TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 23, 2007

Mr. James Racanelli
Gruene Rapids Condominiums, LLC
224 East Faust Street
New Braunfels, Texas 78130

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Gruene Rapids Condominiums; Located on the north side of Edwards Blvd, 5000 feet east of River Road; New Braunfels ETJ, Texas
TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer
Edwards Aquifer Protection Program ID No. 2658.00; Investigation No. 561897; Regulated Entity No. RN105225932

Dear Mr. Racanelli:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the above-referenced project submitted to the San Antonio Regional Office by Klein Engineering, Inc. on behalf of Gruene Rapids Condominiums, LLC on May 16, 2007. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed multi-family residential project will have an area of approximately 2.289 acres. It will include 4 buildings, associated driveways and parking areas, a pool deck area and one water quality basin. The impervious cover will be 1.78 acres (74%). Project wastewater will be disposed of by conveyance to the existing Gruene Road Water Recycling Center owned by the New Braunfels Utilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one sedimentation filtration water quality basin designed using the TCEQ technical guidance document, "Complying with the Edwards Aquifer Rules:

Technical Guidance on Best Management Practices" (2005) will be constructed to treat stormwater runoff. The individual treatment measures will consist of a water quality basin with a designed capture volume of 10,957 cubic feet (8,851 cubic feet required) and a designed sand filter area of 1,077 square feet (1,062 square feet required). The approved measures meet the required 80 percent removal of the increased load in total suspended solids caused by the project.

GEOLOGY

According to the geologic assessment included with the application, two non-sensitive geologic features (solution cavities) were described at the project site. The San Antonio Regional Office site assessment investigation (SAI) on July 12, 2007 revealed regulated activities had commenced at the site, specifically the disturbance of soil from clearing activities and from the installation of the tram elevator system.

SPECIAL CONDITIONS

I. The holder of the approved Edwards Aquifer WPAP must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the application.

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

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

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

V. 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.

VI. Within 60 days of the date of this letter provide an updated site plan which details the location of the tram/elevator system seen at the site during the SAI. Also include any fuels, fluids, lubricants, etc. that will be needed to maintain the tram systems. Provide a spill response plan that specifically addresses the tram system if any hazardous substances will be kept on the site.

VII. If any impervious cover is proposed for the triangular part of the site by the Guadalupe River (i.e. at the bottom of the cliff) a modification to an approved WPAP shall be submitted and approved prior to constructing the impervious cover.

VIII. Regulated activities identified (through site assessment investigation on July 12, 2007) at the project site may constitute construction without the prior approval of the water pollution abatement plan as required by TCEQ rules (30 TAC §213.4(a)). Therefore, the applicant is hereby advised that the after-the-fact approval of the development, as provided by this letter, shall not absolve the applicant of any prior violations of TCEQ rules related to this project, and shall not necessarily preclude the TCEQ from pursuing appropriate enforcement actions and administrative penalties associated with such violations, as provided in 30 TAC §213.10 of the TCEQ rules.

IX. All temporary BMPs shall conform to criteria set forth in the TCEQ technical guidance document, "Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices" (2005)

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 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 program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.

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 non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole

must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

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

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

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

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 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

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.

After Completion of Construction:

14. 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. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

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 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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 Charly Fritz of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4065.

Sincerely,

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/CEF/eg

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

cc: Mr. Brian Cope, P.E., Klein Engineering, Inc.
Mr. Robert Potts, Edwards Aquifer Authority
Mr. Tom Hornseth, Comal County
Mr. Bruce Boyer, City of New Braunfels
TCEQ Central Records, Building F, MC 212

May 16 2007

2007

GRUENE RAPIDS CONDOMINIUMS

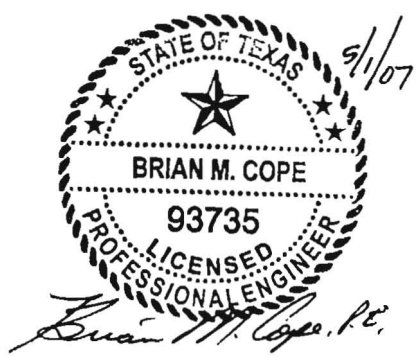
1265 EDWARDS BLVD
NEW BRAUNFELS, TEXAS

RECEIVED
MAY 22 2007
COUNTY ENGINEER

WATER POLLUTION ABATEMENT PLAN

REQUEST FOR APPROVAL
30 TAC 213
EDWARDS AQUIFER PROTECTION PROGRAM

TCEQ SAN ANTONIO OFFICE



May 2007

Prepared by:

KLEIN ENGINEERING, INC.
8611 Botts Ln.
San Antonio, Texas 78217

Water Pollution Abatement Plan Checklist

___ General Information Form (*TCEQ-0587)*
- ATTACHMENT A - Road Map
- ATTACHMENT B - USGS / Edwards Recharge Zone Map
- ATTACHMENT C - Project Description

___ Geologic Assessment Form (*TCEQ-0585)*
- ATTACHMENT A - Geologic Assessment Table (*TCEQ-0585-Table)*
- Comments to the Geologic Assessment Table
- ATTACHMENT B - Soil Profile and Narrative of Soil Units
- ATTACHMENT C - Stratigraphic Column
- ATTACHMENT D - Narrative of Site Specific Geology
- Site Geologic Map(s)
- Table or list for the position of features' latitude/longitude (if mapped using GPS)

___ Water Pollution Abatement Plan Application Form (*TCEQ-0584)*
- ATTACHMENT A - Factors Affecting Water Quality
- ATTACHMENT B - Volume and Character of Stormwater
- ATTACHMENT C - Suitability Letter from Authorized Agent (if OSSF is proposed)
- ATTACHMENT D - Exception to the Required Geologic Assessment (if requesting an exception)
- Site Plan

___ Temporary Stormwater Section (*TCEQ-0602)*
- ATTACHMENT A - Spill Response Actions
- ATTACHMENT B - Potential Sources of Contamination
- ATTACHMENT C - Sequence of Major Activities
- ATTACHMENT D - Temporary Best Management Practices and Measures
- ATTACHMENT E - Request to Temporarily Seal a Feature, if sealing a feature
- ATTACHMENT F - Structural Practices
- ATTACHMENT G - Drainage Area Map
- ATTACHMENT H - Temporary Sediment Pond(s) Plans and Calculations
- ATTACHMENT I - Inspection and Maintenance for BMPs
- ATTACHMENT J - Schedule of Interim and Permanent Soil Stabilization Practices

___ Permanent Stormwater Section (*TCEQ-0600)*
- ATTACHMENT A - 20% or Less Impervious Cover Waiver, if project is multi-family residential, a school, or a small business and 20% or less impervious cover is proposed for the site
- ATTACHMENT B - BMPs for Upgradient Stormwater
- ATTACHMENT C - BMPs for On-site Stormwater
- ATTACHMENT D - BMPs for Surface Streams
- ATTACHMENT E - Request to Seal Features (if sealing a feature)
- ATTACHMENT F - Construction Plans
- ATTACHMENT G - Inspection, Maintenance, Repair and Retrofit Plan
- ATTACHMENT H - Pilot-Scale Field Testing Plan, if BMPs not based on *Complying with the Edwards Aquifer Rules: Technical Guidance for BMPs*
- ATTACHMENT I -Measures for Minimizing Surface Stream Contamination

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

___ Application Fee Form (*TCEQ-0574*)

___ Check Payable to the "Texas Commission on Environmental Quality"

___ Core Data Form (*TCEQ-10400)*

GRUENE RAPIDS CONDOMINIUMS

1265 EDWARDS BLVD

NEW BRAUNFELS, TEXAS

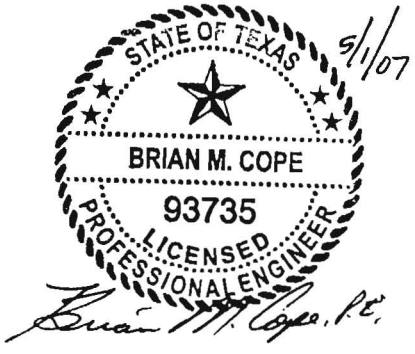
WATER POLLUTION ABATEMENT PLAN

REQUEST FOR APPROVAL

30 TAC 213

EDWARDS AQUIFER PROTECTION PROGRAM

TCEQ SAN ANTONIO OFFICE



May 2007

Prepared by:

KLEIN ENGINEERING, INC.
8611 Botts Ln.
San Antonio, Texas 78217

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: Gruene Rapids Condominiums
COUNTY: Comal STREAM BASIN: Guadalupe River

EDWARDS AQUIFER: X RECHARGE ZONE
__ TRANSITION ZONE

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

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: Troy D. Burch, Jr. or James Racanelli or Craig W. Hall
Entity: Gruene Rapids Condominiums, LLC
Mailing Address: 224 E. Faust St
City, State: New Braunfels, Texas Zip: 78130
Telephone: 830-214-3303 FAX: 830-629-0953

Agent/Representative (If any):

Contact Person: Brian M. Cope, P.E.
Entity: Klein Engineering, Inc.
Mailing Address: 8611 Botts Lane
City, State: San Antonio Zip: 78217
Telephone: 210-828-7070 FAX: 210-828-7076

2. __ This project is inside the city limits of _____.
X This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of City of New Braunfels, Texas.
__ 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 project is located on the North side of Edwards Blvd. at 1265 Edwards Blvd, in Comal County, Texas. Approximately 5,000 lf east of the intersection of River Rd and Edwards 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:

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

PROHIBITED ACTIVITIES

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

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

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

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

ADMINISTRATIVE INFORMATION

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.

__ 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:

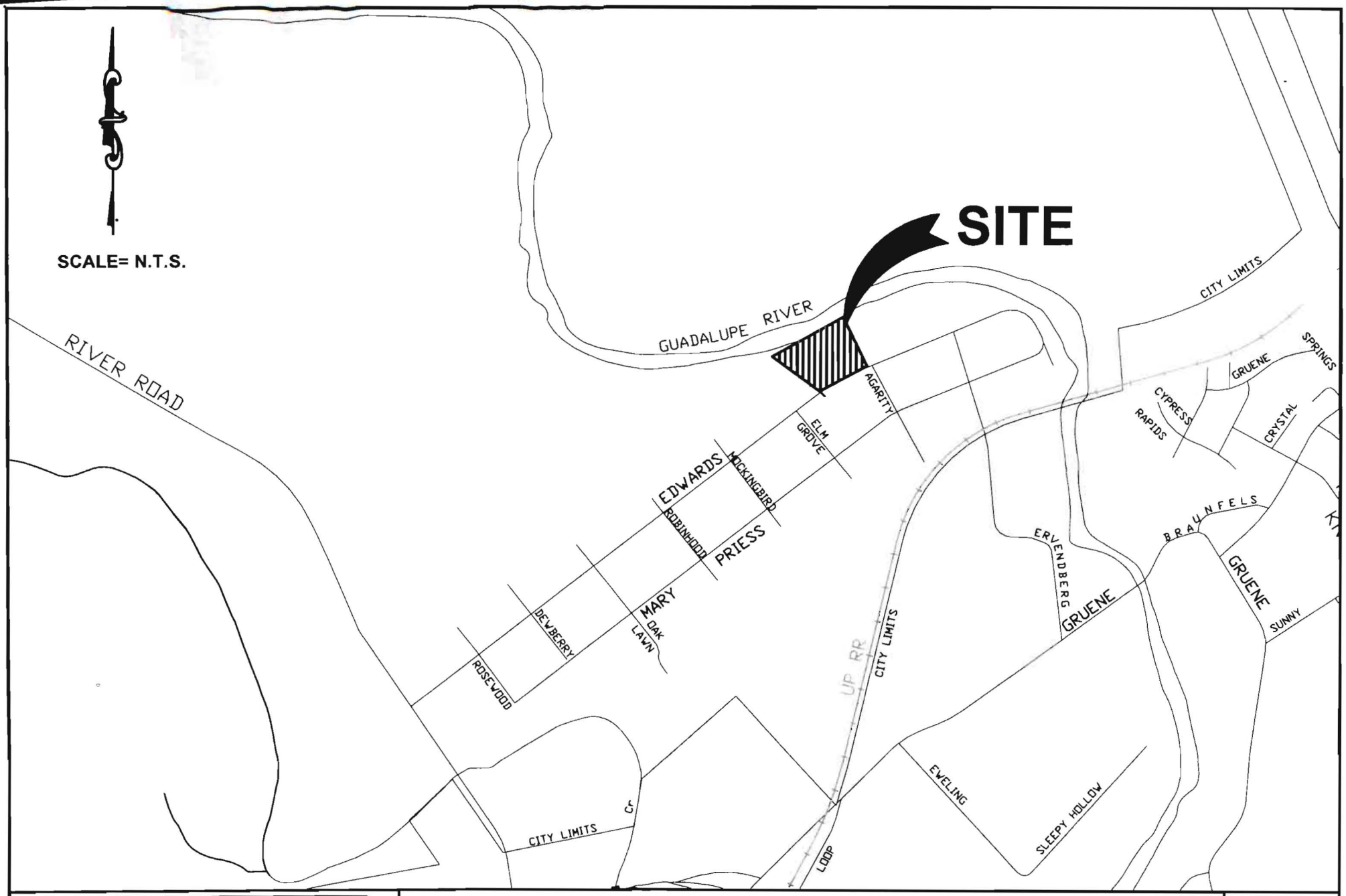
Brian M. Cope, P.E.
Print Name of Customer/Agent

Brian M. Cope, P.E.
Signature of Customer/Agent

5/1/07
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.



KLEIN ENGINEERING, INC.

CIVIL / MUNICIPAL / ENVIRONMENTAL ENGINEERS

AN ANTONIO, TEXAS

NEW BRAUNFELS

TEX

PROJECT LOCATION MAP
GURENE RAPIDS CONDOMINIUMS
2165 EDWARDS BLVD.

SHT 2/4

PROJECT DESCRIPTION

This proposed development, also known as Gruene Rapids Condominiums, is located in the ETJ of the City of New Braunfels, Comal County, Texas at 2165 Edwards Blvd. The proposed development will consist of developing approximately 2.289 acres into four condominium buildings for a total of approximately 45 units. The site is currently undeveloped. This project site contributes flow in the to the Guadalupe River. According to FEMA FIRM Map Panel No. 4854630105C, Revised September 29, 1986. The proposed development lies outside the 100-year floodplain. This project will consist of constructing four condominium buildings for a total of 45 units. The buildings will have 3 floors of 3-4 units per floor. In addition, to the buildings, an asphalt parking lot will be constructed, a swimming pool, water & wastewater services, a concrete driveway, sidewalks, and necessary electricity, gas, telephone, and cable services. The water supplier will be New Braunfels Utilities (NBU) and the wastewater collection will be provided by New Braunfels Utilities. Both services will be provided through an offsite extension of a sanitary sewer main and water main. Runoff from this site currently sheet flows towards Edwards Blvd. The effects of the proposed improvements, which consist of the four condominium buildings, asphalt parking lots, and swimming pool are estimated to produce a runoff coefficient equivalent to C = 0.95. The proposed development will have an ultimate impervious cover of approximately 84.5%.

Geologic Site Assessment (WPAP)

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

Edwards Blvd.
Lots 3, 4, and 5
New Braunfels, Texas

Frost GeoSciences Control # FGS-06363

December 21, 2006

Prepared exclusively for

Milestone Mortgage
473 South Seguin Avenue, Suite 200
New Braunfels, TX 78130

Frost GeoSciences

Geotechnical • Construction Materials
Forensics • Environmental

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

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www.frostgeosciences.com

December 21, 2006

Milestone Mortgage
473 South Seguin Avenue, Suite 200
New Braunfels, TX 78130

Attn: Mr. James Racanelli

Re: Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Edwards Blvd.
Lots 3, 4 and 5
New Braunfels, Texas

Frost GeoSciences, Inc. Control # FGS-06363

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.

