the northwestern portion of the project site.

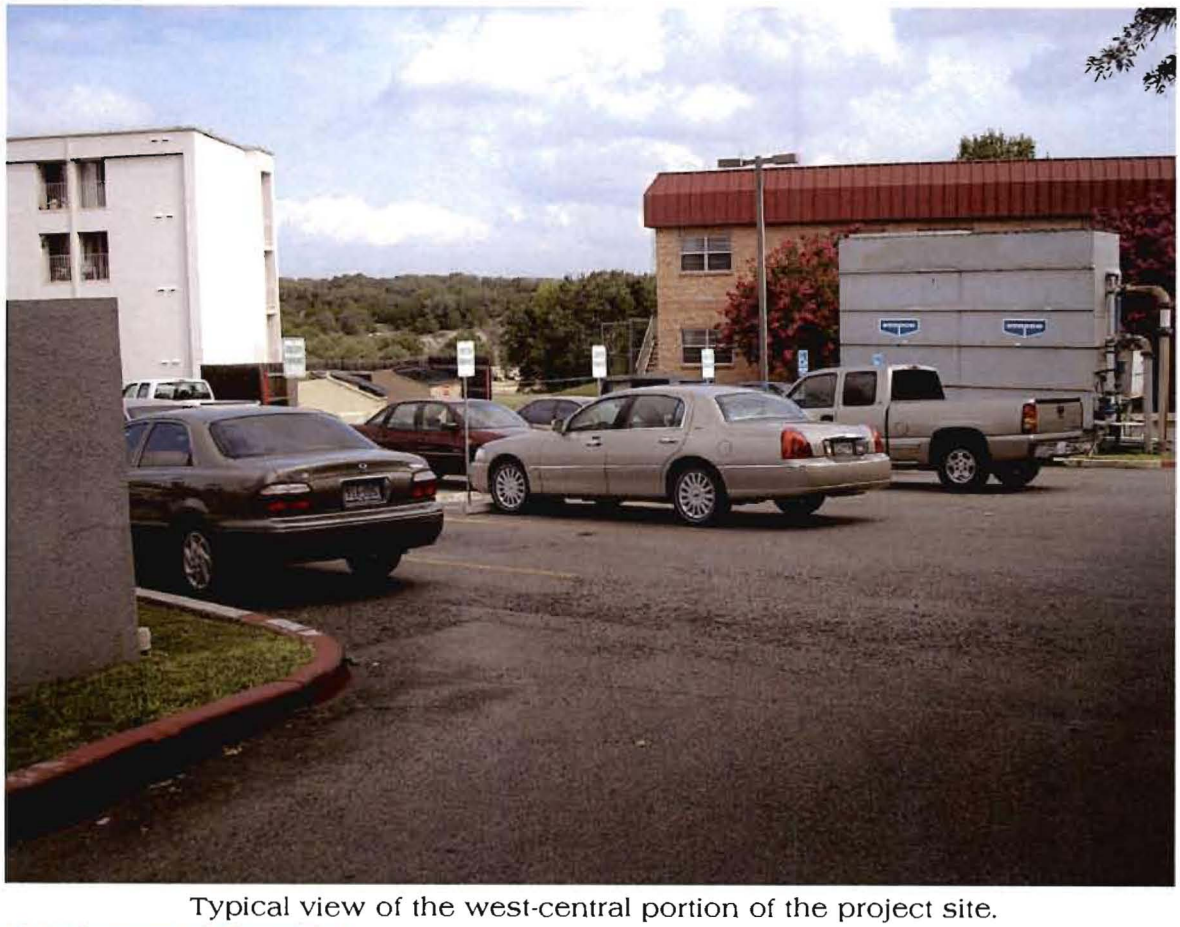
Typical view of the southern portion of the project site.

Typical view of the southern portion of the project site.

Typical view of the southeastern portion of the project site.

Typical view of the southeastern portion of the project site.

Typical view of the west-central portion of the project site.



Typical view of the west-central portion of the project site.

View of Potential Recharge Feature (PRF) #S-1.

View of Potential Recharge Feature (PRF) #S-2.

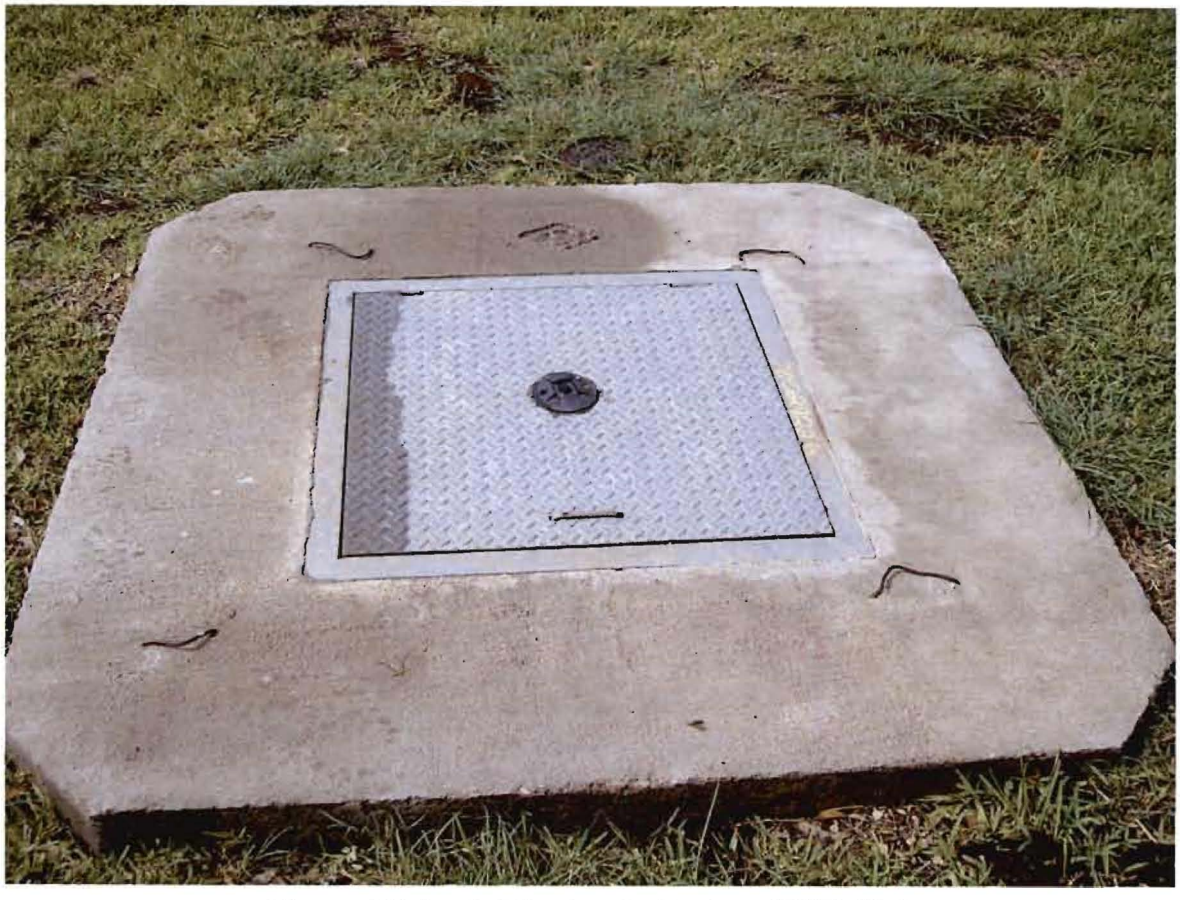
View of Potential Recharge Feature (PRF) #S-3.

View of Potential Recharge Feature (PRF) #S-4.

View of Potential Recharge Feature (PRF) #S-5.

View of Potential Recharge Feature (PRF) #S-6.

View of Potential Recharge Feature (PRF) #S-7.



View of Potential Recharge Feature (PRF) #S-8.

Frost GeoSciences

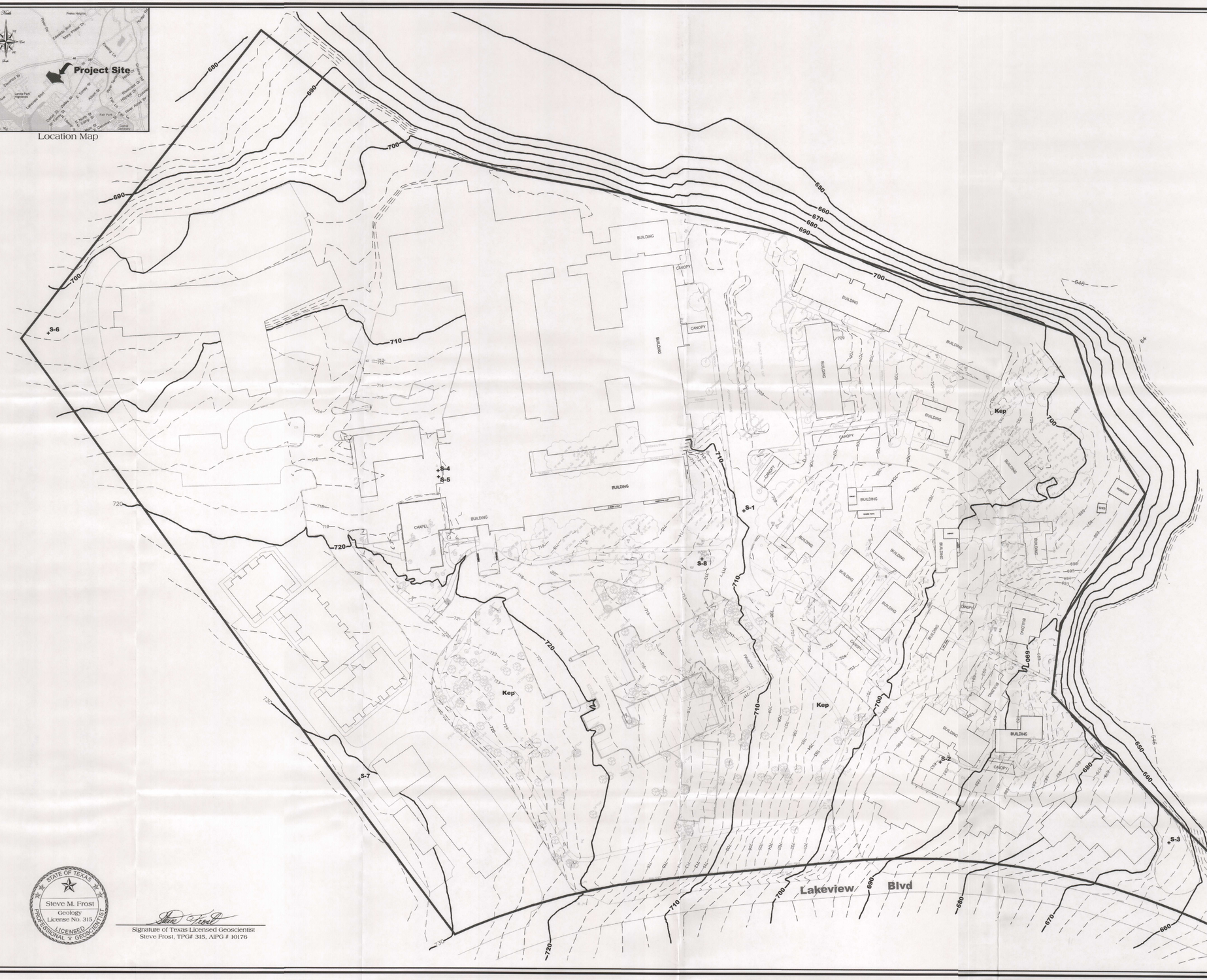
Geologic • Environmental • Geotechnical

13402 Western Oak
Helotes, Texas 78023
sfrost@frostgeosciences.com

Steve Frost
President

Office: (210) 372-1315
Fax: (210) 372-1318
Cell: (210) 473-2529

www.frostgeosciences.com



Frost GeoSciences
Geologic and Environmental Consulting
(830) 229-5603 ▪ www.frostgeosciences.com

TCEQ-R13 SEP 08 2006 SAN ANTONIO

TCEQ-R13 SEP 08 2006 SAN ANTONIO

TCEQ-R13 SEP 07 2006 SAN ANTONIO

Site Geologic Map

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
for the
Eden Home
631 Lakeview Blvd - 20.62 Acres
San Antonio, Texas

Frost GeoSciences, Inc. Control # FGS-06273

Legend

- Fill - Fill Material
- Qal - Alluvium
- Kau - Austin Chalk
- Kef - Eagle Ford Shale
- Kbu - Buda Limestone
- Kdr - Del Rio Clay
- Kgt - Georgetown Limestone
- Kep - Edwards Person Limestone
- Kek - Edwards Kainer Limestone
- Kgr - Glen Rose Formation

- S-# - Potential Recharge Feature (PRF)
- Formation Contact
- 100-Year Floodplain - Zone A
- 100-Year Floodplain - Zone AE
- Other Flood Hazard Area - Zone X (shaded)

Floodplain Information Obtained From
FIRM: Flood Insurance Rate Map
Comal County, Texas: Panel # 485493 0006 C, Revised 6/18/86

Fault Information Obtained From:
Bureau of Economic Geology, Geologic Atlas of Texas, San Antonio Sheet (1983)
U.S. Geological Survey, Water Resources Investigations Report 94-4117 (1994)
Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000)

North
NW NE West East SW SE South

Graphic Scale
50 0 25 50 100
(In Feet)

1 inch = 50 feet
Representative Fraction 1:600

Contour Interval - 2 foot

STATE OF TEXAS
Steve M. Frost
Geology
License No. 315
LICENSED PROFESSIONAL GEOSCIENTIST

Signature of Texas Licensed Geoscientist
Steve Frost, TPG# 315, AIPG # 10176

Modification of a Previously Approved Plan
for Regulated Activities
on the Edwards Aquifer Recharge Zone and Transition Zone
and Relating to 30 TAC §213.4(j), Effective June 1, 1999

1. Regulated Entity Name: Eden Home Expansion
2. Original Regulated Entity Name: Eden Home and Eden Village #3
3. X **ATTACHMENT A - Original Approval Letter.** A copy of the original approval letter and copies of any letters approving modifications are found at the end of this form.

4. A modification of a previously approved plan is requested for: (INDICATE ALL THAT APPLY)

   __ physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
   __ change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
   X development of land previously identified as undeveloped in the original water pollution abatement plan;
   __ physical modification of the approved organized sewage collection system;
   __ physical modification of the approved underground storage tank system;
   __ physical modification of the approved aboveground storage tank system.