Hugo Stolle, IV
Environmental Scientist

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

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

Distribution: (1) Milestone Mortgage
(5) Klein Engineering, Inc.

Table of Contents

APPENDIX

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: Edwards Blvd. Lots 3, 4, and 5

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, showeach 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
Brackett-Rock Outcrop Comfort 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" = 20 '
Site Geologic Map Scale	1" = 20 '
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: December 4, 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

December 21, 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: Edwards Blvd., Lots 3, 4, and 5 FGS-06363

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° 44' 36.2"	W98° 6' 56.9"	SC	20	Kep	.5	1	1.5	-	-	-	-	O,F	10	30	30		Yes		Hillside
S-2	N29° 44' 35.7"	W98° 7' 0.46"	SC	20	Kep	.5	1.5	3	-	-	-	-	O,F	12	32	32		Yes		Hilltop

* 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 December 21, 2006 Sheet 1 of 1

LOCATION

The project site is located on lots 3,4, and 5 along Edwards Blvd., between Elm Grove Avenue and Agarita Trail, 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 Official Edwards Aquifer Recharge Zone Map, the FIRM Map, the geologic map of New Braunfels, Texas, 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., and Mr. Hugo Stolte, Environmental Scientist 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 Edwards Blvd., Elm Grove, and Agarita Trail, 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 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 15 to 20 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 East, Texas Sheet (1994), the elevation across the project site ranges from 695 to 715 feet. Surface runoff from the project site flows to the southeast into the Guadalupe River. The project site contains no structures or improved roads. A gravel road enters the project site from Edwards Blvd., and meanders through the property until dead-ending in a cleared area atop the bluff near the northwest property line. The Guadalupe River is located immediately north of the project site. Edwards Blvd. is located directly south of the project site. Houses are located on the lots to the east and west of the project site. River Road is located west of the project site. 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 East, 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 # 4854630105C, revised 09-29-86, a portion of the project site is located within the 100 year floodplain. This portion of the project site is located within Zone A10. According to the panel legend, Zone A10 is defined as, "Areas of 100-year flood; base flood elevations and flood hazard factors determined." The remainder of 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 the Brackett-Rock outcrop-Comfort complex (BtD) and 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 Brackett-Rock outcrop-Comfort Complex (BtD) consists of shallow, loamy and clayey soils and Rock outcrop on uplands in the Edwards Plateau Land Resource Area. The mapped areas consist of either a single low hill in oval areas or a series of low hills in irregularly shaped areas. The Brackett soil makes up 30 to 60 percent of the complex, but on the average it makes up 50 percent. Rock outcrop makes up 10 to 45 percent, but the average is 20 percent, but the average is 10 percent. The soils and Rock outcrop are in areas so small or so intricately mixed that it was not practical to map them separately at the scale used. Typically, the surface layer of the Brackett soil is grayish brown gravelly clay loam about 6 inches thick. The subsoil extends to a depth of 17 inches. It is very pale brown and pale yellow gravelly clay loam. The underlying material is weakly cemented limestone

interbedded with thin layers of indurated limestone. The soil is moderately alkaline and calcareous throughout. Typically, the areas of Rock outcrop consist of exposures of limestone bedrock. There is some soil materials in the narrow fractures in the rock. In some areas, however, the rock is flat and is covered by soil material as much as 3 inches thick. Typically, the surface layer of the Comfort soil is dark brown extremely stony clay about 4 inches thick. The subsoil extends to a depth of 11 inches. It is dark reddish brown extremely stony clay. The underlying material is indurated fractured limestone. The soil is moderately alkaline and noncalcareous throughout. The soils in this complex are well drained. Surface runoff is medium to rapid. Permeability is moderately slow in the Brackett soil and slow in the Comfort soil. The available water capacity is very low. The rooting zone is shallow. Water erosion is a severe hazard. Seeps are common along the slopes after a heavy rainfall.

This soil has a USDA Texture Classification of stony clay, very stony clay, extremely stony clay, and unweathered 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 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, very cherty clay loam, stony clay, very stony clay, extremely stony clay, and unweathered bedrock. The Unified Classification is GC, CL ,SH or SC. The AASHO Classification is A-2-6, A-6, A-7-6 and A-2-7. This soil has an average permeability from 0.06 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.

Two karst features were noted on the project site at the time of the field investigation. Color photographs of the project site and the potential karst features are included in Appendix B.

The property exists as three lots along the north side of Edwards Blvd., in New Braunfels, Texas. No structures exist on the project site. The project site supports a moderate to dense stand of vegetative cover consisting of grasses, brush and trees. Overall vegetation on the project site consists of live oak, mountain laurel, and various types of brush and grasses. A portion of the project site is located on a cliff leading down to the Guadalupe River. This portion of the project site was not investigated by Frost Geosciences, Inc.

Potential Recharge Feature #S-1 is a solution cavity. The solution cavity is 0.5 feet long by 1 foot wide, by 1.5 feet deep. Frost GeoSciences, Inc. rates the relative infiltration of this feature as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). This feature scores a 30 on the sensitivity scale, column 10 in the Geologic Assessment Table on page 4 of this report.

Potential Recharge Feature #S-2 is a solution cavity. The solution cavity is .5 feet long by 1.5 feet wide, by 3 feet deep. Frost GeoSciences, Inc. rates the relative infiltration of this feature as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). This feature scores a 32 on the sensitivity scale, column 10 in the Geologic Assessment Table on page 4 of this report.

According to the site plan provided by Klein Engineering, Inc., the surveyed elevations on the project site range from 688 feet to 718 feet. According to this survey, the total relief on the project site is approximately 30 feet.

A copy of the site plan indicating the boundary of the project site 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 Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the project site is located on the Edwards Person Limestone. The Edwards Person Limestone consists of three members: the Cyclic and Marine Member, the Leached and Collapsed Member, and the Regional Dense Member.

The Cyclic and Marine Member of the Cretaceous Edwards Person Limestone consists of mudstone to packstone and miliolid grainstone with chert. The member is characterized by massive beds of limestone to relatively thin beds of limestone with some crossbedding. The Cyclic and Marine Member forms a few caves some that are laterally extensive. Overall thickness ranges from 80 to 90 feet thick.

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.

The Regional Dense Member of the Edwards Person Limestone consists of dense argillaceous mudstone with wispy iron oxide stains. This member has minimal cavern development and usually occurs as vertical fracture enlargement. Overall thickness ranges from 20 to 24 feet thick.

A copy of the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, 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 Milestone Mortgage and Klein Engineering, 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 East, Texas Sheet (1988).

2) Official Edwards Aquifer Recharge Zone Map, New Braunfels East, 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.

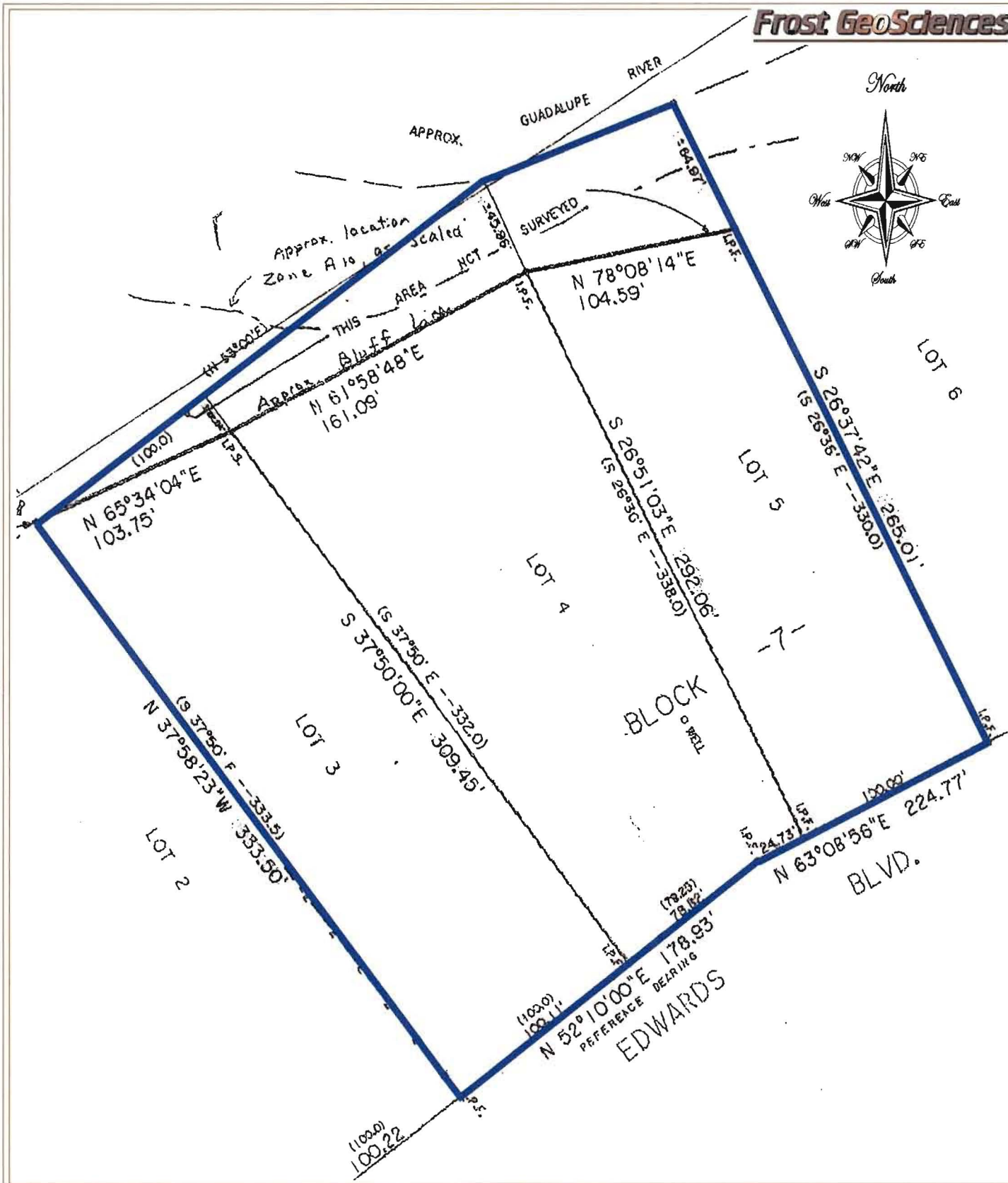
5) Collins, Edward, W., 2000, Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, Bureau of Economic Geology, The University of Texas at Austin, Texas.

6) Federal Emergency Management Agency (FEMA), September 29, 1986, Comal County, Texas and Incorporated Areas, Flood Insurance Rate Map (FIRM), Panel #4854630105C FEMA, Washington D.C.

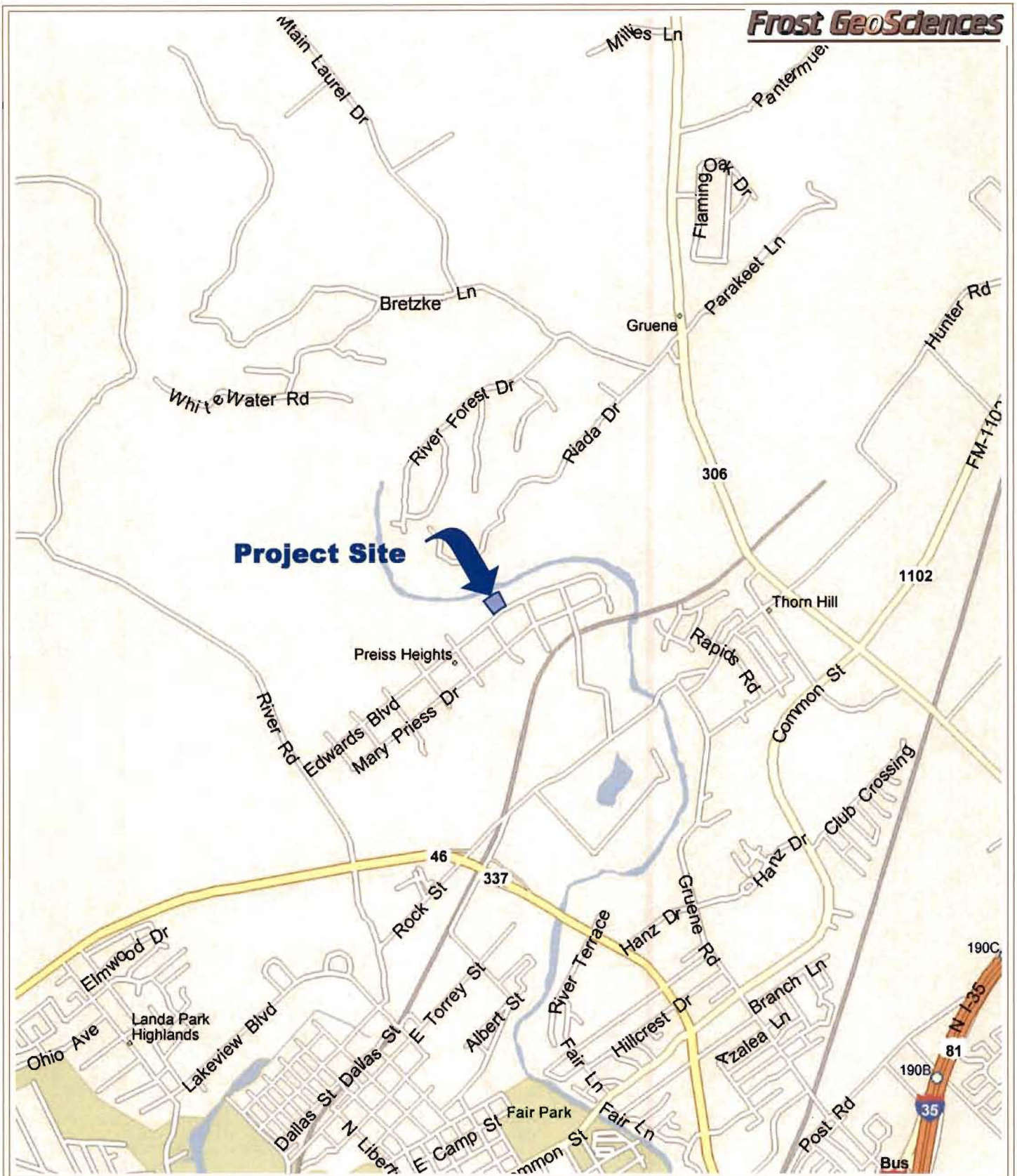
7) U.S.D.A. Soil Conservation Service, Soil Survey of Comal & Hays Counties, Texas (1984).