5. X **ATTACHMENT B - Narrative of Proposed Modification.** A narrative description of the nature of each proposed modification is provided at the end of this form.

6. Original Project:

Type:	WPAP X SCS __ UST __ AST
Size:	20.62 acres
Population:	436
Wastewater Volume:	2400 gal/day
Sewer Pipe:	N/A linear ft
Hydrocarbon Storage:	N/A # of tanks
Impervious Cover:	46.61 % (original)
	48.42 % (w/ 1999 mod.)

7. Proposed Modification:

Type:	WPAP X SCS __ UST __ AST __
Size:	20.62 acres
Population:	115
Wastewater Volume:	34,500 gal/day
Sewer Pipe:	N/A linear ft
Hydrocarbon Storage:	N/A # of tanks
Impervious Cover:	54.17 %

8. **ATTACHMENT C - Site Plan.** A Site Plan showing the existing conditions of the site, the location of proposed modification(s), and, as applicable, geologic or man-made features, temporary erosion and sedimentation controls, and permanent BMPs is found at the end of this form.

9. X One (1) original and three (3) copies of a completed application has been provided.

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

Stephen E. Schultz
Print Name of Customer/Agent

Signature of Customer/Agent

9/7/06
Date

ATTACHMENT A

ORIGINAL APPROVAL LETTER

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

August 10, 1999

Mr. Herman D. Sabrsula
Eden Home
631 Lakeview Blvd.
New Braunfels, TX 78130

Re: EDWARDS AQUIFER, Comal County
PROJECT: Eden Home - Parking Edition & Chapel, Project number 1282, Located at 631 Lakeview Blvd, New Braunfels, Texas
TYPE: Request for Approval of Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) §213.5(b); Edwards Aquifer Protection Program

Dear Mr. Sabrsula:

The Texas Natural Resource Conservation Commission (TNRCC) has completed their review of the request for modification of an approved WPAP for the referenced project that was submitted by Mr. Stephen E. Schultz of The Schultz Group on behalf of Eden Home to the San Antonio Regional Office on May 6, 1999.

PROJECT DESCRIPTION

Approvals and modifications for this facility were summarized in a TNRCC letter dated December 31, 1997. As presented, the proposed modification to the water pollution abatement plan (WPAP) will consist of expanding an existing building by constructing a 5,448 square foot chapel and 0.23 acres of associated parking. Project wastewater will be disposed of by conveyance to the existing Gruene Road Sewage Treatment Plant owned by New Braunfels Utilities. The site is located within the City of New Braunfels, and must conform with applicable codes and requirements of the City of New Braunfels.

PERMANENT POLLUTION ABATEMENT MEASURES

The following measure will be taken to prevent pollution of stormwater originating on-site or up-gradient from the project site and potentially flowing across and off the site after construction:

The 0.33 acre vegetative filter strip is designed in accordance with the 1992 edition of the LCRA Nonpoint Source Pollution Control Technical Manual. The filter strip will:

1. be contiguous with developed area,
2. be at the same elevation as the developed area,
3. have a level spreading device, and
4. be sized to filter stormwater run-off from 0.23 acres of impervious cover.

APPROVAL

The plan for modifying this project has been reviewed for compliance with 30 TAC §213.5(b) which sets forth pollution abatement criteria for any development on the recharge zone of the Edwards Aquifer. The proposed water pollution abatement plan modification is in general agreement with 30 TAC §213.5(b); therefore, approval of the plan is hereby granted subject to the specific conditions listed below.

Failure to comply with any of the following conditions, the deed recordation requirement, or any other specific conditions of approval is a violation of these rules. Pursuant to §26.136 of the Texas Water Code, any violations of the Edwards Aquifer Rules may result in administrative penalties of up to $10,000 for each act of violation and for each day of violation.

SPECIAL CONDITIONS OF APPROVAL

1. If any potential sensitive features are encountered during construction, a geologist shall evaluate the significance of the features. The evaluation shall include representative photographs and a description of the feature forwarded to the San Antonio office. Construction in the vicinity of the features may only continue with written approval from the TNRCC.

2. All permanent pollution abatement measures shall be operational prior to completion of construction.

3. The temporary and permanent best management practices (BMPs)for the proposed project have been reviewed by the Commission's staff. As presented to the TNRCC, the BMPs were designed by a Texas Licensed Professional Engineer to be in accordance with the requirements of 30 TAC §213.5(b). Therefore, based on the Texas Licensed Professional Engineer's certification of compliance, the planning materials for construction of the proposed pollution abatement measures are hereby approved.

4. The vegetative filter strip is designed in accordance with the 1992 edition of the LCRA Nonpoint Source Pollution Control Technical Manual and will incorporate treatment of stormwater as described above.

STANDARD CONDITIONS OF APPROVAL

1. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC chapter 213, 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, upon which that person or entity shall assume responsibility for all provisions and conditions of this approval.

2. Any modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a WPAP to amend this approval, including the payment of appropriate fees and all information necessary for its review and approval.

3. Prior to commencing any regulated activity, the applicant or his agent must notify the San Antonio Regional Office in Writing of the date on which the regulated activity will begin.

4. The applicant or his gent shall record this WPAP approval in the county deed records within 30 days of receiving this notice of approval. Proof of deed recordation shall be submitted to the San Antonio Regional Office prior to commencing construction. A suggested format that you may use to deed record the approved WPAP is enclosed.

5. All contractors conducting regulated activities at the project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.

6. 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 TNRCC 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.

7. If any significant recharge feature [sensitive feature] 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 potential adverse impacts to water quality.

8. 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.

9. Approval of the design of the sewage collection system for this proposed project shall be obtained from the TNRCC prior to commencement of construction of any sewage collection system.

10. Pursuant to §26.136 of the Texas Water Code, any violations of the requirements in 30 TAC §213 may result in administrative penalties.

Should clarification of this letter be desired or if we may be of any other assistance, please contact John Mauser of our San Antonio Regional office at 210/403-4024. Please reference project number 1282.

Sincerely,

Jeffrey A. Saitas, P.E.
Executive Director
Texas Natural Resource Conservation Commission

JAS/JKM/eg

Enclosure: Deed Recordation Form

cc Stephen E. Schultz, The Schultz Group
Harry Bennett, City of New Braunfels
Tom Hornseth, Comal County
Greg Ellis, Edwards Aquifer Authority
TNRCC Field Operations, Austin

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

December 31, 1997

Mr. Herman Sabrsula
Eden Village
631 Lakeview Blvd.
New Braunfels, TX 78130

Re: EDWARDS AQUIFER, Comal County
PROJECT: Eden Village #3 (also called Eden Village, Project Number 438), Project Number 756, Located at 631 Lakeview Blvd., New Braunfels, Texas
TYPE: Request for Information; 30 Texas Administrative Code (TAC) §213.5(b); Edwards Aquifer Protection Program

Dear Mr. Sabrusla:

The Texas Natural Resource Conservation Commission (TNRCC) received a request for information for the referenced project that was submitted on behalf of Eden Village by Sumac Engineering Services and received by the San Antonio office on November 5, 1997. Additional information was received on December 22, 1997.

BACKGROUND

By letter dated May 25, 1988, Eden Home was approved under 31 TAC 313.3 [currently 30 TAC 213.5(b)] for five buildings containing 14 living units (Units 2A - 2N) on approximately two acres. By letter dated May 6, 1997, Eden Village #3 was approved under 30 TAC 213.5(b) for eight single-family assisted living units on 1.19 acres.

An overall site plan for Eden Home/Eden Heights was submitted to the TNRCC on March 6, 1997, in association with the Eden Village #3 WPAP. This site plan notes that the entire site is 20.62 acres. Approval of water pollution abatement plans is only documented for two projects totaling 3.19 acres of the 20.62 acres. However, the regulated developments constructed prior to 1988 are assumed to have been known to the TNRCC's predecessor agency and therefore covered in the May 25, 1988 approval letter for Units 2A - 2N. A summary of projects with construction dates and approval dates for Eden Home and Eden Heights Subdivisions are listed in Table I.

TABLE I		
Unit	Date of Construction*	Approval Date
Original Building	1956	None required. Construction pre-dates Edwards regulations.
Add on 2 wings	1964	
Bihl Center	1968	
Eden Heights	1980	None on file.
Add on 5 & 6	1987	"Subdivision Plan" required for regulated activities between 3/26/74 & 12/5/84.
3A - 3D	1978 - 79	
5A - 5D	1978 - 79	
7A - 7D	1980	WPAP required after 12/5/84.
6A - 6F	1982 - 83	
30A - 30F	1985	
2A - 2N	1987 - 88 (2 acres)	May 25, 1988
Eden Village #3	Pending (1.19 acres)	May 6, 1997

* Provided by memo dated February 13, 1997 from H.E. Pinell of Eden Home, Inc. to Kerry Andrews, Architect and James S. Calle, Engineer.

PROJECT DESCRIPTION

The water pollution abatement plan for Eden Village #3 (owned by Eden Home) was approved by letter dated May 6, 1997. As understood, stormwater runoff from the Eden Village #3 parking lot is treated by a vegetated filter strip, the majority of which is owned by Eden Heights, not Eden Home; and stormwater runoff from the vegetated filter strip flows toward the front door of the neighboring Eden Heights facility.

Placement and size of the interception ditch, as presented by Sumac Engineering Services, does not appear to significantly alter the vegetated filter strip as approved for pollution abatement for stormwater runoff from Eden Village #3, and is hereby approved with the following conditions.

1. Eden Home, Inc., owner of Eden Village #3 must obtain written permission from Eden Heights Inc. to use the area designated in the WPAP as the vegetated filter strip.

2. The applicant or his agent shall record this letter, and the letter required in Item #1 above, in the county deed records within 30 days of receiving this notice of approval. Proof of deed recordation shall be submitted to the San Antonio Regional Office prior to commencing construction. A suggested format that you may use to deed record this letter is enclosed.

Should clarification of this letter be desired or if we may be of any other assistance, please contact John Mauser of our San Antonio office at 210/490-3096. Reference project number 756.

Sincerely,

Bobby D. Caldwell

Bobby D. Caldwell,
Water Section Manager

BDC/JKM/eg

Enclosure: Deed Recordation Affidavit

cc Mac McCoy, Sumac Engineering Services
Jim Calle, Calle & Associates, Inc.
Harry Bennett, City of New Braunfels
Tom Hornseth, Comal County
Greg Ellis, Edwards Aquifer Authority
TNRCC Field Operations, Austin

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

May 6, 1997

Mr. Howard E. Pinnell
Eden Home, Inc.
631 Lakeview Blvd.
New Braunfels, TX 78130

Re: EDWARDS AQUIFER, Comal County
PROJECT: Eden Village, Located at 631 Lakeview Blvd. New Braunfels, Texas
TYPE: Request for Approval of a Water Pollution Abatement Plan; 30 Texas Administrative Code (TAC) §313.4; Edwards Aquifer Protection Program

Dear Mr. Pinnell:

The Texas Natural Resource Conservation Commission (TNRCC) has completed its review of the WPAP application for the referenced project that was submitted by James S. Calle on behalf of Eden Home, Inc. and received by the San Antonio Regional Office on December 6, 1996. Final review of the WPAP submittal was completed after additional materials were received on March 6, 1997, and April 16, 1997. The WPAP proposed in the application is in general compliance with 30 TAC §313.4; therefore, approval of the plan is hereby granted subject to applicable state rules and the conditions in this approval letter. *This approval expires two (2) years from the date of this approval unless, prior to the expiration date, 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 1.19 acres and will consist of the construction of eight (8) single family assisted living units which will be incorporated into the larger, existing Eden Home facility. Associated parking and sidewalks for the proposed development will also be constructed. Project wastewater will be disposed of by conveyance to the existing Gruene Waste Water Treatment Plant owned by the New Braunfels Utilities.

The proposed impervious cover for the development is approximately 0.467 acres (39.2 %). The site is located within the City of New Braunfels, and will conform with applicable codes and requirements of the City of New Braunfels.

GEOLOGY ON SITE

According to the geologic assessment included with the submittal, there were no potential recharge features located on the proposed project site.

The San Antonio Regional Office site inspection of January 15, 1997, revealed no potential recharge features on the site as indicated by the geologist.

GEOLOGY DOWNGRADIENT OF SITE

According to the geologic assessment included with the submittal, there was one (1) significant potential recharge feature identified downgradient from the proposed project site. The feature consisted of a vuggy rock outcropping. The feature was identified as A-2 on the down gradient geologic site map and was assessed as having a "moderate" significance with respect to its ability to accept surface infiltration.

PERMANENT POLLUTION ABATEMENT MEASURES

The following measures will be taken to prevent pollution of stormwater originating on-site or up-gradient from the project site and potentially flowing across and off the site after construction:

A. The 0.40 acre vegetative filter strip is designed in accordance with the LCRA Lake Travis Nonpoint Source Pollution Control Ordinance Technical Manual. The filter strip will:

1. be contiguous with developed area,
2. be at the same elevation as the developed area,
3. have a level spreading device, and
4. be sized to filter stormwater run-off from 0.15 acres of impervious cover.

SPECIAL CONDITIONS

1. If any potential recharge features are encountered during construction, a geologist shall evaluate the significance of the features. The evaluation shall include representative photographs and a description of the feature forwarded to the San Antonio Regional Office. Construction in the vicinity of the features may only continue with written approval from the TNRCC.

2. Placement of hydrocarbon or hazardous substance storage facilities regulated pursuant to 313.10 and 313.11, requires submittal of all appropriate applications with appropriate fees and must receive prior approval from the TNRCC.

3. A formal maintenance plan and schedule for all permanent pollution abatement measures shall be submitted to the San Antonio Regional Office for review and possible modification prior to completion of construction. The plan shall include a responsible party and the anticipated cleaning schedule. Upon approval, the plan shall be implemented in accordance with the approved schedule.

4. All permanent pollution abatement measures shall be operational prior to completion of construction.

STANDARD CONDITIONS

1. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC §313, 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, upon which that person or entity shall assume responsibility for all provisions and conditions of this approval.

2. Any modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a WPAP to amend this approval, including the payment of appropriate fees and all information necessary for its review and approval.

3. Prior to commencing any regulated activity, the applicant or his agent must notify the San Antonio Regional Office in writing of the date on which the regulated activity will begin.

4. The applicant or his agent shall record this WPAP approval in the county deed records within 30 days of receiving this notice of approval and prior to commencing any regulated activity at the project location. Proof of deed recordation shall be submitted to the San Antonio Regional Office. A suggested format that you may use to deed record the approved WPAP is enclosed.

5. All contractors conducting regulated activities at the project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and

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

6. 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 TNRCC 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.

7. If any significant recharge feature [sensitive feature] 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 potential adverse impacts to water quality.

8. 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.

9. Approval of the design of the sewage collection system for this proposed project shall be obtained from the TNRCC prior to commencement of construction of any sewage collection system.

10. Any abandoned wells shall be plugged in accordance with 30 TAC §338 or an equivalent method, as approved by the Executive Director.

    Any drill holes resulting from core sampling on-site or down-gradient of the site shall be plugged with native soil, from the bottom of the hole to the top of the hole, so as to not allow water or contaminants to enter the subsurface environment.

11. Pursuant to §26.136 of the Texas Water Code, any violations of the requirements in 30 TAC §313 may result in administrative penalties.

If you have any questions or require additional information, please contact Tom Gutierrez of the Edwards Aquifer Protection Program at 210/490-3096.

Sincerely,

Dan Pearson
Executive Director

DP/TG/eg

Enclosure: Deed Recordation Affidavit

cc: James Calle, Calle & Associates
Harry Bennett, City of New Braunfels
Clarence Bolner, City of New Braunfels
Mike Shands, City of New Braunfels
Tom Hornseth, Comal County
Gregory M. Ellis, Edwards Aquifer Authority
TNRCC Field Operations, Austin

TEXAS WATER COMMISSION

Paul Hopkins, Chairman
John O. Houchins, Commissioner
J. Wynne, III, Commissioner

Allen Beinke, Executive Director

J. D. Head, General Counsel
Michael E. Field, Chief Examiner
Karen A. Phillips, Chief Clerk

May 25, 1988

14 Units

Mr. Melvin Jochec
President, Board of Directors
Eden Home
457 Landa
New Braunfels, Texas 78130

Re: Eden Home - Request for Water Pollution Abatement Plan; 31 Texas Administrative Code (TAC), Section 313.3

Dear Mr. Jochec:

We have completed our review of the water pollution abatement plan which was submitted to the District 8 Office on February 9, 1988, and received by the Austin Office on February 19, 1988. Review of the submitted plans and discussions with the District 8 Office indicated that the proposed development project includes 5 multi- dwelling residences that will contain 14 individual units. The area of construction activity is approximately 2 acres. Wastewater collection and treatment will be by the City of New Braunfels system.

The plan for this development has been reviewed for compliance with 31 Texas Administrative Code (TAC), Section 313.3 which sets forth the pollution abatement criteria for development located on the recharge zone of the Edwards Aquifer. The proposed pollution abatement activities are in general agreement with 31 TAC, Section 313.3 and approval of this phase of the development is hereby granted with the following conditions:

1) This approval applies only to the construction of the 5 multi-dwelling residences containing the 14 individual units.

2) The private service laterals from each unit shall be inspected after installation and prior to covering by a Texas Registered Professional Engineer or a Registered Sanitarian. The engineer or sanitarian shall then certify that each lateral has been constructed in compliance with the appropriate construction requirements of 31 TAC, Section 313.4. Copies of the certification reports shall be forwarded to both the holder of the waste discharge permit to which the collection system connects and to the Texas Water Commission District 8 Office located at 140 Heimer Road, Suite 360, San Antonio, Texas 78232-5028.

3) If any solution openings (such as caves or pipes) or sinkholes are discovered on the site during land clearing, excavation or blasting, the developer or his agent shall notify the District 8 Office in San Antonio. Construction in the vicinity of such a feature shall cease pending approval by the District 8 manager of the proposed method to prevent pollutants from entering the area(s).

uring the course of development of this site, the owner/developer shall comply with all applicable provisions of 31 TAC, Section 313.3. Additionally, den Home shall remain responsible for the aforementioned provisions and pecial conditions until such responsibility is legally transferred to another person or entity.

lease be reminded that 31 TAC, Section 313.3(e) requires you to: (1) record in the county deed records that this property is subject to the approved water ollution abatement plan; (2) submit to the Executive Director, proof of this ecordation of notice no less than ten days prior to commencing construction; and (3) notify the District 8 Office in San Antonio when construction will commence, prior to beginning construction. Any substantial modification, as utlined in 31 TAC, Section 313(f), to this approved water pollution abatement plan must be reported to the District 8 Office and approved by the Executive Director.

lso, 31 TAC, Section 313.3(g) requires that during construction, you submit quarterly progress reports on the status of construction to the District 8 ffice. Please note that 31 TAC, Section 313.3(h) states that this approval xpires two years from this date unless, prior to the expiration date, construction has commenced on the site. Enclosed is a suggested format you ay wish to use to deed record your approved water pollution abatement plan.

If you have any questions or require additional information, please contact either Ms. Jeffie Barbee at (512) 490-3096 in San Antonio or Mr. Rob Conti at (512) 463-8497 in Austin.

Sincerely,

Allen Beinke,
Executive Director

Enclosure

ccs: Mr. Al Groves, P.E., Groves and Associates, Inc.
City of San Antonio
County of Bexar
Edwards Underground Water District
Texas Water Commission District 8 Office

ATTACHMENT B

NARRATIVE OF PROPOSED MODIFICATION

The proposed project consist of demolition of existing facilities, construction of new cottages and apartments, and expansion and renovation of the existing skilled nursing care facility on the existing 20.62 acre Eden Home campus. At the time of this submittal the plans are to construct the improvements in three phases. The first phase would be the construction within the circle on the east side of the site, replacing four existing cottages with four new duplex type cottages. The second phase would be the construction on the east side(outside) of the circle and would consist of replacing four existing cottages with two apartment/townhome type facilities with additional parking. The third phase would be to renovate and expand the existing skilled nursing facility and removal of existing parking lots and construction of new parking. The project site is located approximately ¼ of a mile north of the intersection of River Road and Lakeview Blvd.

The majority of the project site where the proposed improvements are planned slopes from the northwest to the southeast. A partial sedimentation and filtration pond sized for the proposed increase in impervious cover that will be caused by the improvements for all three phases will be constructed in the southeast corner of the property.

ATTACHMENT C

SITE PLAN

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

1. Written construction notification must be given to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information must include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor and the name and telephone number of the contact person.

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

3. If any sensitive feature is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. The regulated activities near the sensitive feature may not proceed until the TCEQ has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality.

4. No temporary aboveground hydrocarbon and hazardous substance storage tank system is installed within 150 feet of a domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

5. Prior to commencement of construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. Controls specified in the temporary storm water section of the approved Edwards Aquifer Protection Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.

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

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

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

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

10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

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

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

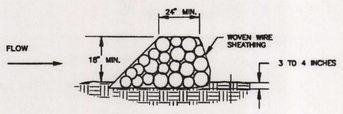
A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

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

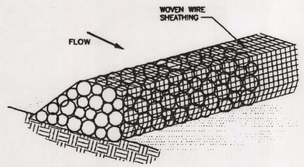
C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

Austin Regional Office 1921 Cedar Bend, Suite 150 Austin, Texas 78758-5336 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

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



CROSS SECTION
N.T.S.



ISOMETRIC PLAN VIEW
N.T.S.

Materials:

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

(2) Clean, open graded 3- to 5-inch diameter rock shall be used.

Installation:

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

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

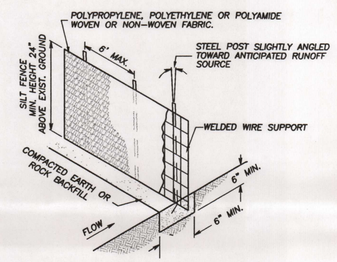
(3) Place the rock along the sheathing as shown in the Rock Berm Detail to a height not less than 18".

(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 shall be built along the contour at zero percent grade or as near as possible.

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

ROCK BERM DETAIL
N.T.S.



Materials:

(1) Silt fence material shall 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/in^2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.

(2) Fence posts shall 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/ft , and Brindell hardness exceeding 140.

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

Installation:

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

(2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence shall be sited so that the maximum drainage area is 1/4 acre/100 feet of fence.

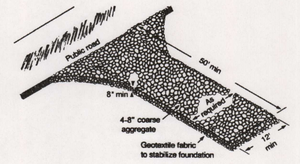
(3) The toe of the silt fence shall be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill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

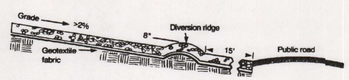
(5) Silt fence shall be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There shall be a 3-foot overlap, securely fastened where ends of fabric meet.

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

SILT FENCE
N.T.S.



Schematic of Temporary Construction Entrance/Exit



Cross-section of a Construction Entrance/Exit

Materials:

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

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

(3) The geotextile fabric shall 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 vehicle(s) require washing, a washing facility with a level area and a minimum of 4 inch washed stone or commercial rock shall be constructed in an approved area. Divert wastewater to sedimentation controlled areas.

Installation:

(1) Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.

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

(3) The construction entrance shall 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.

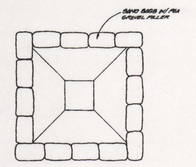
(7) Divert all surface runoff and drainage from the stone pad to sedimentation controlled areas.

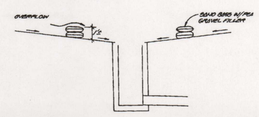
(8) Top of Temporary Construction Entrance/Exits Shall Project no more than 4" above Natural Ground.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT
N.T.S.

Bagged Gravel Inlet Filter

Sandbags filled with pea gravel can also be used to construct a sediment barrier around curb and drain inlets. The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around the inlets. The bags should be tightly abutted against each other to prevent runoff from flowing between the bags. This measure should be installed as shown





GRATE INLET FILTER
N.T.S.

TCEQ-R13
SEP 08 2006
SAN ANTONIO
TCEQ-R13
SEP 07 2006
SAN ANTONIO

REVISIONS

DATE	DESCRIPTION

STATE OF TEXAS — DARYL D. PAWELEK — 84770 — LICENSED PROFESSIONAL ENGINEER — 9/7/06

WATER POLLUTION ABATEMENT PLAN
GENERAL NOTES & DETAILS

EDEN HOME EXPANSION
NEW BRAUNFELS, TEXAS

THE Schultz Group, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
2461 LOOP 337 NEW BRAUNFELS, TEXAS 78130
PHONE (830) 606-3913 FAX (830) 625-2204

DRAWN BY: RTS
CHECKED BY: DDP
DATE: AUGUST 2006
JOB NO.: 060806

S-2

File Name: F:\060806\TCEQ\plan dwg, 9/8/2006 8:35:30 AM
F:\060806\TCEQ\plan dwg

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	228,968	÷ 43,560 =	5.26
Parking & Driveways	214,982	÷ 43,560 =	4.93
Other paved surfaces/Sidewalks	42,640	÷ 43,560 =	0.98
Total Impervious Cover	485,590	÷ 43,560 =	11.17
	Total Impervious Cover ÷ Total Acreage x 100 =		54.17 %

TOTAL SITE ACREAGE = 20.62 AC.

TCEQ-R13 SEP 07 2006 SAN ANTONIO

TCEQ-R13 SEP 08 2006 SAN ANTONIO

GRID NORTH

SCALE IN FEET
50 25 0 50

SCALE: 1" = 50'

AREA NOT TO BE DISTURBED

R.B. (PH 1)

PH 1 STORM DRAIN

PARTIAL SEDIMENTATION AND FILTRATION BASIN (SEE P-1)

AREA NOT TO BE DISTURBED

EXISTING SKILLED NURSING FACILITY

LAKEVIEW BLVD. (CITY R.O.W.)

R.B. (PH 3)

AREA NOT TO BE DISTURBED

EXIST. CURB OR EQUIVALENT TO REMAIN IN PLACE UNTIL PROPOSED PARKING AREA IS COMPLETE BEHIND CURB

AREA NOT TO BE DISTURBED

LEGEND:

- PROPOSED BUILDINGS, SIDEWALKS AND PARKING AREAS
- GEOLOGIC FEATURE (NOTE: ALL FEATURES FOUND WERE MANMADE) (SEE GEOLOGICAL SITE ASSESSMENT)
- GRAVEL FILTER INLET PROTECTION (GRATE SHALL BE PROTECTED AFTER INSTALLATION)
- SILT FENCE (PHASING NOTED)
- ROCK BERM (PHASING NOTED)
- TEMPORARY CONSTRUCTION ENTRANCE/EXIT (PHASING NOTED)
- AREAS TO BE DISTURBED w/SOIL STABILIZATION (PER LANDSCAPE ARCHITECT WITH SITE CONSTRUCTION PLANS)
- PROPOSED DRAINAGE SYSTEM
- Kep SEE GEOLOGICAL ASSESSMENT