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

Frost GeoSciences



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Edwards Blvd. Lots 3, 4, and 5 New Braunfels, Texas	Site Plan	
	PROJECT NO.: FGS-06363	**DATE:** December 21, 2006



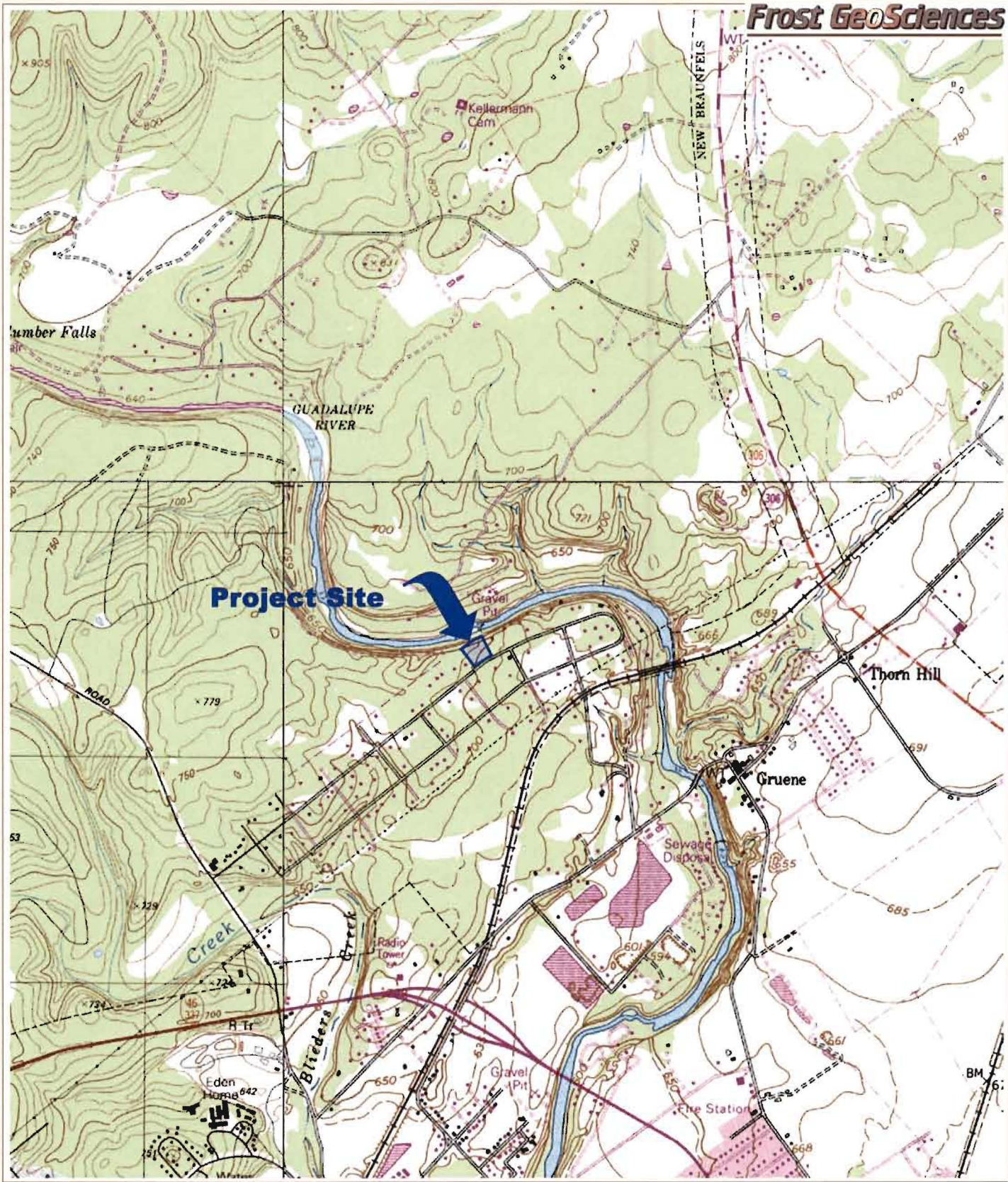
PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Edwards Blvd. Lots 3, 4, and 5
New Braunfels, Texas

Street Map

PROJECT NO.: FGS-06363

DATE: December 21, 2006

Frost GeoSciences



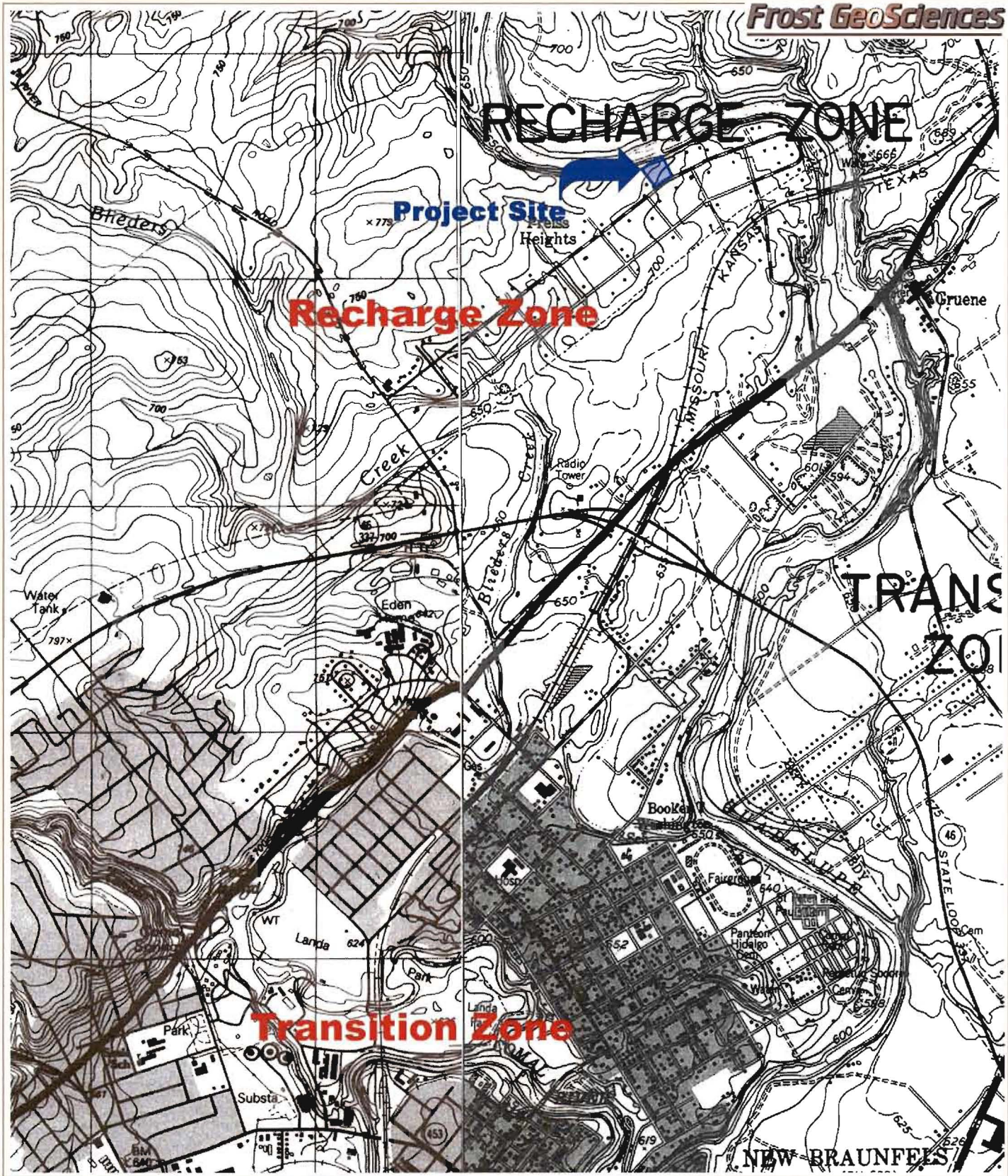
PROJECT NAME:

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Edwards Blvd. Lots 3, 4, and 5
New Braunfels, Texas

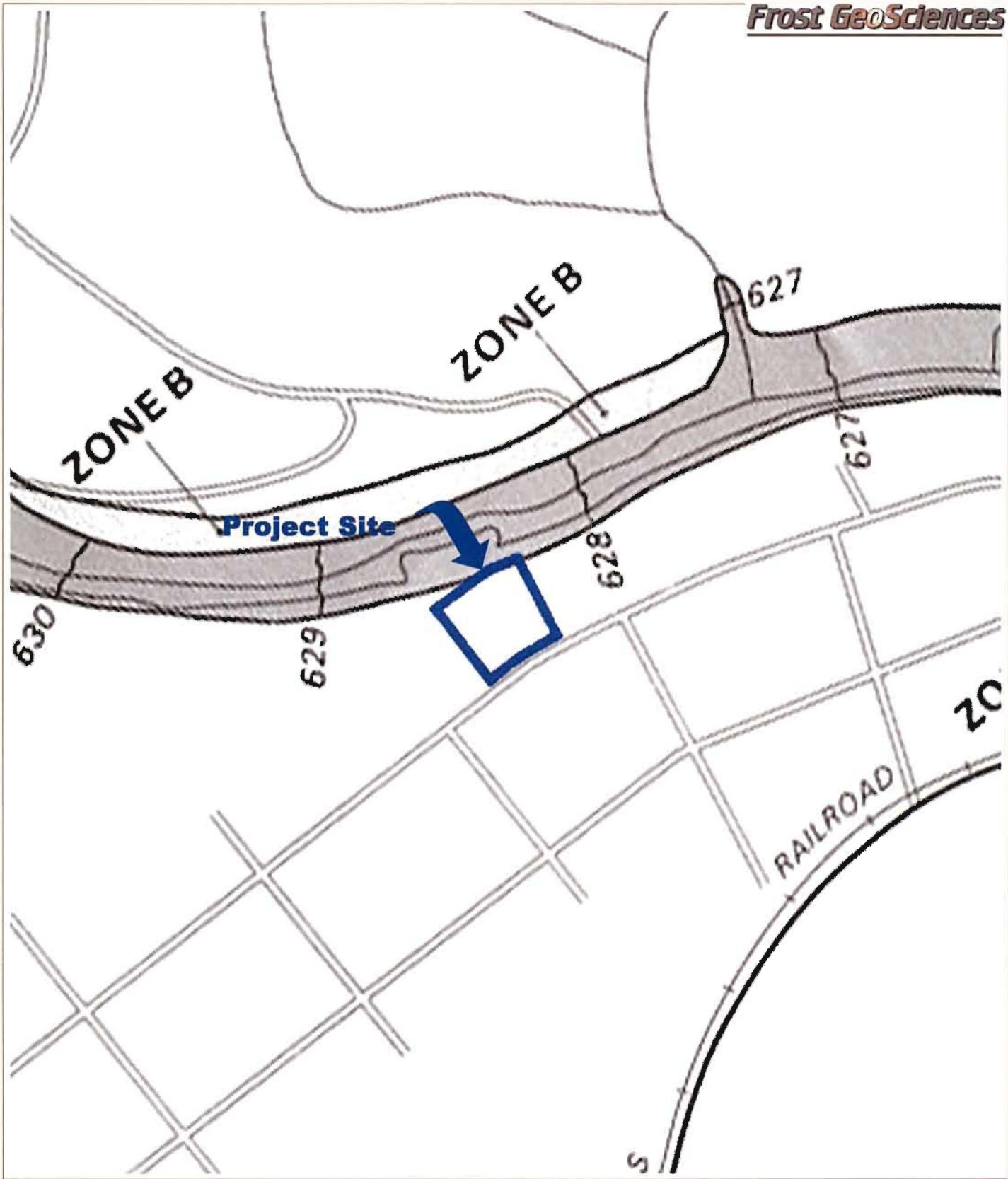
U.S.G.S. 7.5 Minute Quadrangle Map
New Braunfels West, Texas Sheet (1988)

PROJECT NO.:	DATE:
FGS-06363	December 21, 2006

Frost GeoSciences



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Edwards Blvd. Lots 3, 4, and 5 New Braunfels, Texas	Official Edwards Aquifer Recharge Zone Map New Braunfels West & East, Texas Sheet 1988
	PROJECT NO.: FGS-06363
	DATE: December 21, 2006



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Edwards Blvd. Lots 3, 4, and 5
New Braunfels, Texas

Flood Insurance Rate Map (FIRM)
Community Panel
4854630105C (Revised 9-29-86)

PROJECT NO.: FGS-06363

DATE: December 21, 2006

21. Regulated Entity Name *(If an individual, please print last name first)*				
Gruene Rapids Condominiums				
22. Street Address (No PO Boxes)	1265 Edwards Blvd			
	City	State	ZIP	ZIP + 4
	New Braunfels	Texas	78130	
23. Mailing Address	224 E. Faust			
	City	State	ZIP	ZIP + 4
	New Braunfels	Texas	78130	
24. E-Mail Address:				

25. Telephone Number	26. Extension or Code	27. Fax Number *if applicable*
830-214-3303		830-629-0953

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)
1522		236116	

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

Multi-Family Condominium Developer

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

33. County Comal

34. Description of Physical Location

1265 Edwards Blvd

35. Nearest City	State	Nearest Zip
New Braunfels	TX	78130

36. Latitude (N)			*37. Longitude (W)*		
Degrees	*Minutes*	*Seconds*	*Degrees*	*Minutes*	*Seconds*
29	44	35	98	06	58

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."

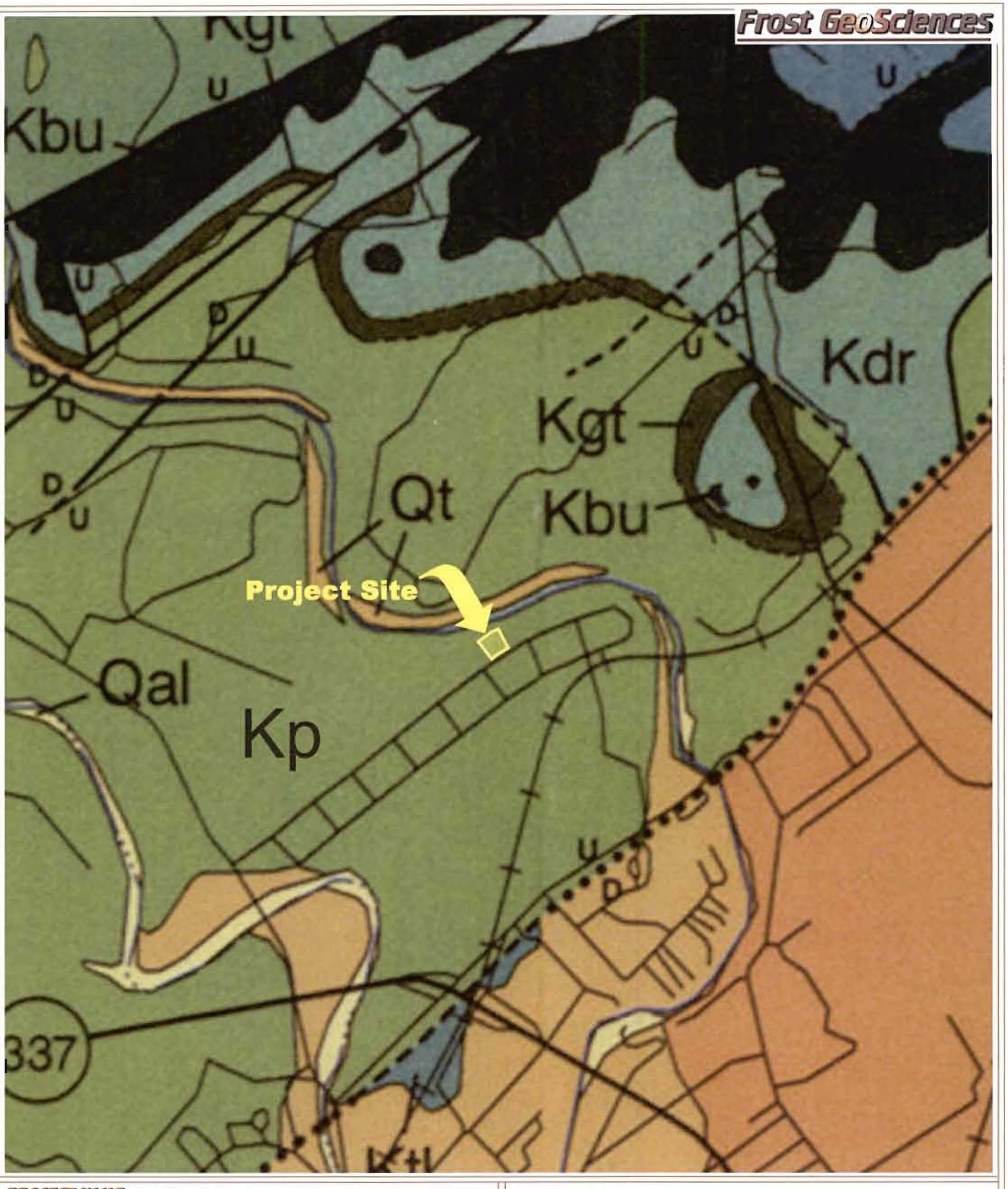
	Animal Feeding Operation		Petroleum Storage Tank		Water Rights
	Title V - Air		Wastewater Permit		
	Industrial & Hazardous Waste		Water Districts		
	Municipal Solid Waste		Water Utilities	x	~~Unknown~~ EDWARDS
	New Source Review - Air		Licensing - TYPE(s)		