REVISIONS

DATE	DESCRIPTION

STATE OF TEXAS — DARYL D. PAWELEK — 84770 — LICENSED — PROFESSIONAL ENGINEER — 9/19/06

SITE PLAN FOR EDEN HOME EXPANSION

NEW BRAUNFELS, TEXAS

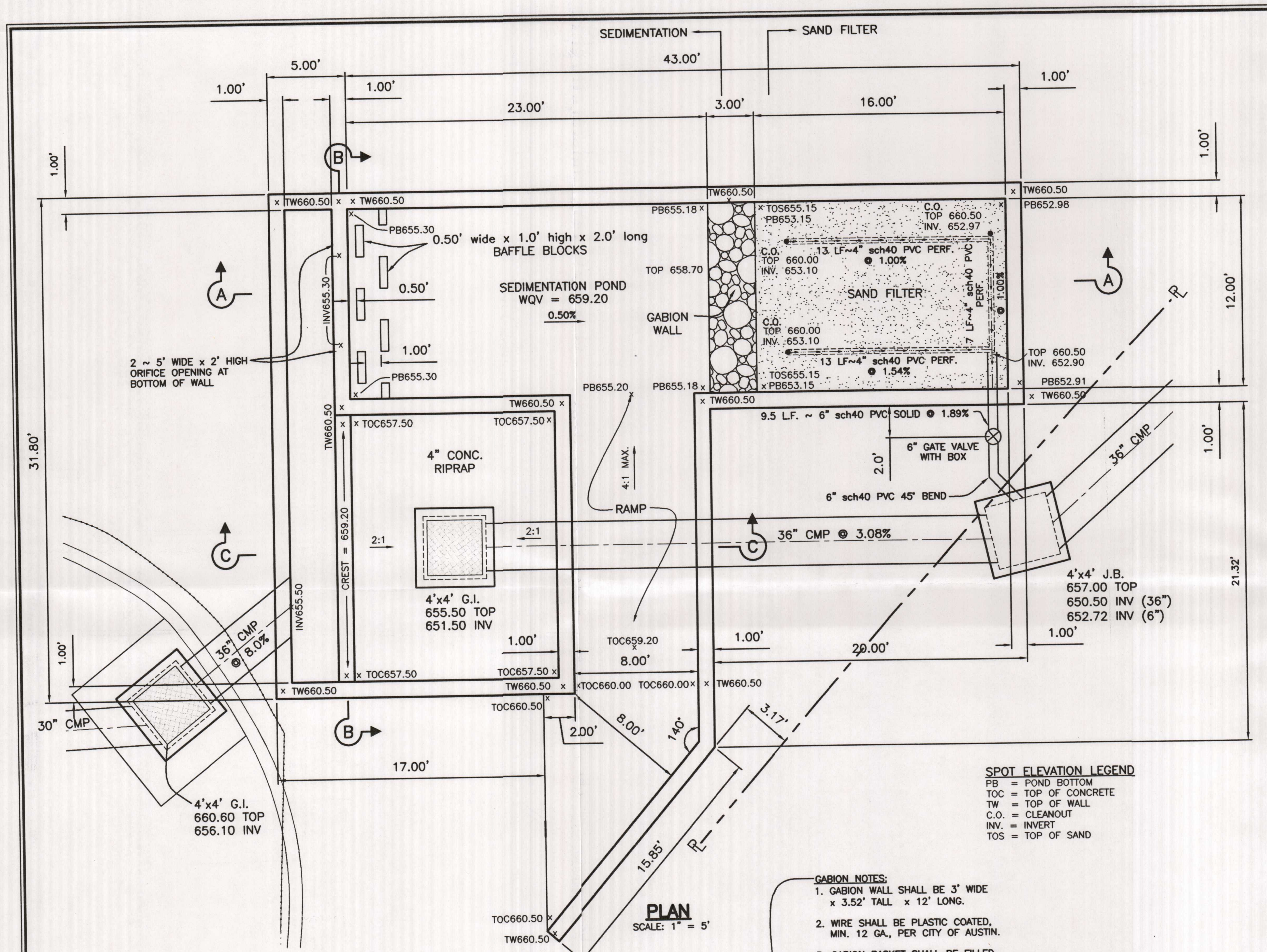
THE Schultz Group, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
2461 LOOP 337 NEW BRAUNFELS, TEXAS 78130
PHONE (830) 606-3913 FAX (830) 625-2204

DRAWN BY: RTS
CHECKED BY: DDP
DATE: AUGUST 2006
JOB NO.: 060806

S-1

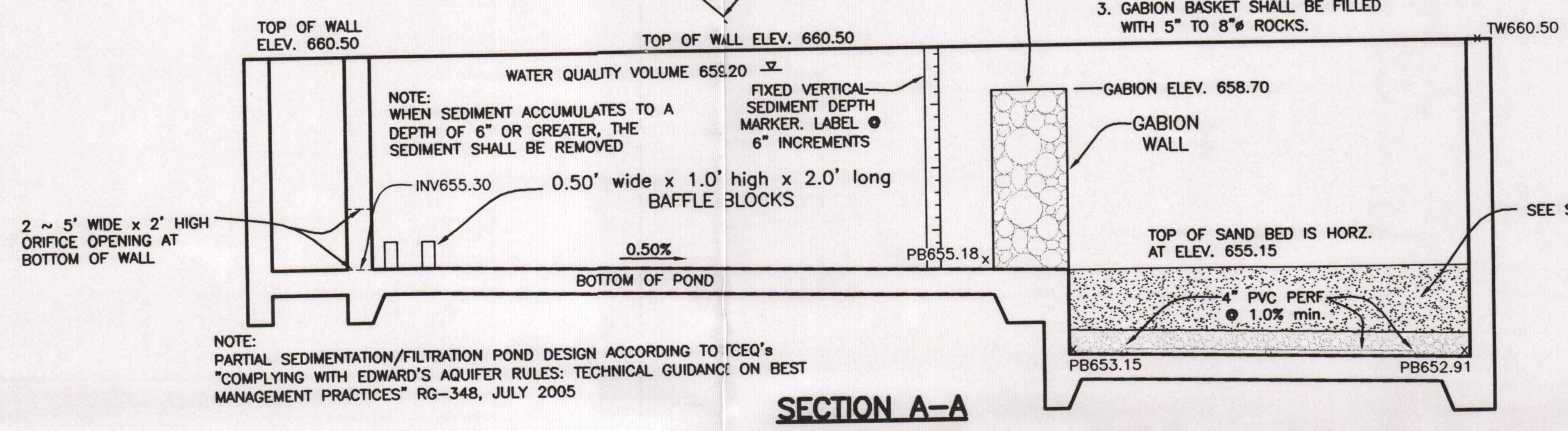
File Name: F:\060806\TCEQ\Site Plan.dwg

F:\060806\TCEQ\Site Plan.dwg, 9/8/2006 9:49:47 AM



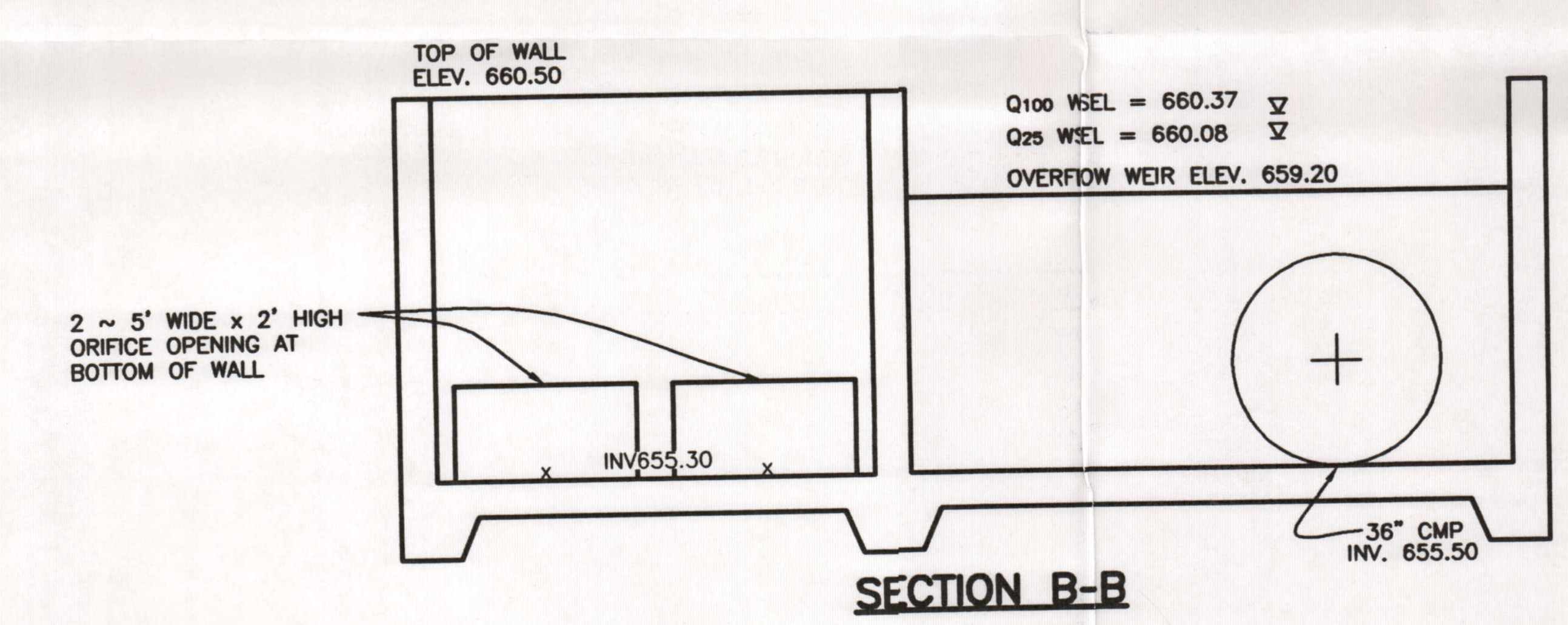
SPOT ELEVATION LEGEND
PB = POND BOTTOM
TOC = TOP OF CONCRETE
TW = TOP OF WALL
C.O. = CLEANOUT
INV. = INVERT
TOS = TOP OF SAND

GABION NOTES:
1. GABION WALL SHALL BE 3' WIDE x 3.52' TALL x 12' LONG.
2. WIRE SHALL BE PLASTIC COATED, MIN. 12 GA., PER CITY OF AUSTIN.
3. GABION BASKET SHALL BE FILLED WITH 5" TO 8"ø ROCKS.

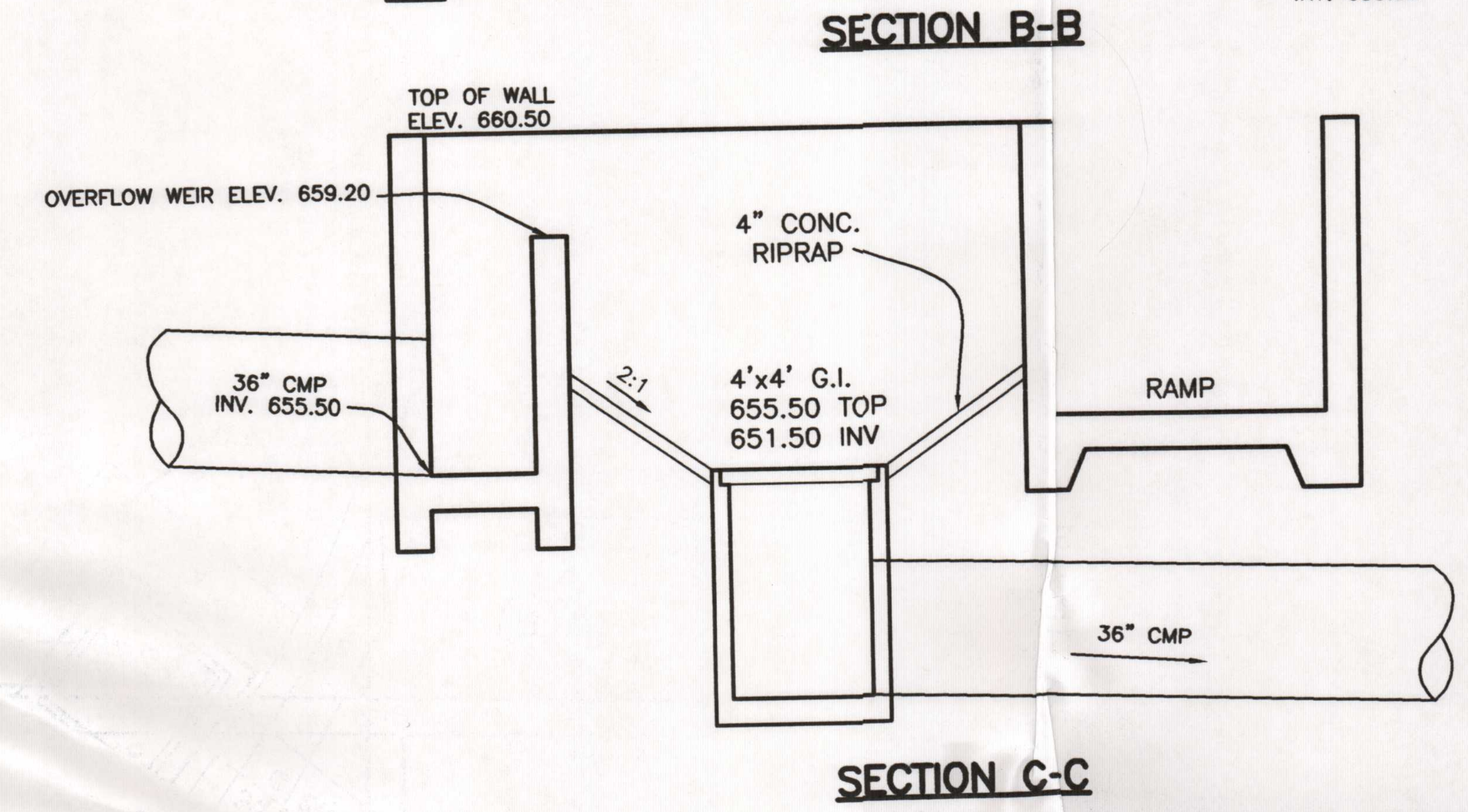


NOTE:
PARTIAL SEDIMENTATION/FILTRATION POND DESIGN ACCORDING TO TCEQ's "COMPLYING WITH EDWARD'S AQUIFER RULES: TECHNICAL GUIDANCE ON BEST MANAGEMENT PRACTICES" RG-348, JULY 2005

SECTION A–A



SECTION B-B



SECTION C-C

PARTIAL SEDIMENTATION/FILTRATION BASIN SIZING

VOLUME IN SEDIMENTATION BASIN(Vsed)

MAIN BASIN: L = 23'; W = 12'
Depth = Varies: 659.20 - 655.30 = 3.9'
659.20 - 655.18 = 4.02'
Avg. Depth = 3.96'

ACCESS RAMP: L = 16' (from WQV elev to pond bottom); W = 8'
Depth = Varies: 659.20 - 659.20 = 0'
659.20 - 655.20 = 4.00'
Avg. Depth = 2.00'

Vsed = Vmain basin + Vaccess ramp

Vsed = (23' x 12 'x 3.96') + (16' x 8' x 2.00')

Vsed = 1,349 cf

VOLUME IN SAND FILTER BASIN(Vsf)

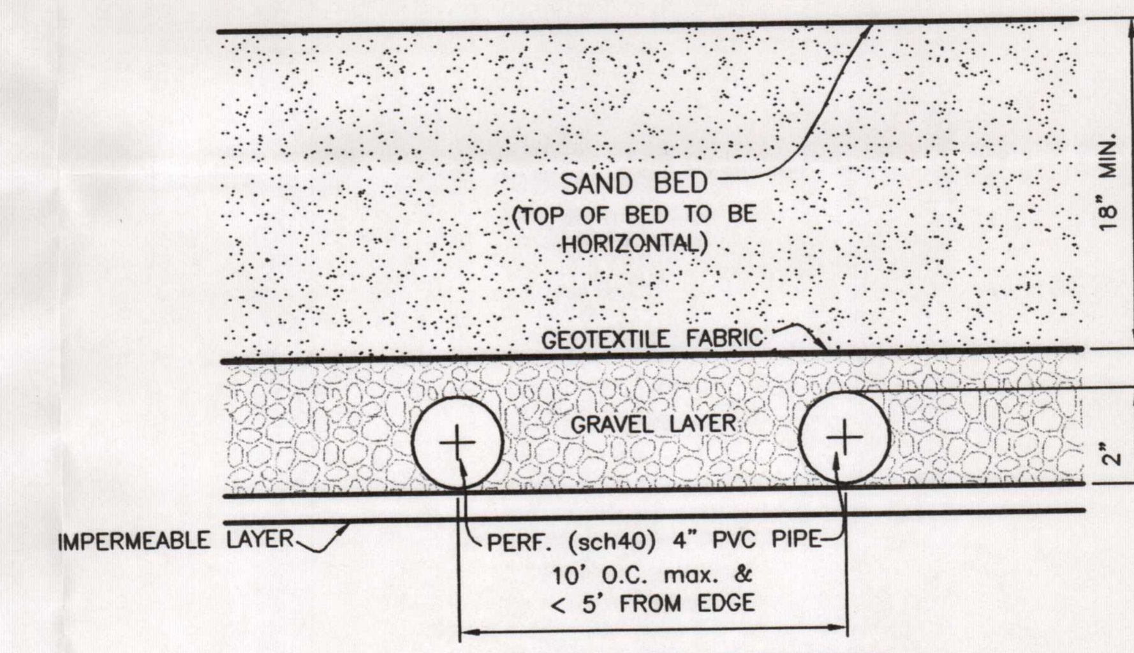
SAND FILTER: L = 16' (from gabion to wall); W = 12'
Depth = 659.20 - 655.15 = 4.05'

Asf = 192 sf >191 sf

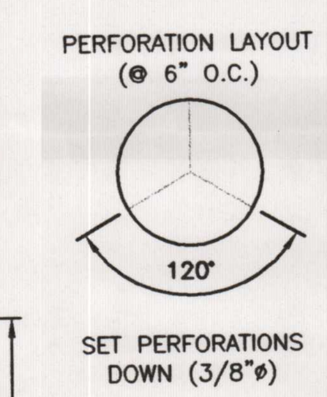
Vsf = (16' x 12 'x 4.05')
Vsf = 778 cf

Therefore, Water Quality Volume(WQV) Provided = Vsed + Vsf

WQV = 2,127 cf > 1,906 O.K.



SAND BED PROFILE
(WITH GRAVEL FILTER)



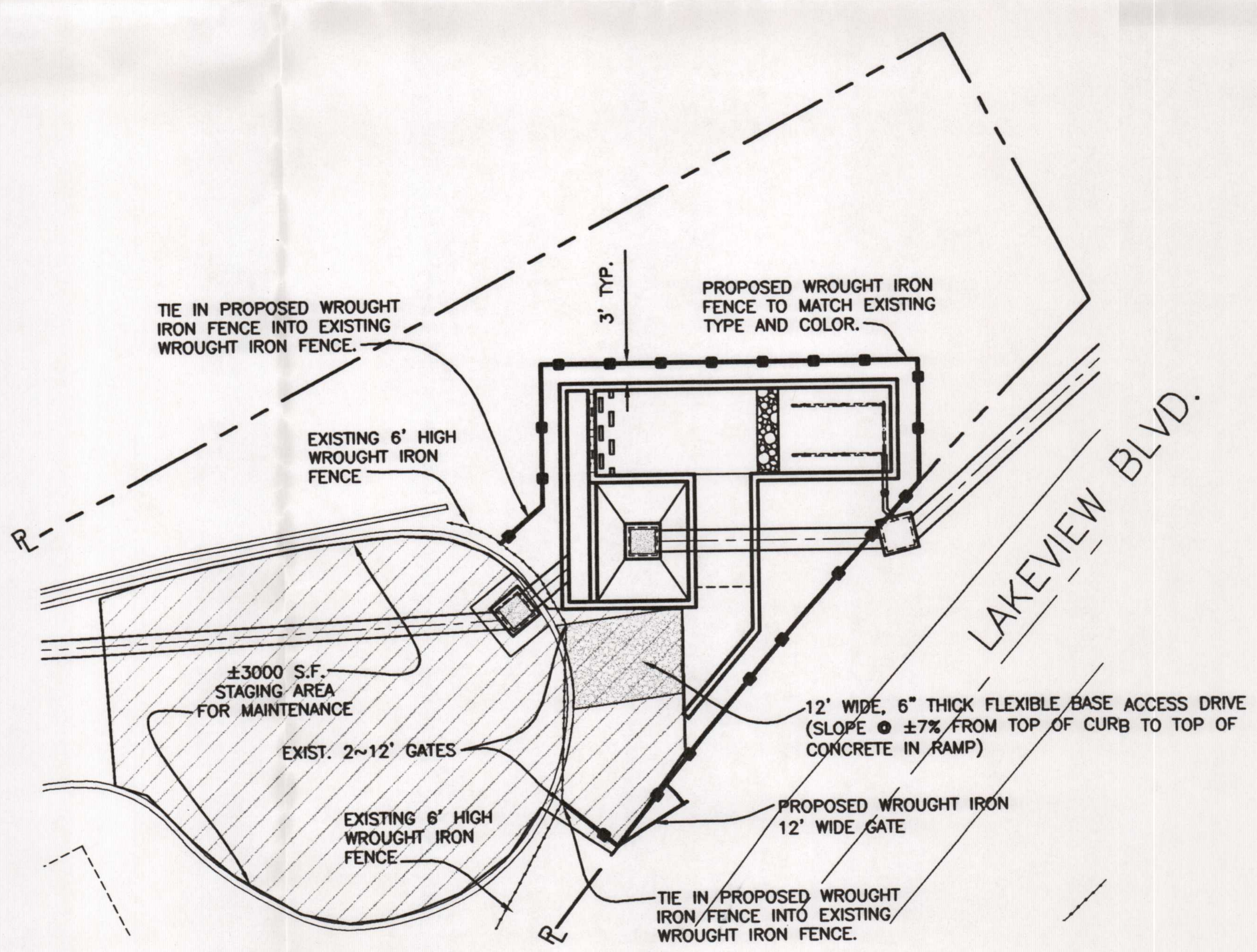
SAND BED WITH GRAVEL LAYER NOTES:

THE TOP LAYER IS TO BE A MINIMUM OF EIGHTEEN (18) INCHES OF 0.02–0.04 INCH DIAMETER SAND WHICH CORRESPOND WITH ASTM C–33 CONCRETE SAND (SMALLER SAND SIZE IS NOT ACCEPTABLE). UNDER THE SAND SHALL BE A LAYER OF ONE–HALF (0.5) TO ONE AND ONE–HALF (1.5) INCH DIAMETER WASHED, ROUNDED, RIVER GRAVEL WHICH PROVIDES A MINIMUM OF TWO (2) INCHES OF COVER OVER THE TOP OF THE UNDERDRAIN LATERAL PIPES. THE SAND AND GRAVEL MUST BE SEPARATED BY A LAYER OF GEOTEXTILE FABRIC MEETING THE SPECIFICATIONS LISTED IN TABLE 3.6 "GEOTEXTILE FABRIC SPECIFICATIONS (COA, 1997). THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS LISTED IN TABLE 3.6 TAKEN FROM THE TNRCC TECHNICAL GUIDANCE ON BEST MANAGEMENT PRACTICES, JUNE 1999.

Table 3.6 Geotextile Fabric Specifications (COA, 1997)

Property	Test Method	Unit	Specification (min.)
Unit Weight		oz/yd^{-8}	8
Filtration Rate		in/sec	0.08
Puncture Strength	ASTM D–751*	lb	125
Mullen Burst Strength	ASTM D–751	psi	400
Tensile Strength	ASTM D–1682	lb	200
Equiv. Opening Size	US Standard Sieve	No.	80

*modified



FENCING AND STAGING AREA EXHIBIT
SCALE: 1" = 20'

Partial Sedimentation/Filtration Basin Summary									
Basin	Drainage Area(ac.)	Pre-Dev. Imper. Cover(ac.)	Post-Dev. Imper. Cover(ac.)	Required Cap. Vol.(cf)	Design Cap. Vol.(cf)	Required Sand Filter Sur. Area(sf)	Design Sand Filter Sur. Area(sf)	Min. Target TSS Removal (lbs/yr)[5]	Design TSS Removal (lbs/yr)
(A1-A3) & (B1-B10)	7.29	3.67	4.80	1,906 [4]	2,127 [6]	191 [4]	192	1,014	1,068 [1]
A4[2]	0.35	0.02	0.02	-	-	-	-	0	0
C[3]	1.90	0.48	0.49	-	-	-	-	9	0
D[2]	5.87	3.32	3.32	-	-	-	-	0	0
E[3]	2.62	1.43	1.48	-	-	-	-	45	0
F[2]	2.59	1.06	1.06	-	-	-	-	0	0
Totals	**20.62**	**9.98**	**11.17**	**1,906**	**2,127**	**191**	**192**	**1,068**	**1,068**

1 Includes overtreatment from Basins C and E, not otherwise treated
2 No treatment required, no increase in impervious cover
3 Required TSS removal for this basin added to Basin (A1-A3) & (B1-B10) for overtreatment
4 Includes volume necessary for overtreatment
5 For basins individually
6 Represents 1,463 cf(sedimentation) and 835 cf(sand filter)

Texas Commission on Environmental Quality

TSS Removal Calculations 05-09-2006 from TCEQ website

Project Name: Eden Home Expansion
Date Prepared: 8/25/2006
SGI Project #: 060806
Watershed: B1-B10 and A1-A3 (BMP catchment area)

1. Required Load Reduction: — Calculations from RG-348 — Pages 3-27 to 3-30

Drainage Basin / Outfall Area No. = B1-B10 and A1-A3 (BMP catchment area)

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

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

Site Data:

County = comal
Total drainage basin = 7.29 acres
Predevelopment impervious area within drainage basin = 3.67 acres
Post-development impervious area within drainage basin = 4.80 acres
Post-development impervious fraction within drainage basin = 0.66
P = 33 inches

L_M = 1068 lbs.

Overtreatment Summary
Add Uncaptured from C and E = 9 + 45 = 54 lbs
Therefore, L_M = 1014 + 54 = **1068 lbs**

2. Select BMP:

Proposed BMP = sf abbreviation
Removal efficiency = 89 percent

BMP Code:	BMP Type:
AC	Aqualogic Cartridge Filter
BR	Bioretention
CW	Constructed Wetland
ED	Extended Detention
GS	Grassy Swale
RI	Retention / Irrigation
SF	Sand Filter
WB	Wet Basin
WV	Wet Vault

3. Calculate TSS Load Removed (L_R) by BMP.

RG 348 Page Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:
A_C = Drainage basin area in the BMP Catchment area
A_I = Proposed Impervious area in the BMP catchment
A_P = Pervious area remaining in the BMP catchment
L_R = TSS Load removed by the proposed BMP

A_C = 7.29 acres
A_I = 4.80 acres
A_P = 2.49 acres

L_R = 4917 lbs

4. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

F = 0.22 OK — If F>1, then a more efficient BMP or a larger treatment area is required.

5. Calculate Capture Volume for this drainage basin. — Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 0.13 inches
Post Development Runoff Coefficient = 0.47
On-site Water Quality Volume = 1588 cubic feet

IC = Drainage Area to BMP / drainage Area to BMP

Off-site area draining to BMP = 0.00 acres
Off-site Impervious cover draining to BMP = 0.00 acres
Impervious fraction of off-site area = 0
Off-site Runoff Coefficient = 0.02
Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 318 (20%)

Total Capture Volume = 1906 cubic feet

6. Filter area for Sand Filters — Designed as Required in RG-348 — Pages 3-58 to 3-63

Not Used **9A. Full Sedimentation and Filtration System**

Water Quality Volume for Sedimentation Basin = 1906 cubic feet

Required Sand Filter Area = 106 square feet Af = WQV/18 for Full Sedimentation

Sedimentation Basin Area(various depth scenarios)
Maximum Sedimentation Basin Area = 953 square feet for minimum water depth of 2 feet
Sedimentation Basin Area = 476 square feet for water depth of 4 feet
Sedimentation Basin Area = 318 square feet for water depth of 6 feet
Minimum sedimentation basin area = 238 square feet for maximum water depth of 8 feet

Used **9B. Partial Sedimentation and Filtration System**

Water Quality Volume for combined basins = 1906 cubic feet

Required Sand Filter Area = 191 square feet Af = WQV/10 for Partial Sedimentation

Sedimentation Basin Area(various depth scenarios)
Maximum Sedimentation Basin Area = 762 square feet for minimum water depth of 2 feet
Sedimentation Basin Area = 286 square feet for water depth of 4 feet
Sedimentation Basin Area = 127 square feet for water depth of 6 feet
Minimum sedimentation basin area = 48 square feet for maximum water depth of 8 feet

TCEQ-R13 SEP 08 2006 SAN ANTONIO
TCEQ-R13 SEP 07 2006 SAN ANTONIO

DETAILS SHOWN ON THIS SHEET ARE SCHEMATIC ONLY AND REPRESENT THE CALCULATED SEDIMENTATION POND AND SAND FILTRATION BASIN REQUIRED FOR THIS WATER QUALITY POLLUTION ABATEMENT PLAN SUBMITTAL. SPECIFIC CONCRETE THICKNESS AND STEEL REINFORCING FOR WALLS AND FLOORS WILL BE PROVIDED IN THE FINAL SET OF CONSTRUCTION DRAWINGS FOR THIS PROJECT IN STRUCTURAL DRAWINGS.

REVISIONS — DATE — DESCRIPTION

STATE OF TEXAS — DARYL D. PAWELEK — 84770 — LICENSED PROFESSIONAL ENGINEER

PERMANENT POLLUTION ABATEMENT PLAN
EDEN HOME EXPANSION
NEW BRAUNFELS, TEXAS

THE Schultz Group, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
2461 LOOP 337 NEW BRAUNFELS, TEXAS 78130
PHONE (830) 606-3913 FAX (830) 625-2204

DRAWN BY: RTS
CHECKED BY: DDP
DATE: AUGUST 2006
JOB NO.: 060806

P–1

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: Eden Home Expansion

REGULATED ENTITY INFORMATION

1. The type of project is:
   - __ Residential: # of Lots: _____
   - __ Residential: # of Living Unit Equivalents: _____
   - __ Commercial _____
   - __ Industrial _____
   - X Other: Expansion of Senior Adult Living Facility

2. Total site acreage (size of property): 20.62

3. Projected population: Increase by 115

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	228,968	÷ 43,560 =	5.26
Parking & Driveways	214,982	÷ 43,560 =	4.93
Other paved surfaces/sidewalks	42,640	÷ 43,560 =	0.98
Total Impervious Cover	486,590	÷ 43,560 =	11.17
Total Impervious Cover ÷ Total Acreage x 100 =			54.17 %

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

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

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

7. Type of project:
   - N/A TXDOT road project.
   - N/A County road or roads built to county specifications.
   - N/A City thoroughfare or roads to be dedicated to a municipality.
   - N/A Street or road providing access to private driveways.