Section IV: Preparer Information

39. Name	40. Title
Brian M. Cope	Project Engineer

41. Telephone Number	42. Extension or Code	43. Fax Number *if applicable*
210-828-7070		210-828-7076

44. E-mail Address: bcope@kleinengineering.com



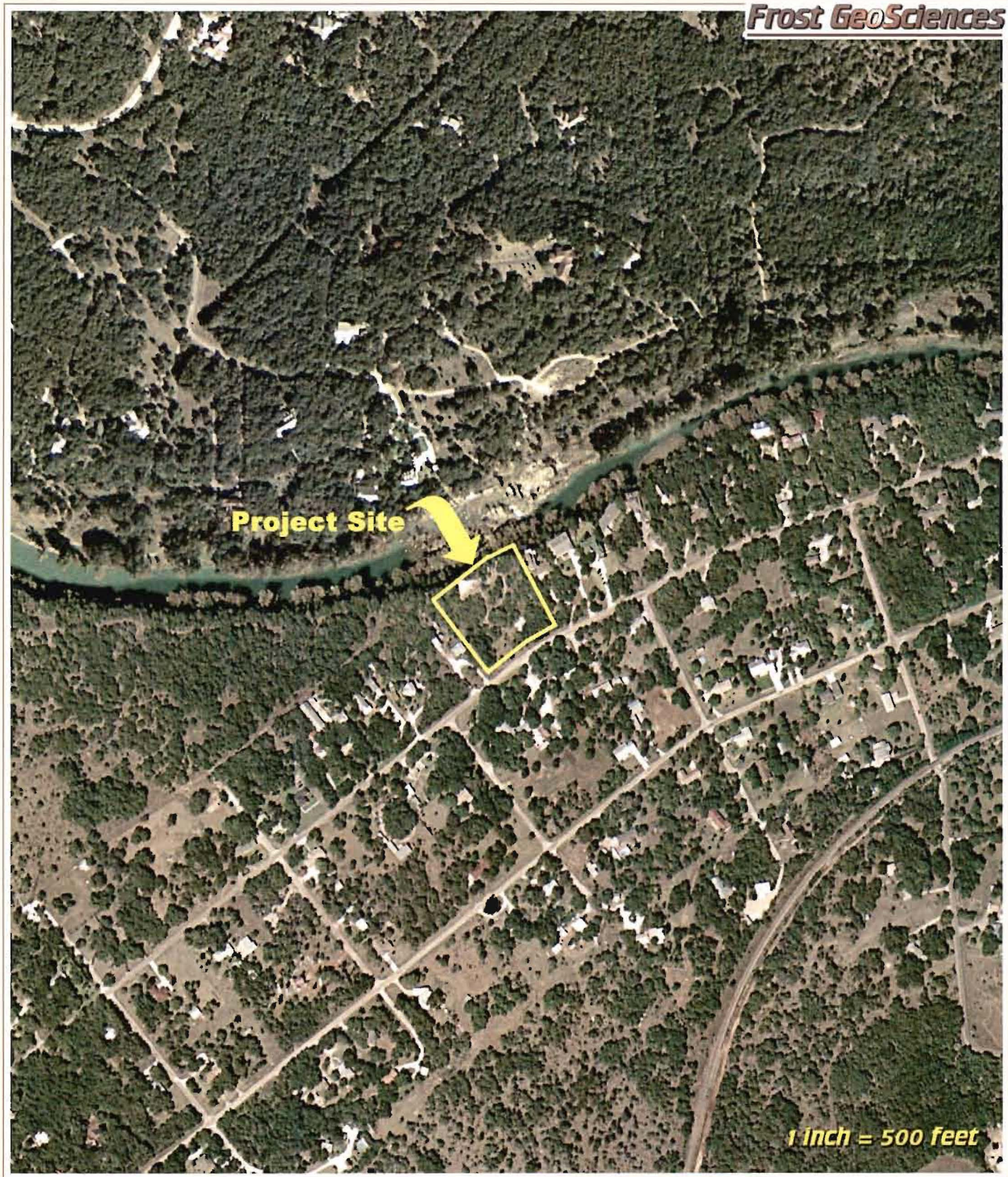
PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Edwards Blvd. Lots 3, 4, and 5
New Braunfels, Texas

Bureau of Economic Geology,
Geologic Map of the New Braunfels, Texas
30 x 60 Minute Quadrangle (2000)

PROJECT NO.: FGS-06363

DATE: December 21, 2006

Frost GeoSciences



PROJECT NAME:
Geologic Site Assessment (WPAP)
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Edwards Aquifer Recharge / Transition Zone
Edwards Blvd. Lots 3, 4, and 5
New Braunfels, Texas

2005 Aerial Photograph
Landiscor Aerial Information

PROJECT NO.:	DATE:
FGS-06363	December 21, 2006

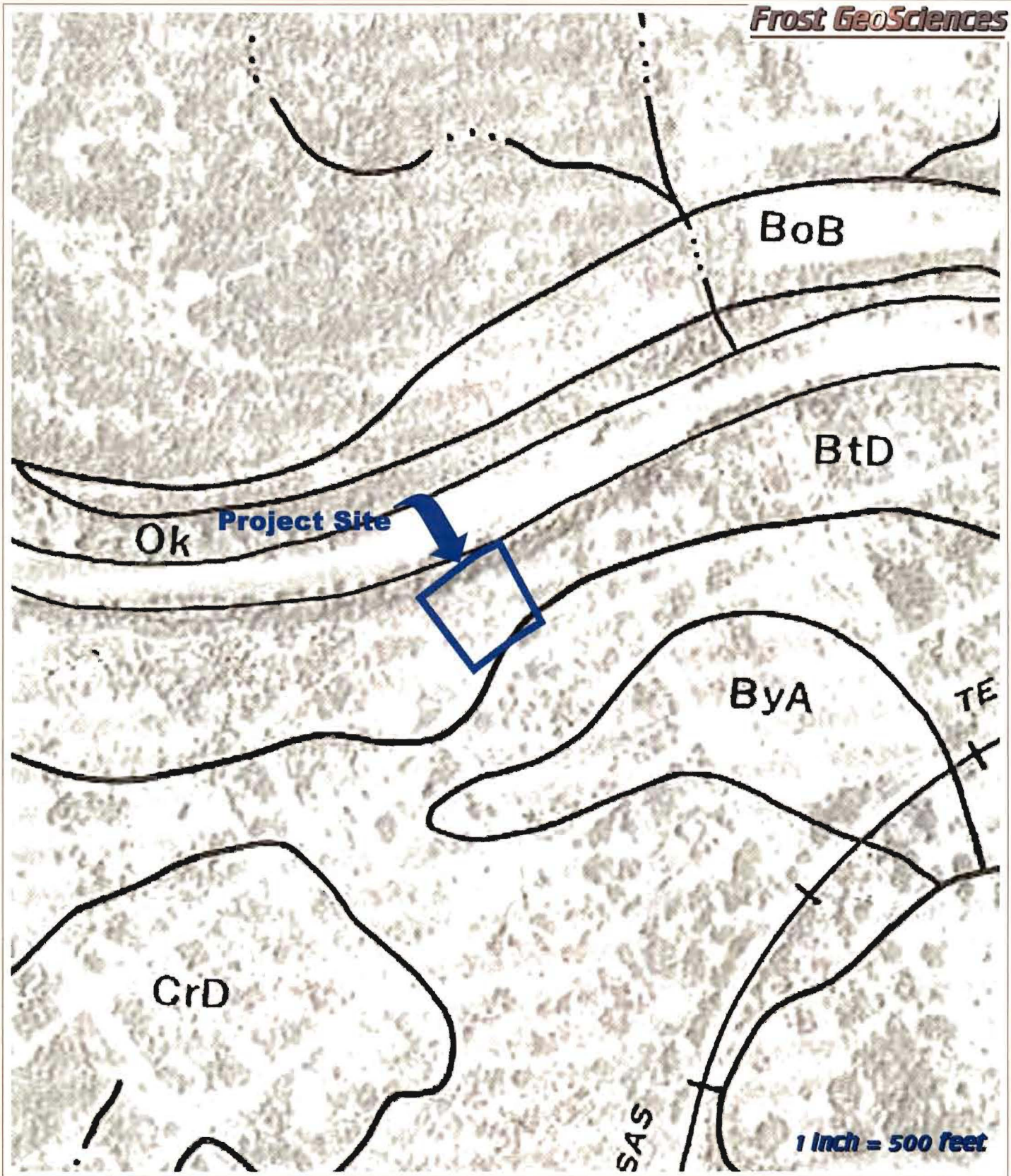
Frost GeoSciences

PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Edwards Blvd. Lots 3, 4, and 5
New Braunfels, Texas

2005 Aerial Photograph
Landiscor Aerial Information

PROJECT NO.: FGS-06363

DATE: December 21, 2006



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Edwards Blvd. Lots 3, 4, and

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

PROJECT NO.: FGS-06363

DATE: December 21, 2006

Typical view of the northeast portion of the project site.

Typical view of the northwest portion of the project site.

Typical view of the southeastern portion of the project site.

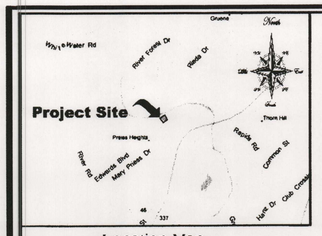
Typical view of the southwestern portion of the project site.

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

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

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

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



Frost GeoSciences
Construction Materials • Forensics
Environmental • Geotechnical

Site Geologic Map

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
for
Edwards Blvd.
Lots 3, 4, and 5
New Braunfels, Texas

Frost GeoSciences, Inc. Control # FGS-06363

Guadalupe River

Zone A10

LOT 3

LOT 4

LOT 5

BLOCK

S-1

S-2

Kep

EDWARDS BLVD.

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 A10
- 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 # 48546301000, Revised 9/29/86

Fault Information Obtained From:

U.S. Geological Survey, Water Resources Investigations Report 94-4117 (1994)
Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000)

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

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

North
NW NE
West East
SW SE
South

Graphic Scale
20 0 10 20 40
(In Feet)

1 inch = 20 feet
Representative Fraction 1:240

Contour Interval - 1 foot

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: Gruene Rapid Condominiums

REGULATED ENTITY INFORMATION

1. The type of project is:
   - ___ Residential: # of Lots: ___
   - ___ Residential: # of Living Unit Equivalents: ___
   - ___ Commercial
   - ___ Industrial
   - X Other: Condominiums - 45 Units

2. Total site acreage (size of property): 2.289 acres

3. Projected population: 135

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	21,659.66	÷ 43,560 =	0.497
Parking	49,906.87	÷ 43,560 =	1.146
Other paved surfaces	5,812	÷ 43,560 =	0.133
Total Impervious Cover	77,378.53	÷ 43,560 =	1.776
Total Impervious Cover ÷ Total Acreage x 100 =			77.73 %

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

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

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

7. Type of project:
   - ___ TXDOT road project.
   - ___ County road or roads built to county specifications.
   - ___ City thoroughfare or roads to be dedicated to a municipality.
   - ___ Street or road providing access to private driveways.
8. Type of pavement or road surface to be used:

__ Concrete
__ Asphaltic concrete pavement
__ Other: _____

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

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

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

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

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

13. **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	**54,000 gallons/day
__ % Industrial	_____ gallons/day
__ % Commingled	_____ gallons/day
TOTAL	54,000 gallons/day

**45 Units* 300 Gal/Unit * 4 Peak = 54,000 gallons

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

X Sewage Collection System (Sewer Lines):

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

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

__ The SCS was previously submitted on _____.

X 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 Wastewater (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" = 20 '.

18. 100-year floodplain boundaries

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

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

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
FEMA FIRM Map Panel No. 4854630105C, Revised September 29, 1986

19. X The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Show lots, recreation centers, buildings, roads, etc.

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

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

__ 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:

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

__ No **sensitive and possibly sensitive** geologic or manmade features were identified in the Geologic Assessment.

N/A **ATTACHMENT D - Exception to the Required Geologic Assessment.** An exception to the Geologic Assessment requirement is requested and explained in ATTACHMENT D provided at the end of this form. Geologic or manmade features were found and are shown and labeled.

N/A **ATTACHMENT D - Exception to the Required Geologic Assessment.** An exception to the Geologic Assessment requirement is requested and explained in ATTACHMENT D provided at the end of this form. No geologic or manmade features were found.

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

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

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

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

26. X Surface waters (including wetlands).

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:

Brian M. Cope, P.E.
Print Name of Customer/Agent

Brian M. Cope, P.E.
Signature of Customer/Agent

5/1/07
Date

FACTORS AFFECTING WATER QUALITY

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

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

Prior to any construction activity, stormwater pollution prevention will include silt fences along the property lines and down gradient for temporary erosion and sedimentation control and the installation of a stabilized construction entrance/exit to reduce sediment removal from the site. The construction contractor will be responsible for the installation, repair and upkeep of all control measures.

VOLUME AND CHARACTER OF STORMWATER

Currently, the site is undeveloped covered with grass, clusters of oak and cedar trees, with overall average ground slopes of approximately 0-5% (C = 0.41). Runoff generated from this site sheet flows towards the southeast to Edwards Blvd, to the East, and then towards the Guadalupe River.

The effects of the proposed improvements, which consist of 4 condominium buildings, asphalt parking lot, swimming pool, permanent WPAP basin, and typical commercial driveway, along with the remaining open space, are estimated to produce a weighted runoff coefficient of 0.768 for the proposed improvements.