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

N/A Concrete
N/A Asphaltic concrete pavement
N/A Other:

9. Length of Right of Way (R.O.W.): ___ feet.
Width of R.O.W.: ___ feet.
L x W = ____Ft^2 ÷ 43,560 Ft^2/Acre = ___ acres.

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

11. N/A A rest stop will be included in this project.
N/A 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. The estimates of stormwater runoff quality and quantity should be based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

100	% Domestic	34,500	gallons/day
0	% Industrial	0	gallons/day
0	% Commingled	0	gallons/day
	TOTAL	34,500	gallons/day

15. Wastewater will be disposed of by:
N/A **On-Site** Sewage Facility (OSSF/Septic Tank):
ATTACHMENT C - Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater. The appropriate licensing authority's (authorized agent) written approval is provided at the end of this form. It states that the land is suitable for the use of an on-site sewage facility or identifies areas that are not suitable.
N/A Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

X Sewage Collection System (Sewer Lines):

X Private service laterals from the wastewater generating facilities will be connected to an existing SCS. **(Note: Sewer service for the cottage replacements on the east side of the site will be tied into the existing sewer services. Sewer service for the skilled nursing facility expansion will be provided by two laterals(one for each wing) that will tie into the NBU main sewer line on Lakeview Blvd.)**

N/A 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 Gruene Road (name) Treatment Plant. The treatment facility is :

X existing.

__ proposed.

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

SITE PLAN REQUIREMENTS

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

17. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = 50 '.

18. 100-year floodplain boundaries

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

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

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
Flood Insurance Rate Map – City of New Braunfels, Texas. Community Panel 485493-006E, January 5, 2006.

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.

X The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown. **(Note: Finished topographic contours will match existing topographic information along existing drives, parking areas and other feature that will remain.)**

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.

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

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

___ All **sensitive and possibly sensitive** geologic or manmade features identified in the Geologic Assessment are shown and labeled.

X 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.

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

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

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

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

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

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

ADMINISTRATIVE INFORMATION

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

29. X 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:

Stephen E. Schultz
Print Name of Customer/Agent

Signature of Customer/Agent

9/7/06
Date

WATER POLLUTION ABATEMENT PLAN APPLICATION

ATTACHMENT A - Factors Affecting Water Quality.

The various facets of construction involved with this project will consist of site clearing and demolition, site grading, utility service lines, building structure, parking and driveways, etc. for this 20.62 acre project site. Disturbance of the existing site during construction are factors that could affect surface water and groundwater quality. To assist in the preservation of the quality of surface water exiting the site during construction, which in turns assists in the preservation the groundwater quality, temporary pollution controls will be installed. Some possible sources of contamination during construction would be from machinery or equipment in the form of oil or fuel. Containment and cleanup is addressed in the Temporary Pollution Control section of this submittal. The Best Management Practice used as the permanent pollution control device for this site consists of a partial sedimentation/filtration basin. This basin will be the permanent means of assisting the preservation of the quality of surface water after construction of the site is complete.

ATTACHMENT B - Volume and Character of Stormwater.

The stormwater runoff generated from this site will consist of rooftops, driveways, parking lots, sidewalks and landscape areas. The nature of the runoff may contain small amounts of oil, suspended solids, fertilizers, and pesticides. A partial sedimentation/filtration basin will be located in the southeast corner of the property and will be used as the Best Management Practice for the project. Stormwater runoff will be routed to the partial sedimentation/filtration basin that is sized for the increase in impervious cover for the site from its Existing Condition to its Proposed Condition for the planned expansion. The stormwater volume and quality calculations can be found in Appendix A - Water Quality Calculations. The current offsite surface drainage that enters the site along the west property line will not be altered because it does not interfere with the proposed expansion.

The average Pre-Construction Runoff Coefficient for the entire site is Cpre = 0.72 and the average Post-Construction Runoff Coefficient is Cpost = 0.75.

SITE PLAN

(refer to the previous Modification of a Previously Approved Plan section of the report)

APPENDIX A
WATER QUALITY CALCULATIONS

Partial Sedimentation/Filtration Basin Summary									
Basin	Drainage Area(ac.)	Pre-Dev. Imper. Cover(ac.)	Post-Dev. Imper. Cover(ac.)	Required Cap. Vol.(cf)	Design Cap. Vol.(cf)	Required Sand Filter Sur. Area(sf)	Design Sand Filter Sur. Area(sf)	Min. Target TSS Removal (lbs/yr)[5]	Design TSS Removal (lbs/yr)
(A1-A3) & (B1-B10)	7.29	3.67	4.80	1,906 [4]	2,127 [6]	191 [4]	192	1,014	1,068 [1]
A4[2]	0.35	0.02	0.02	-	-	-	-	0	0
C[3]	1.90	0.48	0.49	-	-	-	-	9	0
D[2]	5.87	3.32	3.32	-	-	-	-	0	0
E[3]	2.62	1.43	1.48	-	-	-	-	45	0
F[2]	2.59	1.06	1.06	-	-	-	-	0	0
Totals	**20.62**	**9.98**	**11.17**	**1,906**	**2,127**	**191**	**192**	**1,068**	**1,068**

1 Includes overtreatment from Basins C and E, not otherwise treated
2 No treatment required, no increase in impervious cover
3 Required TSS removal for this basin added to Basin (A1-A3) & (B1-B10) for overtreatment
4 Includes volume necessary for overtreatment
5 For basins individually
6 Represents 1,463 cf(sedimentation) and 835 cf(sand filter)

DESIGN TSS REMOVAL(entire project)

Texas Commission on Environmental Quality

TSS Removal Calculations 05-09-2006 from TCEQ website

Project Name: Eden Home Expansion
Date Prepared: 8/25/2006
SGI Project #: 060806
Watershed: B1-B10 and A1-A3
(BMP catchment area)

1. Required Load Reduction:

Calculations from RG-348 Pages 3-27 to 3-30

Drainage Basin / Outfall Area No. = B1-B10 and A1-A3 (BMP catchment area)

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

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

Site Data:

County =	comal	
Total drainage basin =	7.29	acres
Predevelopment impervious area within drainage basin =	3.67	acres
Post-development impervious area within drainage basin =	4.80	acres
Post-development impervious fraction within drainage basin =	0.66	
P =	33	inches

L_M = **1068** lbs.

Overtreatment Summary
Add Uncaptured from C and E = 9 + 45 = 54 lbs
Therefore, L_M = 1014 + 54 = **1068 lbs**

2. Select BMP:

Proposed BMP = sf abbreviation
Removal efficiency = 89 percent

BMP Code:	BMP Type:
AC	Aqualogic Cartridge Filter
BR	Bioretention
CW	Constructed Wetland
ED	Extended Detention
GS	Grassy Swale
RI	Retention / Irrigation
SF	Sand Filter
WB	Wet Basin
WV	Wet Vault

3. Calculate TSS Load Removed (L_R) by BMP.

RG 348 Page Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

A_C = Drainage basin area in the BMP Catchment area
A_I = Proposed Impervious area in the BMP catchment
A_P = Pervious area remaining in the BMP catchment
L_R = TSS Load removed by the proposed BMP

A_C =	7.29	acres
A_I =	4.80	acres
A_P =	2.49	acres

L_R = **4917** lbs

4. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

F = 0.22 OK

If F>1, then a more efficient BMP or a larger treatment area is required.

5. Calculate Capture Volume for this drainage basin.

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

Rainfall Depth =	0.13	inches
Post Development Runoff Coefficient =	0.47	IC = Drainage Area to BMP / drainage Area to BMP
On-site Water Quality Volume =	1588	cubic feet

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.02	
Off-site Water Quality Volume =	0	cubic feet

Storage for Sediment = 318

Total Capture Volume = 1906 cubic feet

6. Filter area for Sand Filters

Designed as Required in RG-348 Pages 3-58 to 3-63

Not Used **9A. Full Sedimentation and Filtration System**

Water Quality Volume for Sedimentation Basin =	1906	cubic feet	
Required Sand Filter Area =	106	**square feet**	**Af = WQV/18 for Full Sedimentation**
Sedimentation Basin Area(various depth scenarios)			
Maximum Sedimentation Basin Area =	953	square feet	**for minimum water depth of 2 feet**
Sedimentation Basin Area =	476	square feet	**for water depth of 4 feet**
Sedimentation Basin Area =	318	square feet	**for water depth of 6 feet**
Minimum sedimentation basin area =	238	square feet	**for maximum water depth of 8 feet**

Used **9B. Partial Sedimentation and Filtration System**

Water Quality Volume for combined basins =	1906	cubic feet	
Required Sand Filter Area =	191	**square feet**	**Af = WQV/10 for Partial Sedimentation**
Sedimentation Basin Area(various depth scenarios)			
Maximum Sedimentation Basin Area =	762	square feet	**for minimum water depth of 2 feet**
Sedimentation Basin Area =	286	square feet	**for water depth of 4 feet**
Sedimentation Basin Area =	127	square feet	**for water depth of 6 feet**
Minimum sedimentation basin area =	48	square feet	**for maximum water depth of 8 feet**

TARGET TSS REMOVAL(per basin)

Texas Commission on Environmental Quality

TSS Removal Calculations 05-09-2006 from TCEQ website

Project Name: Eden Home Expansion
Date Prepared: 8/25/2006
SGI Project #: 060806
Watershed: B1-B10 and A1-A3 (BMP catchment area)

1. Required Load Reduction:

Calculations from RG-348 — Pages 3-27 to 3-30

Drainage Basin / Outfall Area No. = B1-B10 and A1-A3 (BMP catchment area)

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

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

Site Data:

County =	comal	
Total drainage basin =	7.29	acres
Predevelopment impervious area within drainage basin =	3.67	acres
Post-development impervious area within drainage basin =	4.80	acres
Post-development impervious fraction within drainage basin =	0.66	
P =	33	inches

L_M = 1014 lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 05-09-2006 from TCEQ website

Project Name: Eden Home Expansion
Date Prepared: 8/25/2006
SGI Project #: 060806
Watershed: A4(uncaptured)

1. Required Load Reduction: Calculations from RG-348 Pages 3-27 to 3-30

Drainage Basin / Outfall Area No. = A4

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

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

Site Data:

County =	comal	
Total drainage basin =	0.35	acres
Predevelopment impervious area within drainage basin =	0.02	acres
Post-development impervious area within drainage basin =	0.02	acres
Post-development impervious fraction within drainage basin =	0.06	
P =	33	inches

L_M = 0 lbs. **(NO TREATMENT REQUIRED)**

Texas Commission on Environmental Quality

TSS Removal Calculations 05-09-2006 from TCEQ website

Project Name: Eden Home Expansion
Date Prepared: 8/25/2006
SGI Project #: 060806
Watershed: C(uncaptured)

1. Required Load Reduction: Calculations from RG-348 Pages 3-27 to 3-30

Drainage Basin / Outfall Area No. = C

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

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

Site Data:

County =	comal	
Total drainage basin =	1.90	acres
Predevelopment impervious area within drainage basin =	0.48	acres
Post-development impervious area within drainage basin =	0.49	acres
Post-development impervious fraction within drainage basin =	0.26	
P =	33	inches

L_M = 9 lbs.

(WILL ADD AS OVERTREATMENT TO A1-A3 AND B1-B10 BMP DESIGN)

Texas Commission on Environmental Quality

TSS Removal Calculations 05-09-2006 from TCEQ website

Project Name: Eden Home Expansion
Date Prepared: 8/25/2006
SGI Project #: 060806
Watershed: D(uncaptured)

1. Required Load Reduction: Calculations from RG-348 Pages 3-27 to 3-30

Drainage Basin / Outfall Area No. = D

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

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

Site Data:

County =	comal	
Total drainage basin =	5.87	acres
Predevelopment impervious area within drainage basin =	3.32	acres
Post-development impervious area within drainage basin =	3.32	acres
Post-development impervious fraction within drainage basin =	0.57	
P =	33	inches

L_M = 0 lbs. **(NO TREATMENT REQUIRED)**

Texas Commission on Environmental Quality

TSS Removal Calculations 05-09-2006 from TCEQ website

Project Name: Eden Home Expansion
Date Prepared: 8/25/2006
SGI Project #: 060806
Watershed: E(uncaptured)

1. Required Load Reduction: Calculations from RG-348 Pages 3-27 to 3-30

Drainage Basin / Outfall Area No. = E

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

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

Site Data:

County =	comal	
Total drainage basin =	2.62	acres
Predevelopment impervious area within drainage basin =	1.43	acres
Post-development impervious area within drainage basin =	1.48	acres
Post-development impervious fraction within drainage basin =	0.56	
P =	33	inches

L_M = 45 lbs.

(WILL ADD AS OVERTREATMENT TO A1-A3 AND B1-B10 BMP DESIGN)

Texas Commission on Environmental Quality

TSS Removal Calculations 05-09-2006 from TCEQ website

Project Name: Eden Home Expansion
Date Prepared: 8/25/2006
SGI Project #: 060806
Watershed: F(uncaptured)

1. Required Load Reduction: Calculations from RG-348 Pages 3-27 to 3-30

Drainage Basin / Outfall Area No. = F

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

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

Site Data:

County =	comal	
Total drainage basin =	2.59	acres
Predevelopment impervious area within drainage basin =	1.06	acres
Post-development impervious area within drainage basin =	1.06	acres
Post-development impervious fraction within drainage basin =	0.41	
P =	33	inches

L_M = 0 lbs. **(NO TREATMENT REQUIRED)**

BASIN SIZING & OVERFLOW WEIR CALCULATIONS

PARTIAL SEDIMENTATION/FILTRATION BASIN SIZING

VOLUME IN SEDIMENTATION BASIN(Vsed)

MAIN BASIN: L = 23'
W = 12'
Depth = Varies: 659.20 - 655.30 = 3.9'
659.20 - 655.18 = 4.02'
Avg. Depth = 3.96'

ACCESS RAMP: L = 16' (from WQV elev to pond bottom)
W = 8'
Depth = Varies: 659.20 - 659.20 = 0'
659.20 - 655.20 = 4.00'
Avg. Depth = 2.00'

Vsed = Vmain basin + Vaccess ramp

Vsed = (23' x 12 'x 3.96') + (16' x 8' x 2.00')

Vsed = 1,349 cf

VOLUME IN SAND FILTER BASIN(Vsf)

SAND FILTER: L = 16' (from gabion to wall)
W = 12'
Depth = 659.20 - 655.15 = 4.05'

Asf = 192 sf
>191 sf

Vsf = (16' x 12 'x 4.05')
Vsf = 778 cf

Therefore, Water Quality Volume(WQV) Provided = Vsed + Vsf

WQV = 2,127 cf > 1,906 O.K.