Runoff quantities are estimated below using the Rational Method $Q_{cfs} = C*I(in/hr)*A(ac.)$

Pre-Development

	Q (cfs)	Coeff.	Tc (min)	I (in/hr)	Area (ac.)
10-year	6.43	0.41	12.58	6.85	2.289
100-year	10.08	0.41	12.58	10.74	2.289

Post-Development

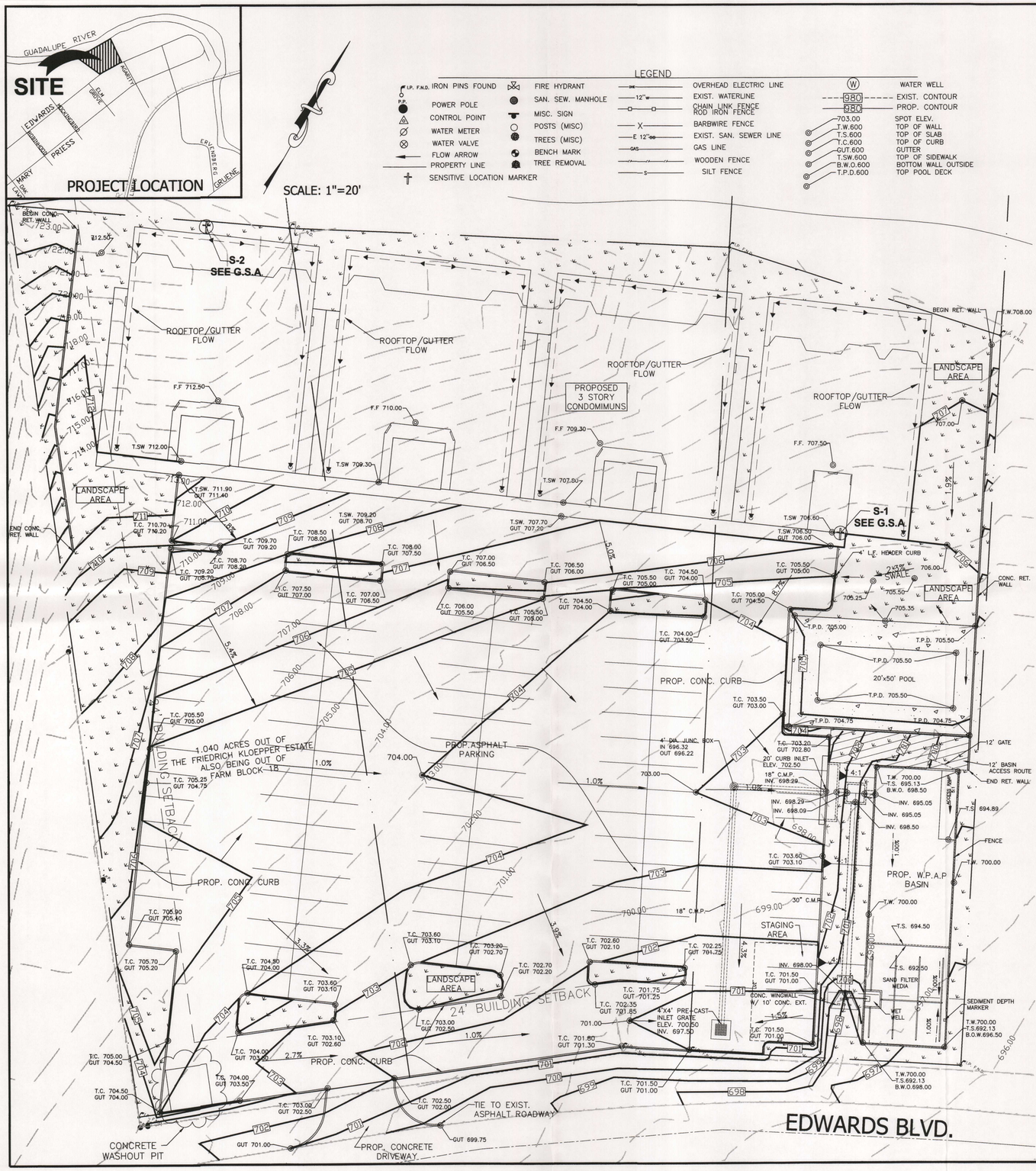
	Q (cfs)	Coeff.	Tc (min)	I (in/hr)	Area (ac.)
10-year	16.90	0.768	5	9.61	2.289
100-year	26.91	0.768	5	15.30	2.289

I(in/hr) = b/((Tc+d)^e)

New Braunfels Rainfall Intensity Constants

	10 yr	100 yr
b	71.9	95.1
d	8.69	7.17
e	0.769	0.731

All stormwater originating on-site will be directed to temporary and permanent pollution abatement measures.



SITE DATA	
SUBDIVISION AREA:	2.29 ACRE
LEGAL DESCRIPTION:	LOTs 3,4&5, BLK.7, Preiss Heights Subdivision, Vol. 105, Pg. 314–318
PROPOSED LAND USE:	COMMERCIAL

NOTE:

1. THE WHOLE PROJECT SITE IS TO BE DISTURBED.
2. SOIL STABILIZATION PRACTICES ARE EXPECTED TO OCCUR AT ALL OPEN AREAS DESIGNATE FOR OPEN SPACE/LAWNS. BARE SOILS SHALL BE SEEDED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING.

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 the telephone number of the contract 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 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 with 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 measure must be properly selected, installed, and maintained in accordance with the manufacturers specification 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 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 sediments must be removed at a frequency sufficient to minimize off–site impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
7. Sediment must be removed from sediment trap 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 storm water shall be prevented from becoming a pollutant source for storm water discharges (e.g., screening outfalls, picked up daily).
9. All spoils (excavated material) generated from this project site must be stored on–site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.
10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbed activities will be resumed with 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.
11. The following records shall be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.
12. The holder of any approved Edwards Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
   A. any physical or operational modifications 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

GENERAL NOTES

1. CONTRACTOR SHALL COMPLY WITH THE CITY OF SAN ANTONIO REGULATIONS. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AS WELL AS, ALL APPLICABLE SAFETY CODES AND INSPECTION REQUIREMENTS.
2. CONTRACTOR SHALL NOTIFY ALL RESPECTIVE GOVERNMENTAL AND/OR UTILITY AGENCIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR CONSTRUCTION.
4. CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.
5. THE LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN IN THE CONSTRUCTION DOCUMENTS ARE APPROXIMATE ONLY. IT IS THE CONTRACTOR'S REPONSIBILITY TO CONTACT UTILITY COMPANIES AND LOCATE UTILITY LINES AT LEAST 48 HOURS PRIOR TO BEGINNING EXCAVATION AND TO PROTECT THE UTILITY LINES DURING CONSTRUCTION. DAMAGE TO ANY UTILITY OR DRAINAGE LINE DURING THE CONSTRUCTION OF THIS PROJECT MUST BE REPORTED IMMEDIATELY TO THE APPROPIATE UTILITY OF THIS PROJECT MUST BE REPORTED IMMEDIATELY TO THE APPROPRIATE UTILITY COMPANY OR AGENCY AND REPAIRED AT THE CONTRACTOR'S EXPENSE.

TEXAS ONE–CALL (UTILITY LOCATOR)	1–800–545–6005
CITY PUBLIC SERVICE (GAS/ELECTRIC)	978–3500
SBC	1–800–828–5127
TIME WARNER CABLE	352–4672
SAN ANTONIO WATER SYSTEM (WATER)	704–7109
(SEWER)	704–7107
DEPARTMENT OF PUBLIC WORKS (DRAINAGE)	207–8048

DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR SHALL PROTECT AND WORK AROUND ANY GAS VALVES LOCATED IN THE PROJECT AREA.

6. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN CITY INSPECTIONS AND LETTERS OF ACCEPTANCE FROM THE CITY OF SAN ANTONIO AND SAN ANTONIO WATER SYSTEM, IF REQUIRED.
7. TRAFFIC CONTROL, WHERE REQUIRED, SHALL BE PROVIDED IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. NO SEPARATE PAY ITEM FOR THIS WORK.
8. CONTRACTOR SHALL PROTECT EXISTING GRASS, TREES AND NATURAL LANDSCAPE NOT IN DIRECT CONFLICT WITH THE PROPOSED IMPROVEMENTS.
9. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT SHALL REVIEW THESE PLANS. AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICAPATED SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXACAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONCTRACTOR'S IMPLEMENTATION OF THESE SYSTEM'S, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION IN COMPLIANCE WITH OSHA REGULATIONS (STANDARD 1926 SUBPART P) FOR TRENCH EXCAVATION SPECIFICALLY, GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING AND AROUND TRENCH EXCAVATION.
10. THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIRED EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF SITE IMPROVEMENTS. CONTRACTORS IS RESPONSIBLE FOR THE INSTALLATION AND SHALL MAINTAIN THE EROSION AND SEDIMENTATION CONTROL DEVICES UNTIL THE DISTURBED AREA HAS BEEN 70% REVEGETATED. THE CONTRACTOR IS ALSO RESPONSIBLE FOR SUBMITTING NOTICE OF INTENT AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) TO THE TCEP (IF REQUIRED). NOTICE OF TERMINATION TO BE SUBMITTED UPON COMPLETION OF WORK (IF REQUIRED).
11. ALL TRENCHES SHALL BE BACKFILLED IN 8 INCH LIFTS AND COMPACTED TO 95% MAXIMUM DRY DENSITY.
12. CONCRETE SHALL BE CLASS 'A' WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI, UNLESS OTHERWISE NOTED. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾ INCH.
13. REINFORCING STEEL SHALL BE ASTM A615 GR60, UNLESS OTHERWISE NOTED.
14. ALL DIMENSIONS TO CURB LINES ARE TO FACE OF CURB, UNLESS OTHERWISE NOTED.
15. GROUNDWATER
    IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR SUBCONTRACTOR TO IMMEDIATELY NOTIFY THE OWNER AND CITY ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE PROJECT SITE IS EVIDENT.

REVISIONS

1	REV. PER T.C.E.Q.	5–7–2007

WATER POLLUTION ABATEMENT PLAN (TCEQ FORM 0584)
SITE PLAN

CONSTRUCTION PLANS FOR:
GRUENE RAPIDS CONDOMINIUMS
1265 EDWARDS BLVD.
NEW BRAUNFELS TEXAS

STATE OF TEXAS — BRIAN M. CONNER — 92735 LICENSED PROFESSIONAL ENGINEER

KLEIN ENGINEERING, INC.
CIVIL / MUNICIPAL / ENVIRONMENTAL ENGINEERS
8611 BOTTS LANE
SAN ANTONIO, TX. 78217
OFFICE: 210-828-7070
FAX: 210-828-7076

JOB No. : 10-35

DATE : 05-2007

DESIGNED BY: B.M.C.

DRAWN BY: G.L.L.

CHECKED BY: B.M.C.

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: Gruene Rapids Condominiums

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

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

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

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

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

4. X **ATTACHMENT B - Potential Sources of Contamination.** Describe in an attachment at the end of this form any other activities or processes which may be a potential source of contamination.
__ 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: Guadalupe River

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. N/A. The site is the entire watershed

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

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

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

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

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

   N/A 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.

** The Site is the Drainage Area

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

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

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

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

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

12. X **ATTACHMENT I - Inspection and Maintenance for BMPs.** A plan for the inspection of temporary BMPs and measures and for their timely maintenance, 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:

Brian M. Cope, P.E.
Print Name of Customer/Agent

Brian M. Cope, P.E.
Signature of Customer/Agent

5/1/07
Date

SPILL RESPONSE ACTIONS

Hazardous Materials or hydrocarbons will not be stored on the project site prior, during, or after commencement of construction activity. The contractor will be notified of this requirement and will be required to fuel all construction vehicles and heavy equipment off-site. Vehicle and Equipment Maintenance shall occur off-site as well. However in the event of a possible or unforeseen accident in which a spill occurs the following sequence of events will occur in order to contain the incident.

- Sand material will be placed in and around the spill to contain and absorb the spilled material.

- The City of New Braunfels Fire Department will be notified if the possibility of fire exists

- TCEQ and City of New Braunfels will be notified and a written report of the incident provided to detail the specifics of the event.

- All materials will be excavated and placed within appropriate receptacles and disposed properly at an appropriate landfill facility.

The following measures shall also be considered.

- To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- Store hazardous materials and wastes in covered containers and protect from vandalism
- Place a stockpile of spill cleanup materials where it will be readily accessible
- Train employees in spill prevention and cleanup.
- Designate responsible individuals to oversee and enforce control measures
- Spills should be covered and protected from stormwater runon during rainfall to the extent that it doesn't compromise clean up activities
- Do not bury or wash spills with water
- Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs
- Do not allow water used for cleaning and decontamination to enter storm drains or watercourses
- Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities
- Place MSDS sheets in an accessible locations

Cleanup

- Leaks and spills shall be cleaned up immediately

- Rags shall be used for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills.
- Do not ever hose down or bury dry material spills. Clean up as much as possible and dispose of properly.

Minor Spills

- Minor spills involving small quantities of oil, gasoline, paint, etc. can be controlled by the first person to respond to the spill.
- Use absorbent materials on small spills.
- Absorbent materials should be disposed of properly.
- Follow the practice below for a minor spill:
    - Contain spill.
    - Recover spill materials.
    - Clean the area and dispose of contaminated materials.

Semi-Significant Spills

These spills can still be controlled by the first person to respond to the spill but with the help of other personnel.

- Spills should be cleaned up immediately by:
    - Contain spread of spill.
    - Notify project foreman immediately.
    - Should the spill occur on paved or impermeable surfaces, clean up using the "dry" methods (absorbent material, cat litter, rags). Contain the spill by encircling with the absorbent material and do not let spill spread.
    - Should spill occur in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and dispose of contaminated soil properly.
    - Should spill occur in the rain, cover spill with tarps or other water proof material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

- Notify the TCEQ by telephone as soon as possible and within 24 hrs at (512) 339-2929 (Austin) or (210) 490-3096 (San Antonio) between 8 a.m. and 5 p.m. After hours, contact the Environmental Release Hotline at (800) 832-8224. It is the contractor's responsibility to have all emergency numbers at the construction site.
- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119 and 302, the contractor should notify the National Response Center at (800) 424-8802.
- Notification should first be made by telephone and followed up with a written report.

- The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
- Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

More information on spill rules and appropriate responses is available on the TCEQ website at: http://www.tceq.com.

Vehicle and Equipment Maintenance

- If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the run on of stormwater and the runoff of spills.
- Regularly inspect onsite vehicles and equipment for leaks and repair immediately.
- Check incoming vehicles and equipment (including delivery trucks, employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Place drip pans or absorbent materials under paving equipment when not in use.
- Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

- If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the run on of stormwater and the runoff of spills.
- Discourage "topping off" of fuel tanks.
- Always use secondary containment, such as drain pans, when fueling to catch spills/leaks.

POTENTIAL SOURCES OF CONTAMINATION

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

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

Prior to any construction activity, stormwater pollution prevention will include silt fences along the property lines and down gradient for temporary erosion and sedimentation control and the installation of a stabilized construction entrance/exit to reduce sediment removal from the site. The construction contractor will be responsible for the installation, repair and upkeep of all control measures.

SEQUENCE OF MAJOR ACTIVITIES

The sequence of activities on this proposed project will be as follows:

-Installation of Temporary Stormwater Controls
-Site Preparation
-Clearing of areas designated to be disturbed
-Grading Activities
-Construction of permanent storm water quality basin
-Construction activities on the cleared and graded areas to include construction of the water, wastewater, electrical, and other utility extensions
-Construction of building
-Asphalt & Concrete Paving
-Sidewalk Construction
-Site cleanup, including the removal of excess materials
-Complete construction and vegetate all remaining disturbed areas

TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

Prior to commencing any on-site activities, stormwater pollution prevention will include silt fences along the northwest, northeast, and southwest property lines of the project site to prevent any sediment from leaving the site. There will also be the installation of a stabilized construction entrance/exit to reduce sediment removal from the site. The construction contractor will be responsible for the installation, repair and upkeep of all control measures. Soil disturbances shall be minimized and kept to minimum time periods, existing natural vegetation including grass, weeds, trees, etc. will be utilized and earthwork for utilities shall be coordinated to minimize area disturbance.

A. Description of how BMPs will prevent pollution of surface water, groundwater or stormwater that generates upgradient from the site and flows across the site.