Overflow Weir (Q25)

Project Description

Solve For	Headwater Elevation

Input Data

Discharge	45.61	ft³/s
Crest Elevation	659.20	ft
Tailwater Elevation	658.90	ft
Weir Coefficient	3.33	US
Crest Length	16.80	ft
Number Of Contractions	2	

Results

Headwater Elevation	660.08	ft	≈ 660.50 Top of Wall
Headwater Height Above Crest	0.88	ft	
Tailwater Height Above Crest	-0.30	ft	
Flow Area	14.76	ft²	
Velocity	3.09	ft/s	
Wetted Perimeter	18.56	ft	
Top Width	16.80	ft	

Overflow Weir (Q100)

Project Description

Solve For	Headwater Elevation

Input Data

Discharge	69.40	ft³/s
Crest Elevation	659.20	ft
Tailwater Elevation	658.90	ft
Weir Coefficient	3.33	US
Crest Length	16.80	ft
Number Of Contractions	2	

Results

Headwater Elevation	660.37	ft	< 660.50 Top of Wall
Headwater Height Above Crest	1.17	ft	
Tailwater Height Above Crest	-0.30	ft	
Flow Area	19.58	ft²	
Velocity	3.54	ft/s	
Wetted Perimeter	19.13	ft	
Top Width	16.80	ft	

Project Name: Eden Home Expansion **Date:** 8/31/2006
Project Number: 060806

SIZING GRATE INLET @ OVERFLOW WEIR

Effective area for different size grate inlets as follows:
1.5'x1.5' = 1.22 s.f ; 2'x2' = 2.28 s.f. ; 3'x3' = 8.35 s.f. ; 4'x4' = 14.22 s.f.

Weir Equation

$Q = C_w * L * h^{1.5}$

$C_w =$ 3.0
$h =$ 3.40 ft @ Overflow Weir

$L = (Q/(C_w * h^{1.5}))$

Orifice Equation

$Q = 0.50 * C_d * A * \sqrt{2gd}$ (50% clogging)

$C =$ 0.67
$g =$ 32.20 ft/s^2
$d =$ 3.40 ft @ Overflow Weir

$A = Q/(0.50 * C_d * (\sqrt{2gd}))$

Location	Q100(cfs)	Find L (Weir)	Find A (Orifice)	
@ Overflow Weir	69.4	3.69	14.00	Use 4'x4'

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: Eden Home Expansion .

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

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

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

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

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

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

SEQUENCE OF CONSTRUCTION

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

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

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

10. X **ATTACHMENT G - Drainage Area Map**. A drainage area map is provided at the end of

this form to support the following requirements.

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

NA 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.

NA 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.

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

X *NOTE: There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time, however due to the developed nature of the existing site and topography temporary sediment basins are not being proposed. Erosion and sediment controls, such as silt fence and rock berms will be used within each disturbed drainage area.*

11. N/A **ATTACHMENT H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure has been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are provided as at the end of this form.

12. X **ATTACHMENT I - Inspection and Maintenance for BMPs.** A plan for the inspection of temporary BMPs and measures and for their timely maintenance, 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. X 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. X If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

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

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

SOIL STABILIZATION PRACTICES

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

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

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

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

ADMINISTRATIVE INFORMATION

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

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

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

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

Stephen E. Schultz
Print Name of Customer/Agent

Signature of Customer/Agent

9/7/06
Date

TEMPORARY STORMWATER SECTION

ATTACHMENT A -Spill Response Actions.

Any hydrocarbons or hazardous substances that may spill during construction shall have a berm constructed around the spill area for containment and the contaminated soil immediately removed and disposed of properly. The local TCEQ office shall be contacted immediately after a spill and all removal procedures shall be in strict accordance with TCEQ rules and regulations.

ATTACHMENT B -Potential Sources of Contamination.

Vehicle Maintenance (i.e. fuel spill, oil spill).

ATTACHMENT C - Sequence of Major Activities.

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

Sequence No.	Description of Soil Disturbing Activity	Estimated Area to be Disturbed by each Activity (Acres) (Total)
1	Demolition, Clearing and Grubbing (Buildings, Parking, Sidewalks and Landscaping Areas)	5.85
2	Excavation and Grading (Buildings, Parking, Sidewalks and Landscaping Areas)	5.85
3	Underground Storm Drain and Permanent BMP Installation	0.29
4	Building, Parking, Sidewalks and Landscaping Construction/Installation	5.85

7. ATTACHMENT D - Temporary Best Management Practices and Measures.

The Temporary Best Management Practices (TBMP) that will be used for this project are silt fences, rock berms, and a temporary construction entrance/exit. The temporary controls will be installed prior to construction and shall be maintained during construction by the contractor. The controls shall be removed by the contractor when vegetation is established and the construction area is stabilized.

The silt fences, rock berms, and temporary construction entrance/exit shown on the Site Plan shall be in place prior to any construction activities for each respective phase. These

temporary measures will remain in place throughout clearing and grubbing, excavation and grading and underground utility service installation for each phase. The temporary construction entrance/exits shall be adjusted/relocated prior to the construction of each phase of development and will be removed just prior to final pavement placement for each phase.

a. Stormwater that originates upgradient of the project site will be allowed to enter the property limits. However, the runoff from offsite does not drain towards the collection points that will route stormwater to the permanent BMP. Offsite stormwater does drain through an area where improvements are planned in the last phase of the project. Where this is the case in the proposed parking areas to the west of the chapel, the existing curb in the drive will not be removed and construction will be permitted behind the curb for the proposed parking additions. Upon completion of the parking areas, the existing curb will be removed. The stormwater will continue downgradient and will be treated by silt fence constructed just downstream of the existing parking area north of the chapel. It will be the contractor's responsibility to remove the sediment that builds up after significant rainfall events.

b. Stormwater that originates on-site will be filtered by silt fences and/or rock berms on the downgradient side of the property. The silt fences and rock berms will slow the velocity of the water down and the sediment will settle out. It will be the contractors responsibility to remove the sediment that builds up after significant rainfall events. There will be no contaminated/polluted runoff coming off this site other than sediment which will be handled with silt fence, rock berms and the temporary construction entrance/exit.

c. Stormwater runoff that originates on-site and upgradient of the site will be filtered by silt fences and rock berms on the downgradient side of the property. The silt fences and rock berms will slow the velocity of the water down and the sediment will settle out. It will be the contractors responsibility to remove the sediment that builds up after significant rainfall events. The silt fences and rock berms will capture the sediment that would otherwise be conveyed to streams, sensitive features, etc.

d. There were no sensitive geologic or manmade features identified in the Geological Assessment. However, if during construction such features are identified, the Geologist will be contacted and a plan will be implemented to protect such feature(s).

9. **ATTACHMENT F - Structural Practices**.

The structural practices that will be used for temporary control of erosion/sediment on this site are silt fences, rock berms, gravel bag inlet filters, and temporary construction entrances/exits.

10. ATTACHMENT G - Drainage Area Map.

The drainage area map has been enclosed and is located at the end of this section. There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time.

12. ATTACHMENT I - Inspection and Maintenance for BMP's.

Silt Fence Inspection and Maintenance Guidelines:

1) Inspect all fencing weekly, and after any rainfall.
2) Remove sediment when buildup reaches 6 inches, or install a second line of fencing parallel to the old fence.
3) Replace any torn fabric or install a second line of fencing parallel to the torn section.
4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, relocate it to a spot where it will provide equal protection, but will not obstruct vehicles.

Rock Berm Inspection and Maintenance Guidelines:

1) Inspection shall be made weekly and after each rainfall by the contractor.
2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved site and in such a manner as to not contribute to additional siltation.
3) Repair any loose wire sheathing.
4) The berm shall be reshaped as needed during inspection.
5) The berm shall 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 shall be left in place until all upstream areas are stabilized and accumulated silt removed.

Temporary Construction Entrance/Exit:

1) The entrance shall be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way.
2) All sediment spilled, dropped, washed or tracked on to public rights-of-way shall be removed immediately by the contractor.
3) When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public right-of-way.
4) When washing is required, it shall be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
5) All sediment shall be prevented from entering any storm drain, ditch or water course by using approved methods.

Gravel Bag Inlet Filter Inspection and Maintenance Guidelines:

1) Inspection shall be made weekly and after each rainfall by the contractor. Repair or replacement shall be made promptly as needed by the contractor or deemed necessary by the engineer.
2) Remove sediment when buildup reaches a depth of 3 inches Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
3) Check placement of device to prevent gaps between device and inlet.
4) Structure should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT

INSPECTION FORM

GENERAL NOTES

1. STONE SIZE - 4 TO 8 INCHES CRUSHED ROCK.

2. LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.

3. THICKNESS - NOT LESS THAN 8 INCHES.

4. WIDTH - NOT LESS THAN 12 FEET.

5. WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO THAT NO SEDIMENT LEAVES THE SITE. ALL UNFILTERED SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE.

6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.

7. DRAINAGE - ENTRANCE MUST BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

INSPECTION REPORT

DATE: _____

SIGNATURE: _____

DOES MUCH SEDIMENT GET TRACKED ONTO ROAD?	IS THE GRAVEL CLEAN OR IS IT FILLED WITH SEDIMENT?	DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE TO LEAVE THE SITE?

MAINTENANCE REQUIRED FOR STABILIZED CONSTRUCTION ENTRANCE:

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

SILT FENCE

INSPECTION FORM

GENERAL NOTES

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT), WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.

3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED AND COMPACTED.

4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST AND TO WOVEN WIRE, WHICH IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT DOUBLE OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

5. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

INSPEATION REPORT

DATE: _____

SIGNATURE: _____

IS THE BOTTOM OF THE FABRIC STILL BURIED ?	IS THE FABRIC TORN OR SAGGING ?	ARE THE POSTS TIPPED OVER ?	HOW DEEP IS THE SEDIMENT?

MAINTENANCE REQUIRED FOR SILT FENCE:

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

ROCK BERMS

INSPECTION FORM

GENERAL NOTES:

1. WOVEN WIRE SHEATHING SHALL BE PERPENDICULAR TO THE FLOW LINE AND THE SHEATHING SHALL BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.

2. BERM SHALL HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.

3. PLACEMENT OF THE ROCK ALONG THE SHEATHING SHALL NOT BE LESS THAN 18 INCHES.

4. THE WIRE SHEATHING SHALL BE WRAPPED AROUND THE ROCK AND SECURED WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.

   BERM SHALL BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.

   THE ENDS OF THE BERM SHALL BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHALL BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

INSPECTION REPORT

DATE: _____

SIGNATURE: _____

IS THE BERM A MINIMUM OF 18 INCHES HIGH ?	IS LEVEL OF SILT GREATER THAN 6 INCHES DEEP?

MAINTENANCE REQUIRED FOR ROCK BERMS:

_____

_____

_____

_____

TO BE PERFORMED BY:_____ ON OR BEFORE:_____

GRAVEL BAG INLET FILTER

INSPECTION FORM

GENERAL NOTES:

1. SAND BAGS SHALL BE FILLED WITH PEA GRAVEL.
2. GRAVEL FILTER BAGS SHALL BE PLACED COMPLETELY AROUND GRATES.
3. THERE SHOULD BE NO GAPS IN BETWEEN GRAVEL FILTER BAGS.
4. WHEN SILT REACHES A DEPTH EQUAL TO 3 INCHES, THE SILT SHALL BE REMOVED AND DISPOSED OF.

INSPECTION REPORT

DATE: _____

SIGNATURE: _____

ARE GAPS/HOLES EVIDENT BETWEEN BAGS ?	IS LEVEL OF SILT GREATER THAN 3 INCHES DEEP?

MAINTENANCE REQUIRED FOR INLET GRAVEL FILTER:

_____

_____

_____

_____

TO BE PERFORMED BY:_____ ON OR BEFORE:_____

17. ATTACHMENT J - Schedule of Interim and Permanent Soil Stabilization Practices.

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

Permanent Stabilization - Disturbed portions of the site where construction activities permanently cease shall be stabilized with permanent seed no later than 14 days after the last construction activity. The permanent seed mix shall consist of Green Sprangletop, Buffalograss, and Bermuda Grass with straw or cedar mulch applied on final layer in accordance with TxDOT Item 164 - Seeding for Erosion Control. Depending on the growing season at the time of construction, mixture and application rates may be modified by the engineer. It shall be the contractor's responsibility to provide watering bi-weekly for the seeded areas for a period of 30 calendar days.

ATTACHMENT G

MASTER DRAINAGE AREA MAP

DRAINAGE AREA DESIGNATION	AREA (AC.)
A1	0.44
A2	1.29
A3	0.98
A4	0.35
B1	0.85
B2	0.90
B3	0.37
B4	0.43
B5	0.41
B6	0.19
B7	0.31
B8	0.09
B9	0.34
B10	0.69
C	1.90
C offsite 1	0.18
C offsite 2	0.14
C offsite 3	3.64
D	5.87
D offsite	0.58
E	2.62
F	2.59
F offsite	1.93

HYDROLOGIC CALCULATIONS
RATIONAL METHOD: Q=CIA

DRAINAGE NODE POINT	CONTRIBUTING DRAINAGE AREAS	TOTAL AREA (ACRES)	C_{10}	C_{100}	TIME OF CONCENTRATION (min.)	I_{10} (in/hr.)	I_{100} (in/hr.)	Q_{10} (cfs)	Q_{100} (cfs)	C_{25}	I_{25} (in/hr.)	Q_{25} (cfs)
1	A1–A3	2.71	0.65	0.77	10	7.57	11.90	13.33	24.83			
2	B2–B10	3.73	0.68	0.81	10	7.57	11.90	19.19	35.95			
3	A1–A3+B1–B10	7.29	0.67	0.80	10	7.57	11.90	36.95	69.40	0.69	9.07	45.61
4_{pre}	A1–A4	3.06	0.57	0.69	10	7.57	11.90	13.20	25.13			
4_{post}	A4	0.35	0.65	0.77	10	7.57	11.90	1.72	3.21			
5_{pre}	B1–B10+C+$C_{offsite}$1–3	10.44	0.53	0.65	12	7.00	10.98	38.72	74.51			
5_{post}	A1–A3+B1–B10+C+$C_{offsite}$1–3	13.15	0.58	0.70	12	7.00	10.98	53.37	101.07			
6_{pre}	D+$D_{offsite}$	6.45	0.61	0.74	10	7.57	11.90	29.77	56.80			
6_{post}	D+$D_{offsite}$	6.45	0.61	0.74	10	7.57	11.90	29.77	56.80			
7_{pre}	E	2.62	0.63	0.75	10	7.57	11.90	12.49	23.38			
7_{post}	E	2.62	0.63	0.76	10	7.57	11.90	12.49	23.70			
8_{pre}	F+$F_{offsite}$	4.52	0.51	0.63	10	7.57	11.90	17.44	33.89			
8_{post}	F+$F_{offsite}$	4.42	0.51	0.63	10	7.57	11.90	17.44	33.89			

REVISIONS

DATE	DESCRIPTION

STATE OF TEXAS
DARYL D. PAWELEK
84770
LICENSED
PROFESSIONAL ENGINEER

MASTER DRAINAGE AREA MAP FOR
EDEN HOME EXPANSION
NEW BRAUNFELS, TEXAS

THE Schultz Group, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
2461 LOOP 337 NEW BRAUNFELS, TEXAS 78130
PHONE (830) 606-3913 FAX (830) 625-2204

DRAWN BY: RTS
CHECKED BY: DDP
DATE: AUGUST 2006
JOB NO.: 060806

D–1

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

REGULATED ENTITY NAME: Eden Home Expansion

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

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

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

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

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

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

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

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

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

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

5. X 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.

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

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

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

N/A 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.