- There are no upgradient flows, the site is on the edge of a cliff. The project site is the whole drainage area

B. Descriptions of BMPs and measures for flow generated on-site or flows offsite

- Silt fences will prevent any contaminants from entering/leaving the site and getting into the existing drainage runoff facilities. Silt fences allow the runoff to pond behind the fence and allow potential contaminants to settle.
- Construction entrance/exits will help prevent mud and sediment from being deposited onto existing roads. They help reduce the tracking or flowing of sediment onto public rights of way.
- Concrete wash out pits will help contain any wastes from concrete to discharge directly to existing drainage facilities

C. Description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

- Although there are not any surface streams, sensitive features, etc. on this project site, the above mentioned measures will help prevent contaminating sensitive features and surface streams downstream of the project site.

D. Description of how BMPs and measures will maintain flow to naturally occurring sensitive features.

- see Item C.

STRUCTURAL PRACTICES

Prior to commencing on-site activities, stormwater pollution prevention will include silt fences along downgradient areas for temporary erosion and sedimentation control and the construction and installation of a stabilized construction entrance/exit to reduce sediment removal from the project site. The contractor will be responsible for the maintenance of all control measures.

Permanent structural practice will be in construction of sedimentation/filter system will treat the "first flush" storm water runoff from the project.

INSPECTION AND MAINTENANCE FOR BMPs

Designated and qualified person(s) shall inspect pollution control measures every fourteen days and within 24 hours after a storm event greater than 0.5 inches of rainfall. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of the Storm Water NPDES data for a period of three years after the date of the inspection. A copy of the Inspection Report Form is provided in this pollution prevention plan.

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

Pollution Prevention Measure	Inspected	Corrective Action	
		Description	Date Completed
General			
Re-Vegetation			
Erosion/sediment controls			
Vehicle exits			
Material areas			
Equipment areas			
Concrete rinse			
Construction debris			
Trash receptacles			
Infrastructure			
Roadway cleaning			
Utility construction			
Drainage construction			
Roadway base			
Roadway surfaces			
Site Grading			
Site Cleanups			

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

_____ _____

Inspector's Name Inspectors Signature

_____ _____

Name of Owner/Operator (Firm) Date

SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of the site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

After construction activity has ceased in exposed areas, seeding or sod shall be placed on exposed/bare soils no more than 14 days after final grade has been established.

EROSION AND SEDIMENT CONTROL

SOIL STABILIZATION PRACTICES:

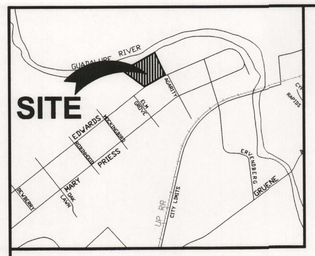
X____ Hydromulching
_____ Temporary Seeding
X____ Permanent Planting, Sodding, or Seeding
_____ Mulching
_____ Soil Retention Blanket
_____ Buffer Zones
X____ Preservation of Natural Resources

OTHER: Disturbed areas on which construction activity has ceased temporarily or permanently, shall be stabilized within 14 days unless activities are scheduled to resume and done within 21 days.

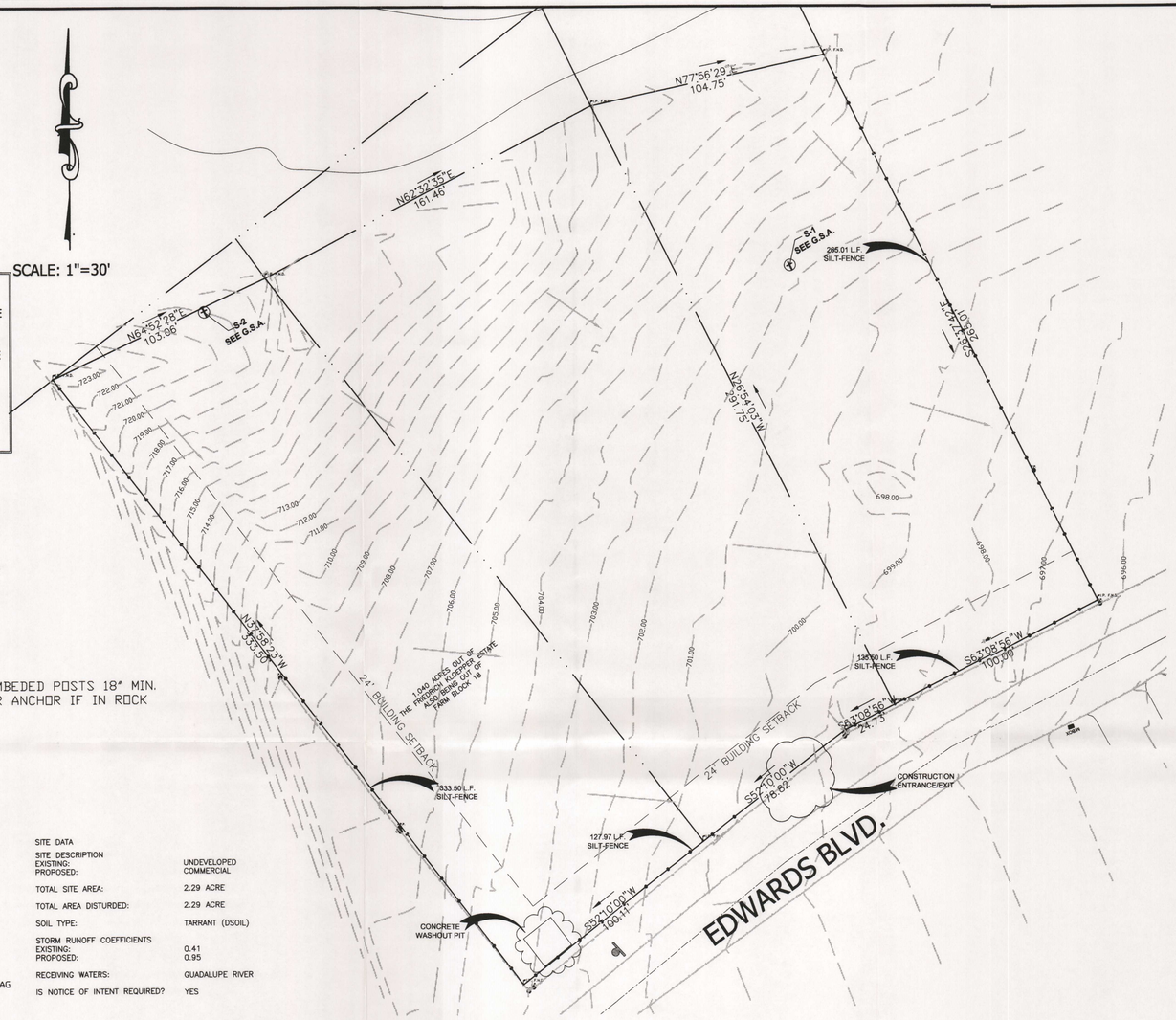
STRUCTURAL PRACTICES:

X____ Silt Fences
_____ Hay Bales
_____ Gravel Filtration Bags
X____ Rock Berms
_____ Diversion, Interceptor, or Perimeter Dikes
_____ Diversion, Interceptor, or Perimeter Swales
_____ Diversion Dike and Swale Combinations
_____ Pipe Slope Drains
_____ Paved Flumes
X____ Rock Bedding at Construction Exit (Stabilized Entrance)
_____ Timber Matting at Construction Exit (Stabilized Entrance)
_____ Channel Liners
_____ Sediment Traps
_____ Sediment Basins
_____ Storm Inlet Sediment Trap
_____ Stone Outlet Structures
_____ Curbs and Gutters
_____ Storm Sewers
X____ Velocity Control Structures
_____ Geotextiles
Other: _____

Narrative – Sequence of Construction (Storm Water Management) Activities:
Structural Practices, as applicable, will be installed prior to each phase of the project and maintained during the construction of that phase. Soil Stabilization practices will closely follow completion and acceptance of construction of each project phase.



SCALE: 1"=30'



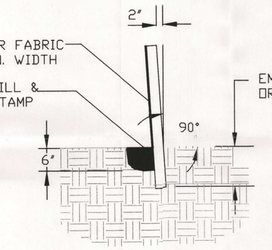
SEDIMENT CONTROL FENCE USAGE GUIDELINES

A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAX. FLOW THROUGH RATE OF 100 GPM/FT

EROSION CONTROL NOTES

1. CONTRACTOR SHALL INSTALL SEDIMENT AND EROSION CONTROLS PRIOR TO ANY SITE PREPARATION WORK.
2. CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. CONTRACTOR IS RESPONSIBLE FOR THE CONTINUED MAINTENANCE AND REPAIR OF THE THE CONTROLS DURING CONSTRUCTION.
3. CONTROL MEASURES INDICATED ON THIS PLAN ARE A MINIMUM RECOMMENDATION AND ARE SUBJECT TO INSPECTION BY THE SAN ANTONIO WATER SYSTEM. IF ADDITIONAL CONTROL MEASURES ARE REQUIRED DURING CONSTRUCTION, THESE SHALL BE AT THE CONTRACTOR'S EXPENSE.
4. CONTRACTOR SHALL COMPLY WITH THE LATEST TCEQ AND SAWS STANDARDS DETAILS, MATERIALS AND INSTALLATION REQUIREMENTS FOR SEDIMENT AND EROSION CONTROLS.

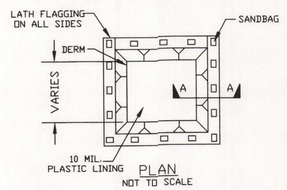


SECTION A-A
NOT TO SCALE

SITE DATA

SITE DESCRIPTION EXISTING:	UNDEVELOPED
PROPOSED:	COMMERCIAL
TOTAL SITE AREA:	2.29 ACRE
TOTAL AREA DISTURBED:	2.29 ACRE
SOIL TYPE:	TARRANT (DSOIL)
STORM RUNOFF COEFFICIENTS EXISTING:	0.41
PROPOSED:	0.95
RECEIVING WATERS:	GUADALUPE RIVER
IS NOTICE OF INTENT REQUIRED?	YES

CONCRETE WASHOUT PIT



SECTION A-A
NOT TO SCALE

1 CONSTRUCTION ENTRANCE
861.98 TOTAL L.F.
SILT FENCE

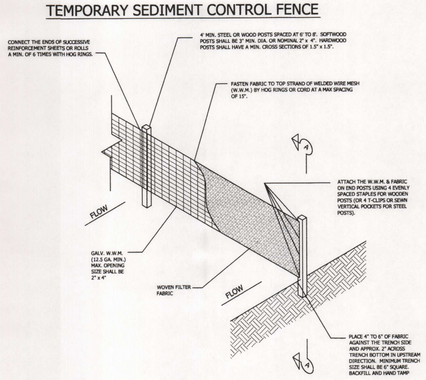
NOTE:

1. THE WHOLE PROJECT SITE IS TO BE DISTURBED.
2. SOIL STABILIZATION PRACTICES ARE EXPECTED TO OCCUR AT ALL OPEN AREAS DESIGNATE FOR OPEN SPACE/LAWNS. BARE SOILS SHALL BE SEEDED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING.

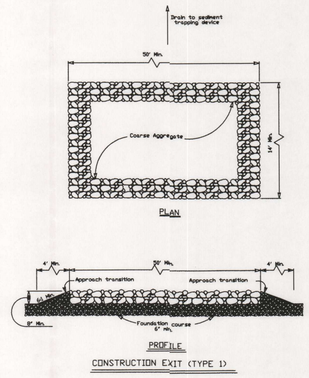
LEGEND

I.P. I.P. FOUND	IRON PINS FOUND	FIRE HYDRANT	SILT FENCE
P.P.	POWER POLE	SAN. SEW. MANHOLE	OVERHEAD ELECTRIC LINE
CP	CONTROL POINT	MISC. SIGN	EXIST. WATERLINE
WM	WATER METER	POSTS (MISC)	CHAIN LINK FENCE
WV	WATER VALVE	TREES (MISC)	ROD IRON FENCE
FA	FLOW ARROW	BENCH MARK	BARBWIRE FENCE
PL	PROPERTY LINE	TREE REMOVAL	EXIST. SAN. SEWER LINE
SLM	SENSITIVE LOCATION MARKER		GAS LINE
			WOODEN FENCE
		W	WATER WELL
		980	EXIST. CONTOUR
		980	PROP. CONTOUR
		703.00	SPOT ELEV.
		T.W.600	TOP OF WALL
		T.S.600	TOP OF SLAB
		T.C.600	TOP OF CURB
		GUT.600	GUTTER
		T.SW.600	TOP OF SIDEWALK

TEMPORARY SEDIMENT CONTROL FENCE



STABILIZED CONSTRUCTION ENTRANCE



CONSTRUCTION EXIT (TYPE 1)

GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.
7. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
8. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ROADWAY MUST BE REMOVED IMMEDIATELY.

GENERAL NOTES

1. THE GUILDLINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEERS.
2. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN TWO ACRES.

SOIL STABILIZATION PRACTICES:

- ____HYDROMULCHING
- ____TEMPORARY SEEDING
- _X_PERMANENT PLANTING, SODDING, OR SEEDING
- ____MULCHING
- ____SOIL RETENTION BLANKET
- ____BUFFER ZONES
- _X_PRESERVATIVE OF NATURAL RESOURCES

OTHER:_____

STRUCTURAL PRACTICES:

- _X_SILT FENCES
- ____HAY BALES
- ____ROCK BERMS
- ____DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- ____DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- ____DIVERSION DIKE AND SWALE COMBINATIONS
- ____PIPE SLOPE DRAINS
- ____PAVED FLUMES
- _X_ROCK BEDDING AT CONSTRUCTION EXIT
- ____TIMBER MATTING AT CONSTRUCTION EXIT
- ____CHANNEL LINERS
- ____SEDIMENT TRAPS
- ____SEDIMENT BASINS
- ____STORM INLET SEDIMENT TRAP
- ____STONE OUTLET STRUCTURES
- _X_CURBS AND GUTTERS
- ____STORM SEWERS
- _X_VELOCITY CONTROL DEVICES

OTHER:_____

NARRATIVE – SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:
STRUCTURAL PRACTICES, AS APPLICABLE, WILL BE INSTALLED PRIOR TO EACH PHASE OF THE PROJECT AND MAINTAINED DURING THE CONSTRUCTION OF THAT PHASE. SOIL STABILIZATION PRACTICES WILL CLOSELY FOLLOW COMPLETION AND ACCEPTANCE OF CONSTRUCTION FOR EACH PROJECT PHASE.

GENERAL NOTES

1. The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50'.
2. The coarse aggregate should be open graded with a size of 4' to 8'.
3. The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
4. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
5. The construction exit shall be graded to allow drainage to a sediment trapping device.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

PROTECTION MEASURES

A. Prior to construction or land development, four–foot high safety fencing shall be installed around the root protection zone of a protected or heritage tree that is to be preserved.

The root protection zone is an area with a radius of one–half (1/2) foot for each inch of trunk measured four and one–half feet above the ground, or it branching occurs at four and one–half feet, the diameter is measured at the point where the smallest diameter closest to the branching occurs. The zone need not be exactly centered around the tree than one–closer to the tree or circular in shape, but it should be positioned so that no disturbance occurs closer to the tree than one half (1/2) of the radius of the zone or within five feet of the tree, whichever is less. For any tree or groups of trees, the zone need not exceed 1,000 square feet in size. The radical root protection zones of trees may overlap one another so that the area of protection required for one tree may be shared by the area of protection required for another tree to minimize the total square footage of protection area where possible.