N/A 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.

X If permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form .

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

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

N/A If permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, an explanation is provided as **ATTACHMENT C** at the end of this form.

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

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

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

N/A **ATTACHMENT E - Request to Seal Features.** A request to seal a naturally-occurring "sensitive" or "possibly sensitive" feature, that includes a justification as to

why no reasonable and practicable alternative exists, is found at the end of this form. A request and justification has been provided for each feature.

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

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

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

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

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

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

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

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

15. X A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple

single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

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

Stephen E. Schultz
Print Name of Customer/Agent

Stephen E Schultz
Signature of Customer/Agent

9/7/06
Date

5. **ATTACHMENT A -20% or Less Impervious Cover Waiver.**

Not Applicable. This is a commercial site with more than 20% impervious cover.

6. **ATTACHMENT B - BMP's for Upgradient Stormwater.**

Permanent BMP's or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site because this stormwater consists primarily of runoff from surrounding properties that are adjacent to the project site and are of different ownership. Stormwater that originates upgradient of the project site will be allowed to enter the property limits. However, the runoff from offsite does not drain towards the collection points that will route stormwater to the permanent BMP. Offsite stormwater does drain through an area where improvements are planned in the last phase of the project. Where this is the case in the proposed parking areas to the west of the chapel, the existing curb in the drive will not be removed and construction will be permitted behind the curb for the proposed parking additions. Upon completion of the parking areas, the existing curb will be removed. The stormwater will continue downgradient and will be treated by silt fence constructed just downstream of the existing parking area north of the chapel.

7. **ATTACHMENT C - BMP's for On-Site Stormwater.**

The proposed BMP for this site is a partial sedimentation and sand filtration pond. With this BMP, the first flush is captured in the pond (Capture Volume) which allows the larger particles to settle out. The outflow from the sedimentation chamber to the sand filter chamber is controlled by a gabion basket. The sand filters the fines and other contaminated stormwater pollutants that are present in the runoff and a network of perforated PVC piping allows the filtered water to be released from the pond. In the event that a hazardous spill would occur, a 6 inch gate valve will be located outside of the sand filter to close off flow. .

8. **ATTACHMENT D - BMP's for Surface Streams.**

The proposed BMP for this site is a partial sedimentation and sand filtration pond. This pond system will capture and filter the first flush of stormwater runoff which appears to contain the most pollutants and prevent these pollutants from entering the surface streams, sensitive features, or the aquifer.

Based on the Geologic Assessment of the site, there are no sensitive features.

9. **ATTACHMENT E -Request to Seal Features.**

Based on the Geologic Assessment of the site, there are no sensitive features.

10. **ATTACHMENT F - Construction Plans.**

Construction Plans for the Permanent BMP are enclosed in this submittal.

11. **ATTACHMENT G - Inspection, Maintenance, Repair and Retrofit Plan.**

The Maintenance Plan and Scheduled Inspection Plan is located at the end of this section.

12. **ATTACHMENT H - Pilot-Scale Field Testing Plan.**

Not Applicable.

The BMP for this site was designed according to the TCEQ Technical Guidance Manual.

13. **ATTACHMENT I -Measures for Minimizing Surface Stream Contamination.**

The proposed BMP for this site is a partial sedimentation and sand filtration pond. With this BMP, the first flush is captured in the pond (Capture Volume) which allows the larger particles to settle out. The outflow from the sedimentation chamber to the sand filter chamber is controlled by a gabion basket. The sand filters the fines and other contaminated stormwater pollutants that are present in the runoff and a network of perforated PVC piping allows the filtered water to be released from the pond. In the event that a hazardous spill would occur, a 6 inch gate valve will be located outside of the sand filter to close off flow.

This site also consists of a storm drain system downstream of the site to route to runoff into an existing drainage culvert beneath Lakeview Blvd. and will not be discharged to the surface, therefore, minimizing erosion from the pipe outlet.

CONSTRUCTION PLANS FOR PERMANENT BMP

SUGGESTED MAINTENANCE PLAN AND SCHEDULE FOR SEDIMENTATION AND FILTRATION BASINS

PROJECT NAME: Eden Home Expansion

ADDRESS: 631 Lakeview Blvd.

CITY, STATE ZIP: New Braunfels, Texas 78130

SEDIMENTATION BASIN

Twice a Year: The level of accumulated silt in the inlet structure and basin shall be checked. If depth of silt exceeds 6 inches or when function is impaired, it shall be removed and disposed of "properly". The inlet structure and basin shall be checked for accumulation of debris and trash. The debris and trash shall be removed.

The basin shall be inspected for structural integrity and repaired if necessary. Such items to be inspected include; pipes, concrete walls, floors and baffles, inlets, gabions, etc.

Every 5 Years: Sediment shall be removed from the inlet structure and basin at intervals not to exceed 5 years, regardless of depth.

After Rainfall: The basin shall be checked after each rainfall occurrence to insure that it completely drains within 48 hours after the storm is over. If it does not drain within this time, corrective maintenance is required.

SAND FILTER

Twice a Year: The level of accumulated silt shall be checked. If depth or silt/pollutants exceeds ½", it shall be removed and disposed of "properly".

The accumulation of pollutants/oils shall be checked. If the pollutants have significantly reduced the designed capacity of the sand filter and/or the drawdown time exceeds 48 hours, the upper layer of sand in the filter shall be removed and replaced.

The basin shall be checked for accumulation of debris and litter. Debris and litter accumulated in the facility must be removed during each inspection.

The basin shall be inspected for structural integrity and repaired if necessary. Such items to be inspected include; pipes and cleanouts, gate valve, etc. Underdrain piping shall be flushed to remove sediment buildup.

After Rainfall: The basin shall be checked after each rainfall occurrence to insure that it drains within 48 hours. If it does not drain within this time, corrective maintenance is required.

Following any required maintenance, the surface of the sand filter shall be raked and leveled to restore the system to its designed condition. Maintenance of the sand filter may require that a section of gabion be temporarily moved to allow access for equipment into the sand filter area. Upon completion of maintenance the gabion shall be reset into is original position.

Vegetation in and around basin will be maintained to a height of less than 18 inches.

"Proper" disposal of accumulated silt shall be accomplished following Texas Commission on Environmental Quality guidelines and specifications.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information.

Responsible Party: Eden Home Expansion - Laurence Dahl (Executive Director/CEO)

Mailing Address: 631 Lakeview Blvd. City, State: New Braunfels, Texas Zip: 78130

Telephone: (830) 625-6291 Fax: (830) 620-7786

Signature of Responsible Party Date

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

I Laurence Dahl,
Print Name

Title - Owner/President/**Other** Executive Director/CEO of

Eden Home, Inc.

Corporation/Partnership/Entity Name

have authorized Stephen E. Schultz

Print Name of Agent/Engineer

of The Schultz Group, 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.

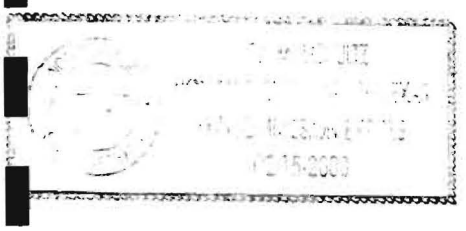
Applicant's Signature — Date: 09/07/2006

THE STATE OF TEXAS §

County of COMAL §

BEFORE ME, the undersigned authority, on this day personally appeared LAURENCE DAHL 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 7th day of SEPTEMBER, 2006.



NOTARY PUBLIC

LOIS M. SCHULTZ

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 2/15/08

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

NAME OF PROPOSED REGULATED ENTITY: Eden Home Expansion
REGULATED ENTITY LOCATION: Approx. 0.25 miles north of River Road on Lakeview Blvd.
NAME OF CUSTOMER: Eden Home, Inc.
CONTACT PERSON: Laurence Dahl PHONE: 830-625-6291
(Please Print)

Customer Reference Number (if issued): CN 600951248 (nine digits)
Regulated Entity Reference Number (if issued): RN 101762425 (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	20.62 Acres	$ 5,000.00
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature Date

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

EDEN HOME, INC.

Date	9/6/2006	Check Number	17259

Invoice ID	Invoice Description	Amount Due	Discount	Payment
[09/06/2006] 090606				$5,000.00

Vendor ID	Pay To Name	Amount Due Total	Discount Total	Payment Total
TEX026	TX COMMISSION ON ENVIRONMENTA	$5,000.00	$0.00	$5,000.00

TO REORDER, CALL YOUR LOCAL SAFEGUARD DISTRIBUTOR AT 210-308-7400 M02SF036021

ORIGINAL DOCUMENT PRINTED ON CHEMICAL REACTIVE PAPER WITH MICROPRINTED BORDER

STATE BANK
P.O. Box 310669
New Braunfels, TX 78131

88-452/1131

17259

EDEN HOME, INC.
631 LAKEVIEW BLVD.
NEW BRAUNFELS, TEXAS 78130
(830) 625-6291

Account Number		Date	9/6/2006

Amount	$5,000.00

PAY Five Thousand & No/100**********

TO THE ORDER OF
TX COMMISSION ON ENVIRONMENTAL
QUALITY
REVENUES SECTION MAIL CODE 214
P O BOX 13088
AUSTIN, TX 78711-3088

THIS DOCUMENT CONTAINS HEAT SENSITIVE INK - TOUCH OR PRESS HERE - RED IMAGE DISAPPEARS WITH HEAT

⑈017259⑈ ⑆113104521⑆ ⑈87⑈50246⑈

TCEQ Core Data Form

TCEQ Use Only

If you have questions on how to fill out this form or about our Central Registry, please contact us at 512-239-5175.

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.

SECTION I: General Information

1. Reason for Submission *Example: new wastewater permit; IHW registration; change in customer information; etc.*

Modification to a previously approved plan

2. Attachments			Describe Any Attachments: *(ex: Title V Application, Waste Transporter Application, etc.)*
YES	✔	NO	

3. Customer Reference Number-*if issued*			4. Regulated Entity Reference Number-*if issued*		
CN	600951248	*(9 digits)*	RN	101762425	*(9 digits)*

SECTION II: Customer Information

5. Customer Role *(Proposed or Actual)* -- As It Relates to the Regulated Entity Listed on This Form

Please check one of the following:		Owner	✔	Operator		Owner and Operator	
	Occupational Licensee		Volunteer Cleanup Applicant			Other	
TCEQ Use Only		Superfund		PST		Respondent	

6. General Customer Information

	New Customer		✔	Change to Customer Information
	Change in Regulated Entity Ownership			No Change*

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

7. Type of Customer:		Individual		Sole Proprietorship - D.B.A.
	Partnership	✔ Corporation (non-profit)		Federal Government
	State Government	County Government		City Government
	Other Government			Other

8. Customer Name *(If an individual, please print last name first)*	If New Name, Enter Previous Name
Laurence Dahl	Herman D. Sabrsula

9. Mailing Address	631 Lakeview Boulevard			
	City	State	ZIP	ZIP + 4
	New Braunfels	TX	78130	4098

10. Country Mailing Information *if outside USA*	11. E-Mail Address *if applicable*
	larryd@edenhome.net

12. Telephone Number	13. Extension or Code	14. Fax Number *if applicable*
(830) 625-6291	232	(830) 620-7786

15. Federal Tax ID *(9 digits)*	16. State Franchise Tax ID Number *if applicable*	17. DUNS Number *if applicable (9 digits)*
741143030		

18. Number of Employees									19. Independently Owned and Operated?			
	0-20		21-100	✔	101-250		251-500		501 and higher	✔	Yes		No

SECTION III: Regulated Entity Information

20. General Regulated Entity Information

	New Regulated Entity		Change to Regulated Entity Information	✔	No Change*

*If "No Change" and Section I is complete, skip to Section IV - Preparer Information.

Press the Tab Key to continue to page 2.

21. Regulated Entity Name *(If an individual, please print last name first)*				
22. Street Address (No PO Boxes)				
	City	State	ZIP	ZIP + 4
23. Mailing Address				
	City	State	ZIP	ZIP + 4
24. E-Mail Address:				

25. Telephone Number	26. Extension or Code	27. Fax Number *if applicable*

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

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

Questions 33 - 37 address geographic location. Please refer to the instructions for applciability.

33. County: Comal

34. Description of Physical Location

¼ of a mile north of intersection of River Road and Lakeview Blvd on Lakeview Blvd.(New Braunfels)

35. Nearest City	State	Nearest Zip
New Braunfels	Tx	78130

36. Latitude (N)			37. Longitude (W)		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	43	26	98	7	38

38. TCEQ Programs In Which This Regulated Entity Participates *Not all programs have been listed. Please add to this list as needed. If you don't know or are unsure, please mark "Unknown".* If you know a permit or registration # for this entity, please write it below the program."

	Animal Feeding Operation		Petroleum Storage Tank		Water Rights
	Title V - Air		Wastewater Permit	✔	Edwards
	Industrial & Hazardous Waste		Water Districts		
	Municipal Solid Waste		Water Utilities		Unknown
	New Source Review - Air		Licensing - Types		

SECTION IV: Preparer Information

39. Name	40. Title
Stephen E Schultz	Registered Professional Land Surveyor

41. Telephone Number	42. Extension or Code	43. Fax Number *if applicable*
(830) 606-3913		(830) 625-2204

44. E-mail Address:	steve@schultzgroupinc.com