B. During construction, the cleaning of equipment or materials and/or the disposal of any waste material, including, but not limited to paint, oil, solvents, asphalt, concrete, mortar, etc., under the canopy or drip line of any protected tree shall be prohibited.

C. No attachments or wires of any kind, other than those of a protective nature, shall be attached to any protected tree.

D. Grading or fill in an area under the drip line of a protected tree shall be prohibited unless approved by the Planning Director and City Engineer. If grading of filling were to occur within five feet of the protected or heritage tree to be preserved, a retaining wall or tree well of rock, brick, landscape timbers or others approved materials shall be constructed around the tree no closer than the drip line of the protected tree. The top of the retaining wall or tree well shall be constructed at the new grade.

REVISIONS		
⚠	REV. PER T.C.E.Q.	5-7-2007

TEMPORARY STORMWATER SECTION (TCEQ-0602)
ATTACHMENT G - DRAINAGE AREA MAP

CONSTRUCTION PLANS FOR:
GRUENE RAPIDS CONDOMINIUMS
1265 EDWARDS BLVD.
NEW BRAUNFELS TEXAS

STATE OF TEXAS
BRIAN M. KLEIN
83735
LICENSED PROFESSIONAL ENGINEER

KLEIN ENGINEERING, INC.
CIVIL / MUNICIPAL / ENVIRONMENTAL ENGINEERS
8611 BOTTS LANE
SAN ANTONIO, TX. 78217
OFFICE: 210-828-7070
FAX: 210-828-7076

JOB No. : 10-35
DATE : 05-2007
DESIGNED BY: B.M.C.
DRAWN BY: G.L.L.
CHECKED BY: B.M.C.
PAGE 1 of 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: Gruene Rapids Condominiums

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

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

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

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

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

   _____

   _____

   _____

   _____

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

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

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

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

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

5. 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.

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

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

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

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

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

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

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

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

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

8. X **ATTACHMENT D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is provided at the end of this form. Each feature identified in the Geologic Assessment as "sensitive" 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. X **ATTACHMENT I -Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is provided at the end of this form. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity which increase erosion that results in water quality degradation.

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

14. X The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's

association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

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

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

Brian M. Cope, P.E.
Print Name of Customer/Agent

Brian M. Cope, P.E. 5/1/07
Signature of Customer/Agent Date

BMPs for UPGRADIENT STORMWATER

There is no upgradient surface water that flows across this site. This site is located on a 60'-80' bluff above the Guadalupe River. Runoff is generated on site and flows towards the southeast corner of the property along Edwards Blvd.

BMPs for ON-SITE STORMWATER

On-site stormwater runoff will flow into a sand filter system. This basin was designed in accordance with the TCEQ Technical Guidance Manual to comply with 30 TAC Chapter 213 requirements. The filter system is designed to remove 80% of the increased Total Suspended Solids (TSS). Pollutant removal is achieved by straining pollutants through a filter media. The proposed development will be graded such that the entire project area flows to the sand filter system. The discharge from the basin will be to the Right-of-Way of Edwards Blvd.

BMPs for SURFACE STREAMS

This basin was designed to remove 80% of the increased Total Suspended Solids (TSS) for the entire project site in accordance with the TCEQ Technical Guidance Manual to comply with 30 TAC Chapter 213 requirements. Pollutant removal is achieved by straining pollutants through a filter media. This filter system is designed to prevent pollutants from entering the Guadalupe River.

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

Regular inspections will occur two times a year. During each inspection erosion areas inside and downstream of the BMP must be identified and repaired or revegetated immediately. Any identified damage to the structure will be repaired immediately. After heavy rain, inspection will occur for erosion. Damaged areas will be repaired within 7 days.

Sediment shall be removed from the inlet structure and sedimentation chamber when sediment buildup reaches a depth of 6 inches or when the proper functioning of inlet and outlet structures is impaired. Sediment should be cleared from the inlet structure at least every year and from the sedimentation basin at least every 5 years.

Media Replacement- The filter underdrain will be cleaned to remove sediment build up every 2 years, or as needed to maintain the designed drawdown time. When the drawdown time exceeds 48 hours, the upper layer of the geotechnical material and gravel ballast should be removed and replaced with new materials meeting the original specifications. Any discolored sand should also be removed and replaced.

Debris and Litter Removal- Debris and litter will accumulate near the sedimentation basin outlet device and should be removed during regular mowing operations and inspections. Attention should be brought to any debris that can float and clog the control device.

Filter Underdrain- Clean the piping network to remove any sediment buildup as needed to maintain design drawdown time.

Record Keeping: Owner shall maintain a field logbook to record any relevant information noted during any site visits or Inspections. Include notations about any activities or issues that could affect the water quality (e.g. maintenance activities, and improperly functioning equipment or components). Results of inspection visits and corrective actions should be recorded.

James Racanelli 4-26-07

Owner Date

Troy D. Burch, Jr. or James Racanelli or Craig W. Hall
Gruene Rapids Condominiums, LLC
224 E. Faust St
New Braunfels, Texas 78130

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

The measures to avoid or minimize surface stream contamination are as identified in Attachments C & D. The proposed project will be graded to a sedimentation sand filter basin. Pollutants will be removed from the runoff as the runoff filters through the filter media. The discharge from the basin will be to the Right-of-Way of Edwards Blvd. The velocity and erosion controls will conform to the requirements of Comal County.

Texas Commission on Environmental Quality

TSS Removal Calculations 05-09-2006

Project Name: Gruene Rapids Condo.
Date Prepared: 1/16/2007

Text shown in magenta provide instructions for the use of this spreadsheet.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG 348.
Characters shown in red are data entry fields.
Characters shown in black are calculated fields. Changes to these fields will remove equations used in the spreadsheet.

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

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

where:

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

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Comal	
Total project area included in plan * =	2.289	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.776	acres
Total post-development impervious cover fraction * =	0.78	
P =	33	inches

Total L_M required for this plan = **1594** lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

Separate calculations should be prepared for each drainage basin / outfall area.
The calculations must include Sections 2 through 6 and the Section for the appropriate BMP proposed, e.g Section 9 for Sand Filters.
A summation of the load removal calculations must be provided.
It should include justifcations indicating that the project meets the requirements of the Edwards Aquifer Rules.
The permanent BMP calculations and summary must be signed, sealed, and dated by the P.E. making the submittal.

2. Calculations for the Required Load Reduction:

Drainage Basin / Outfall Area No. = 1

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: Determine Required Load Removal Based on the Entire Project

Total drainage basin / outfall area * =	2.289	acres
Predevelopment impervious area within drainage basin / outfall area * =	0.00	acres
Post-development impervious area within drainage basin / outfall area * =	1.776	acres
Post-development impervious fraction within drainage basin / outfall area * =	0.78	
P =	33	inches
L_M =	1594	lbs.

* The values entered in these fields should be for the drainage basin / outfall area.

3. Indicate the Drainage Basin and Select the desired BMP Code for this Section.

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

4. Calculate TSS Load Removed (L_R) from this Drainage Basin by the Proposed BMP Type.

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 = Total On-Site drainage area in the BMP Catchment area
A_I = Impervious area proposed in the BMP catchment
A_P = Pervious area remaining in the BMP catchment
L_R = TSS Load removed by the proposed BMP

A_C =	2.289	acres
A_I =	1.776	acres
A_P =	0.513	acres
L_R =	1813	lbs

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

F = **0.88**

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

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	**1.50**	inches
Post Development Runoff Coefficient =	**0.59**	**IC = Drainage Area to BMP / drainage Area to BMP**
On-site Water Quality Volume =	**7376**	cubic feet

Offsite drainage should be conveyed around or through the drainage basin / outfall area without entering the BMP.
If no offsite drainage flows across the drainage basin / outfall area or is bypassed through the site, enter 0 in cells C109 & C110.
If the offsite drainage is directed to the drainage basin, enter offsite area draining to BMP & offsite Impervious cover draining to BMP in cells C109 & C110.

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

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

Storage for Sediment =	**1475**		
Total Capture Volume =	**8851**	cubic feet	

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for the water quality volume of a BMP Type not selected in cell C64 will show NA.

7. Retention/Irrigation System — Designed as Required in RG-348 — Pages 3-42 to 3-46

Required Water Quality Volume for retention basin =	**NA**	cubic feet	
Irrigation Area Calculations:			
Soil infiltration/permeability rate =	**0.1**	in/hr	**Enter determined permeability rate or assumed value of 0.1**
Irrigation area =	**NA**	square feet	
	NA	acres	

8. Extended Detention Basin System — Designed as Required in RG-348 — Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin =	**NA**	cubic feet	

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

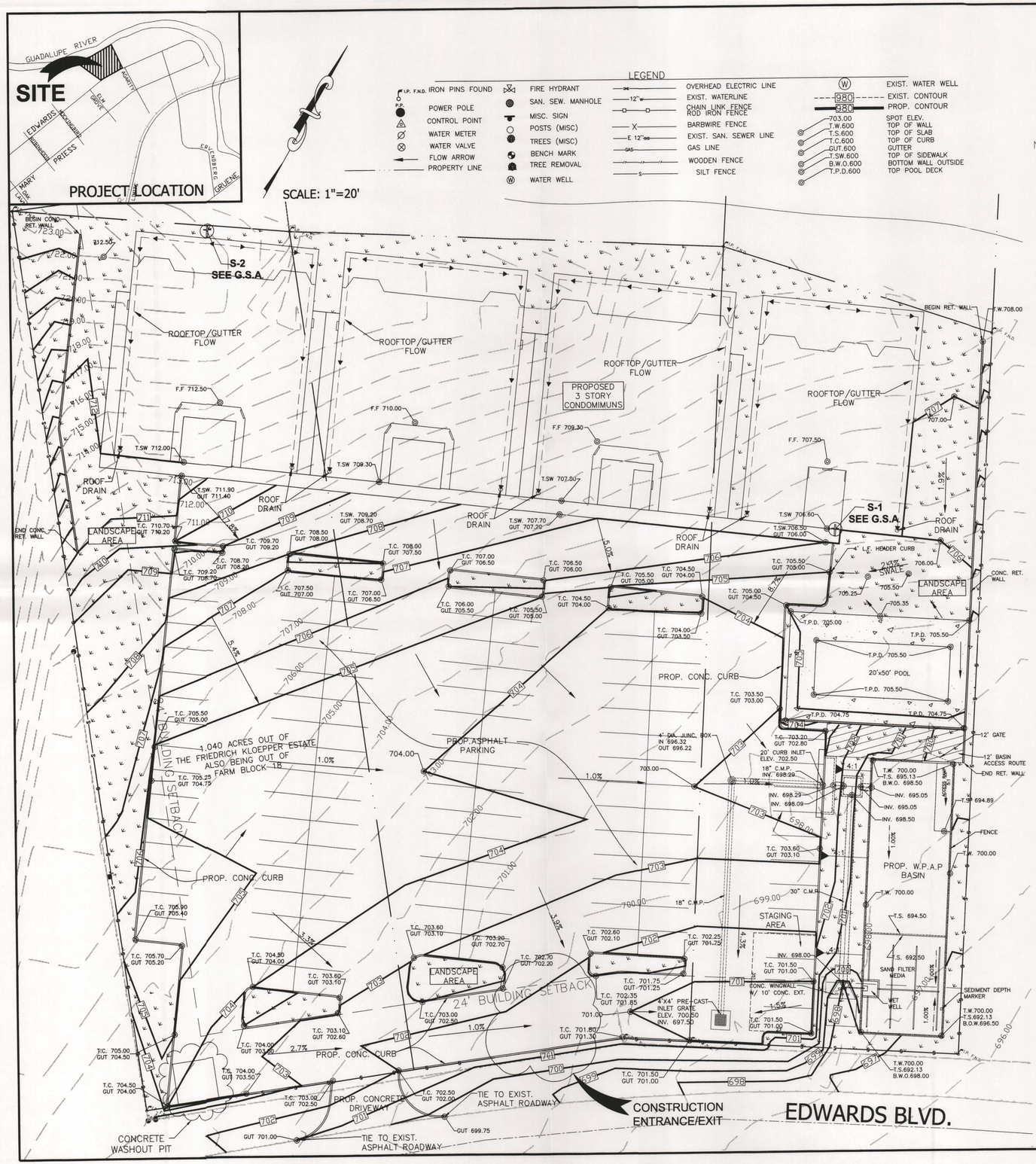
9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	**8851**	cubic feet	
Minimum filter basin area =	**492**	square feet	
Maximum sedimentation basin area =	**4425**	square feet	**For minimum water depth of 2 feet**
Minimum sedimentation basin area =	**1106**	square feet	**For maximum water depth of 8 feet**

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	**8851**	cubic feet	
Minimum filter basin area =	**885**	square feet	
Maximum sedimentation basin area =	**3540**	square feet	**For minimum water depth of 2 feet**
Minimum sedimentation basin area =	**221**	square feet	**For maximum water depth of 8 feet**

10. Bioretention System — Designed as Required in RG-348 — Pages 3-63 to 3-65



SITE DATA	
SUBDIVISION AREA:	2.29 ACRE
LEGAL DESCRIPTION:	LOTs 3,4&5, BLK:7, Preiss Heights Subdivision, Vol. 105, Pg. 314–318
PROPOSED LAND USE:	COMMERCIAL

NOTE:

1. THE WHOLE PROJECT SITE IS TO BE DISTURBED.
2. SOIL STABILIZATION PRACTICES ARE EXPECTED TO OCCUR AT ALL OPEN AREAS DESIGNATE FOR OPEN SPACE/LAWNS. BARE SOILS SHALL BE SEEDED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING.

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 the telephone number of the contract 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 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 with 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 measure must be properly selected, installed, and maintained in accordance with the manufacturers specification 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 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 sediments must be removed at a frequency sufficient to minimize off–site impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
7. Sediment must be removed from sediment trap 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 storm water shall be prevented from becoming a pollutant source for storm water discharges (e.g., screening outfalls, picked up daily).
9. All spoils (excavated material) generated from this project site must be stored on–site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.
10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbed activities will be resumed with 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.
11. The following records shall be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.
12. The holder of any approved Edwards Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
   A. any physical or operational modifications 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

GENERAL NOTES
1. CONTRACTOR SHALL COMPLY WITH THE CITY OF SAN ANTONIO REGULATIONS. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AS WELL AS, ALL APPLICABLE SAFETY CODES AND INSPECTION REQUIREMENTS.
2. CONTRACTOR SHALL NOTIFY ALL RESPECTIVE GOVERNMENTAL AND/OR UTILITY AGENCIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR CONSTRUCTION.
4. CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.
5. THE LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN IN THE CONSTRUCTION DOCUMENTS ARE APPROXIMATE ONLY. IT IS THE CONTRACTOR'S REPONSIBILITY TO CONTACT UTILITY COMPANIES AND LOCATE UTILITY LINES AT LEAST 48 HOURS PRIOR TO BEGINNING EXCAVATION AND TO PROTECT THE UTILITY LINES DURING CONSTRUCTION. DAMAGE TO ANY UTILITY OR DRAINAGE LINE DURING THE CONSTRUCTION OF THIS PROJECT MUST BE REPORTED IMMEDIATELY TO THE APPROPRIATE UTILITY OF THIS PROJECT MUST BE REPORTED IMMEDIATELY TO THE APPROPRIATE UTILITY COMPANY OR AGENCY AND REPAIRED AT THE CONTRACTOR'S EXPENSE.

TEXAS ONE–CALL (UTILITY LOCATOR)	1–800–545–6005
CITY PUBLIC SERVICE (GAS/ELECTRIC)	978–3500
SBC	1–800–828–5127
TIME WARNER CABLE	352–4672
SAN ANTONIO WATER SYSTEM (WATER)	704–7109
(SEWER)	704–7107
DEPARTMENT OF PUBLIC WORKS (DRAINAGE)	207–8048

DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR SHALL PROTECT AND WORK AROUND ANY GAS VALVES LOCATED IN THE PROJECT AREA.
6. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN CITY INSPECTIONS AND LETTERS OF ACCEPTANCE FROM THE CITY OF SAN ANTONIO AND SAN ANTONIO WATER SYSTEM, IF REQUIRED.
7. TRAFFIC CONTROL, WHERE REQUIRED, SHALL BE PROVIDED IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. NO SEPARATE PAY ITEM FOR THIS WORK.
8. CONTRACTOR SHALL PROTECT EXISTING GRASS, TREES AND NATURAL LANDSCAPE NOT IN DIRECT CONFLICT WITH THE PROPOSED IMPROVEMENTS.
9. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT SHALL REVIEW THESE PLANS. AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIAPATED SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXACAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONCTRACTOR'S IMPLEMENTATION OF THESE SYSTEM'S, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION IN COMPLIANCE WITH OSHA REGULATIONS (STANDARD 1926 SUBPART P) FOR TRENCH EXCAVATION SPECIFICALLY, GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING AND AROUND TRENCH EXCAVATION.
10. THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIRED EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF SITE IMPROVEMENTS. CONTRACTORS IS RESPONSIBLE FOR THE INSTALLATION AND SHALL MAINTAIN THE EROSION AND SEDIMENTATION CONTROL DEVICES UNTIL THE DISTURBED AREA HAS BEEN 70% REVEGETATED. THE CONTRACTOR IS ALSO RESPONSIBLE FOR SUBMITTING NOTICE OF INTENT AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) TO THE TCEP (IF REQUIRED). NOTICE OF TERMINATION TO BE SUBMITTED UPON COMPLETION OF WORK (IF REQUIRED).
11. ALL TRENCHES SHALL BE BACKFILLED IN 8 INCH LIFTS AND COMPACTED TO 95% MAXIMUM DRY DENSITY.
12. CONCRETE SHALL BE CLASS 'A' WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI, UNLESS OTHERWISE NOTED. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾ INCH.
13. REINFORCING STEEL SHALL BE ASTM A615 GR60, UNLESS OTHERWISE NOTED.
14. ALL DIMENSIONS TO CURB LINES ARE TO FACE OF CURB, UNLESS OTHERWISE NOTED.
15. GROUNDWATER
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR SUBCONTRACTOR TO IMMEDIATELY NOTIFY THE OWNER AND CITY ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE PROJECT SITE IS EVIDENT.

REVISIONS

⚠	REV. PER T.C.E.Q.	5–7–2007

PERMANENT STORMWATER SECTION (TCEQ-0600)
ATTACHMENT F - CONSTRUCTION PLANS

CONSTRUCTION PLANS FOR:
GRUENE RAPIDS CONDOMINIUMS
1265 EDWARDS BLVD.
NEW BRAUNFELS TEXAS

BRIAN M. COPE 93735 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS 2/16/07

KLEIN ENGINEERING, INC.
CIVIL / MUNICIPAL / ENVIRONMENTAL ENGINEERS
8611 BOTTS LANE
SAN ANTONIO, TX. 78217
OFFICE: 210-828-7070
FAX: 210-828-7076

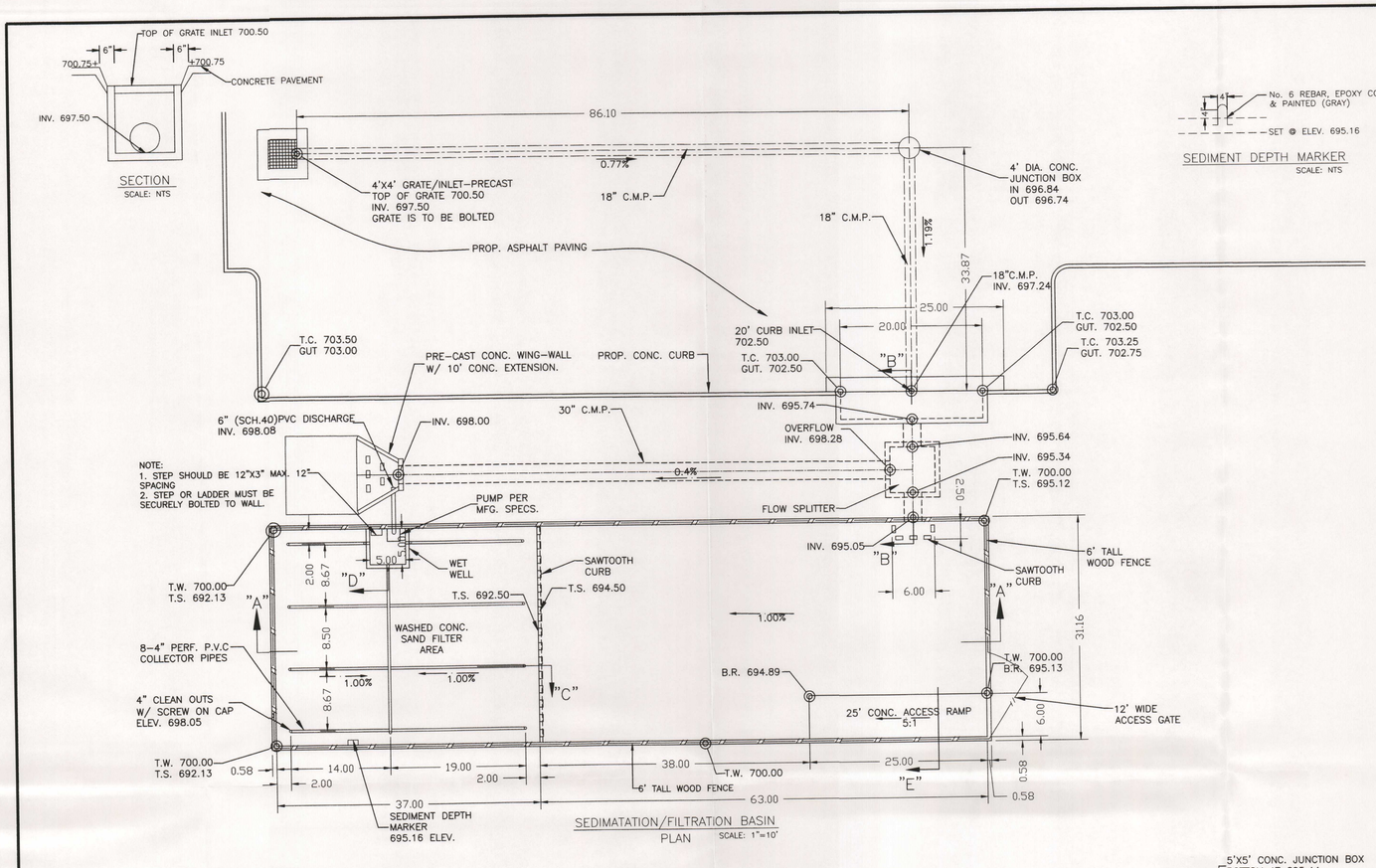
JOB No. : 10-35

DATE : 05-2007

DESIGNED BY: B.M.C.

DRAWN BY: G.L.L.

CHECKED BY: B.M.C.



LEGEND

I.P. F.N.D. IRON PINS FOUND	FIRE HYDRANT	OHE	OVERHEAD ELECTRIC LINE
P.P. POWER POLE	SAN. SEW. MANHOLE	12"W	EXIST. WATERLINE
CONTROL POINT	MISC. SIGN		CHAIN LINK FENCE
WATER METER	POSTS (MISC)		ROD IRON FENCE
WATER VALVE	TREES (MISC)	X	BARBWIRE FENCE
FLOW ARROW	BENCH MARK	E 12"SS	EXIST. SAN. SEWER LINE
PROPERTY LINE	TREE REMOVAL	GAS	GAS LINE
SENSITIVE LOCATION MARKER			WOODEN FENCE
		S	SILT FENCE
		W	WATER WELL

W	EXIST. WATER WELL
980	EXIST. CONTOUR
980	PROP. CONTOUR
703.00	SPOT ELEV.
T.W.600	TOP OF WALL
T.S.600	TOP OF SLAB
T.C.600	TOP OF CURB
GUT.600	GUITER
T.SW.600	TOP OF SIDEWALK
B.W.O.600	BOTTOM WALL OUTSIDE
T.P.D.600	TOP POOL DECK

NOTES:

1. CONTRACTOR TO REFERENCE STRUCTURAL DESIGN PLANS FOR DETAILS REGARDING WIDTH OF CONCRETE WALLS AND STEEL REINFORCING.
2. THE WASHED SAND GRAIN SIZE DISTRIBUTION SHOULD BE COMPARABLE TO THAT OF "WASHED CONCRETE SAND" (ASTM C-33).
3. USE 1"-1.5" DIAMETER CLEAN CRUSHED STONE OR GRAVEL FOR UNDERDRAIN LAYER.
4. FILTER SAND MAY SEEDED WITH GRASS SEED VISUAL IMPACT OF FILTER AREA.
5. REFER TO ATTACHMENT G OF THE PERMANENT POLLUTION ABATEMENT SECTION OF THE WATER POLLUTION ABATEMENT PLAN FOR THE CALCULATIONS ON THE REQUIRED VOLUME FOR THE SAND FILTRATION BASIN.
6. REFERENCE GEOTEXTILE FILTER FABRIC ANCHORING DETAIL AND GATE VALVE DETAIL ON IN EXHIBIT 9 OF THE WPAP REPORT.

PERMEABLE GEOTEXTILE FILTER FABRIC SPECIFICATIONS

A COMPOSITE GEOTEXTILE SEPARATION LAYER MEETING THE FOLLOWING SPECIFICATIONS SHALL BE INSTALLED BETWEEN THE SAND MEDIA AND THE PERFORATED PIPE UNDERDRAIN SYSTEM. SEE DETAIL THIS FOR PROPER ANCHORING OF FILTER FABRIC.

THE SEPARATION LAYER SHALL BE A COMPOSITE DRAINAGE MATTING CONSISTING OF TWO LAYERS OF NONWOVEN GEOTEXTILE FABRIC HEAT-BONDED TO A NYLON CORE GEOMATRIX OF OPEN, THERE-DIMENSIONAL CONSTRUCTION MEETING THE FOLLOWING SPECIFICATIONS:

GEOTEXTILE FABRIC

PROPERTY	TEST METHOD	SPECIFICATION
WEIGHT (OZ/SY)	ASTM D 3776	4.0
GRAB STRENGTH (LBS.)	ASTM D 4632	115
ELONGATIONS (%)	ASTM D 4632	50
PUNCTURE (LBS.)	ASTM D 3787	65
ADS (SIEVEN #)	ASTM D 4751	70
FLOW RATE (GPM/SF)	ASTM D 4491	140

COMPOSITE MATTING

PROPERTY	SPECIFICATION
THICKNESS (IN.)	4.0
TOTAL WEIGHT (OZ/SY.)	115
CORE WEIGHT (OZ/SY.)	50
CORE POLYMER	65

BASIN VOLUME CALCULATIONS

WATERSHED AREA = 2.289 ACRES
RUNOFF DEPTH = 1.50 INCHES
BASIN DEPTH = 4.50 FEET
WATER QUALITY. VOL. REQUIRED = 8,851 CUFT.
WATER QUALITY. VOL. PROVIDED = 10,956.75 CUFT.
MIN. AREA REQUIRED = 885 X 1.2 = 1,062 SQFT.
AREA PROVIDED = 1,077 SQFT.

REVISIONS

1	REV. PER T.C.E.Q.	5-7-2007

PERMANENT STORMWATER SECTION (TCEQ-0600)
ATTACHMENT F - CONSTRUCTION PLANS

CONSTRUCTION PLANS FOR:
GRUENE RAPIDS CONDOMINIUMS
1265 EDWARDS BLVD.
NEW BRAUNFELS TEXAS

STATE OF TEXAS
BRIAN M. KLEIN
93735
LICENSED PROFESSIONAL ENGINEER
5/9/07

KLEIN ENGINEERING, INC.
CIVIL / MUNICIPAL / ENVIRONMENTAL ENGINEERS
8611 BOTTS LANE
SAN ANTONIO, TX. 78217
OFFICE: 210-828-7070
FAX: 210-828-7076

JOB No. : 10-35
DATE : 04-2007
DESIGNED BY: B.M.C.
DRAWN BY: G.L.L.
CHECKED BY: B.M.C.
PAGE 2 of 2

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

I James Racanelli,
Print Name

Owner
Title - Owner/President/Other

of Gruene Rapids Condominiums, LLC
Corporation/Partnership/Entity Name

have authorized Brian M. Cope, P.E.
Print Name of Agent/Engineer

of Klein Engineering, 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.

James Racanelli
Applicant's Signature

4-26-07
Date

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared James Racanelli known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 26th day of April, 2007

DONNA LIPSEY
Notary Public
State of Texas
My Comm. Exp. 05-04-2010

Donna Lipsey
NOTARY PUBLIC

DONNA Lipsey
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 5-4-2010

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

NAME OF PROPOSED REGULATED ENTITY: Gruene Rapids Condominiums
REGULATED ENTITY LOCATION: Comal County, Texas NAME
OF CUSTOMER: Gruene Rapids Condominiums, LLC
CONTACT PERSON: Troy D. Burch, Jr. or James Racanelli or Craig W. Hall
PHONE: 830-214-3303 (Please Print)

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

AUSTIN REGIONAL OFFICE (3373)
☐ Hays
☐ Travis
☐ Williamson

SAN ANTONIO REGIONAL OFFICE (3362)
☐ Bexar
X 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):

X **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	2.289	Acres	$ 3000.00
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 4-26-07

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

TROY D. BURCH, JR.
SHERRY BURCH
1486 ELM CREEK ROAD
NEW BRAUNFELS, TX 78132

FIRST COMMERCIAL BANK
NEW BRAUNFELS, TX
88-1222/1149

3176

April 26, 2007

PAY TO THE ORDER OF TCEQ $3000.00/100

Three thousand and 00/100 DOLLARS

MEMO WPAP - Gruene Rapids Condominiums

AUTHORIZED SIGNATURE

⑈003176⑈ ⑆114912220⑆ 036007404⑈

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.*

New WPAP Application & SCS Application

2. Attachments				Describe Any Attachments: *(ex: Title V Application, Waste Transporter Application, etc.)*
x	YES		NO	WPAP Application/SCS Application

3. Customer Reference Number-*if issued*			4. Regulated Entity Reference Number-*if issued*		
CN		*(9 digits)*	RN		*(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	x	Owner and Operator
	Occupational Licensee		Volunteer Cleanup Applicant			Other
TCEQ Use Only			**Superfund**		**PST**		**Respondent**

6. General Customer Information

x	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	x	Corporation		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:*
Gruene Rapids Condominiums, LLC	

9. Mailing Address:	224 E. Faust St			
	New Braunfels	Texas	78130	
	City	State	ZIP	ZIP + 4

10. Country Mailing Information *if outside USA*	11. E-Mail Address *if applicable*

12. Telephone Number	13. Extension or Code	14. Fax Number *if applicable*
830-214-3303		830-629-0953

15. Federal Tax ID *(9 digits)*	16. State Franchise Tax ID Number *if applicable*	17. DUNS Number *if applicable (9 digits)*
20-8093516		

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

SECTION III: Regulated Entity Information

20. General Regulated Entity Information

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

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