TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 14, 2013

Mr. Laurence Dahl
Eden Home dba Eden Hills Communities
631 Lakeview Boulevard
New Braunfels, Texas 78130

Re: Edwards Aquifer, Comal County

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

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

Edwards Aquifer Protection Program ID No. RN101762425; Investigation No. 1116709; Additional ID No. 13-13082902

Dear Mr. Dahl:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Modification for the above-referenced project submitted to the San Antonio Regional Office by Pawelek & Moy on behalf of Eden Home on August 29, 2013. 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.*

BACKGROUND

This facility was previously approved by letters dated May 25, 1988, May 6, 1997, December 31, 1997, and October 9, 2006.

PROJECT DESCRIPTION

The proposed project is for the addition of parking areas, covered pavilion, and concrete sidewalks consisting of 0.98 acres of additional impervious cover. The 20.62 acre site will have a total of 12.15 acres of impervious cover (58.92%) up from 11.12 acres (54.17%). There will not be a wastewater discharge associated with this modification.

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 partial sedimentation filtration basin and six vegetative filter strips, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project. The pollution abatement measures are sized based on the information in the following table.

The table provided below presents the summation, by drainage area, of annual TSS removal and total water quality capture volume for the sand filtration basin (SFB) and annual TSS removal for the vegetative filter strips (VFS). For the SFB, there is excess capability to remove TSS (1,068 pounds designed versus 1,023 pounds required), total water capture volume (2,127 ft^3 designed versus 1,755 ft^3 and filter area (192 ft^2 designed versus 146 ft^2 required. The VFSs will remove 925 pounds TSS annually. Combined, the VFSs and SFB will remove 1,993 pounds TSS versus the 1,948 pounds required to be removed.

Drainage Area	Total Area (ac)	Exist. Imp Cover (ac)	Post Imp Cover (ac)	Runoff Depth (inch)	Req'd Capt Vol. (cuft)	Design Capt Vol. (cuft)	Req'd TSS Remove (lb/yr)	Design TSS Remove (lb/yr)
(A1-A3) + (B1-B13)	7.81	4.12	5.27	0.11	1755	2127	1032	1068
A4	0.76	0.15	0.17				18	0
A5	0.14	0.03	-				-27	0
C	1.67	0.62	0.63				9	0
(D1-D5) + D8	5.18	3.31	3.29				-18	0
D6	0.22	0.00					0	0
D7	0.35	0.00					0	0
E1	0.22	0.05					-45	0
E2	0.25	0.01					-9	0
E3	0.07	0.05					-45	0

E4+E5	1.22	0.49	0.69				180	0
E6	0.20	0.09					-81	0
F	2.53	1.06	1.07				9	0
Subtotal Partial SFB	20.62	9.98	11.12		1755	2127	1023	1068
A5	0.14	-	0.10				90	90
E1	0.22	-	0.15				135	135
E2	0.25	-	0.16				144	144
E3	0.07	-	0.05				45	45
E6	0.20	-	0.14				125	125
D6	0.22	-	0.17				153	153
D7	0.35	-	0.26				233	233
Subtotal VFS	1.45	-	1.03				925	925
Total	20.62		12.15				1,948	1,993

GEOLOGY

According to the geologic assessment included with the application, eight man-made features, not assessed as sensitive, were identified on site in 2006. The San Antonio Regional Office assessment was conducted on October 6, 2006. Following TCEQ approval of the WPAP on October 9, 2006, the site was then disturbed as authorized. No TCEQ site assessment was performed associated with work described in the WPAP Modification.

SPECIAL CONDITIONS

I. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter dated October 9, 2013.

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

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

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations

from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

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

During Construction:

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

shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. No wells exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is

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

20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Michael Isley, P.E. of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4057.

Sincerely,

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

LMB/MI/eg

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

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 3, 2013

Mr. Thomas H. Hornseth, P.E.
Comal County Engineer
195 David Jonas Drive
New Braunfels TX 78132-3710

Re: Edwards Aquifer, Comal County
PROJECT NAME: Eden Home, located at 631 Lakeview Boulevard, New Braunfels, Texas

PLAN TYPE: Application for Approval of a Water Pollution Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File No. and Regulated Entity No.: RN101762425
EAPP Additional ID: 13-13082902

Dear Mr. Hornseth:

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

Please forward your comments to this office by October 3, 2013.

The Texas Commission on Environmental Quality appreciates your assistance in this matter and your compliance efforts to ensure protection of the State's environment. If you or members of your staff have any questions regarding these matters, please feel free to contact the San Antonio Region Office at (210) 490-3096.

Sincerely

Todd Jones
Water Section Work Leader
San Antonio Regional Office

TJ/eg

PAWELEK & MOY, INC.

CIVIL ENGINEERING & CONSULTING SERVICES

- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

Modification of a Previously Approved Water Pollution Abatement Plan

Eden Home

631 Lakeview Blvd.
New Braunfels, Texas 78130

by
Pawelek & Moy, Inc.
Job No. 1108.01

August 2013

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

Modification of a Previously Approved Plan Checklist

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

X Geologic Assessment Form (*TCEQ-0585*)
- ATTACHMENT A - Geologic Assessment Table, *TCEQ-0585-Table*
- 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)

X Modification of a Previously Approved Plan (*TCEQ-0590*)
- ATTACHMENT A - Original Approval Letter and Approved Modification Letters
- ATTACHMENT B - Narrative of Proposed Modification
- ATTACHMENT C - Current Site Plan of the Approved Project

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

X Temporary Stormwater Section (*TCEQ-0602*), if necessary
- 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

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

Modification of a Previously Approved Plan Checklist (continued)

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

X Application Fee Form (*TCEQ-0574*)

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

X Core Data Form (*TCEQ-10400)*

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

REGULATED ENTITY NAME: Eden Home
COUNTY: Comal STREAM BASIN: Blieders Creek

EDWARDS AQUIFER: X RECHARGE ZONE
__ TRANSITION ZONE

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

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: Laurence P. Dahl
Entity: Eden Home, Inc. (dba, as Eden Hills Communities)
Mailing Address: 631 Lakeview Blvd.
City, State: New Braunfels, Texas Zip: 78130-4098
Telephone: (830) 625-6291 FAX: (830)620-7786

Agent/Representative (If any):

Contact Person: Daryl D. Pawelek
Entity: Pawelek & Moy, Inc.
Mailing Address: 130 W. Jahn St.
City, State: New Braunfels, Texas Zip: 78130-7640
Telephone: (830)629-2563 FAX: (830)629-2564

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

3. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

Approximately 0.25 miles northwest of the intersection of River Road and Lakeview Blvd. on the north side of Lakeview Blvd.

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

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

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

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

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

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

PROHIBITED ACTIVITIES

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

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

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

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

ADMINISTRATIVE INFORMATION

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

X For a Water Pollution Abatement Plan and Modifications, the total acreage of the site where regulated activities will occur.
__ For an Organized Sewage Collection System Plans and Modifications, the total linear

footage of all collection system lines.

___ For a UST Facility Plan or an AST Facility Plan, the total number of tanks or piping systems.

___ A request for an exception to any substantive portion of the regulations related to the protection of water quality.

___ A request for an extension to a previously approved plan.

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

___ TCEQ cashier

___ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)

X San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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

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

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

Daryl D. Pawelek

Print Name of Customer/Agent

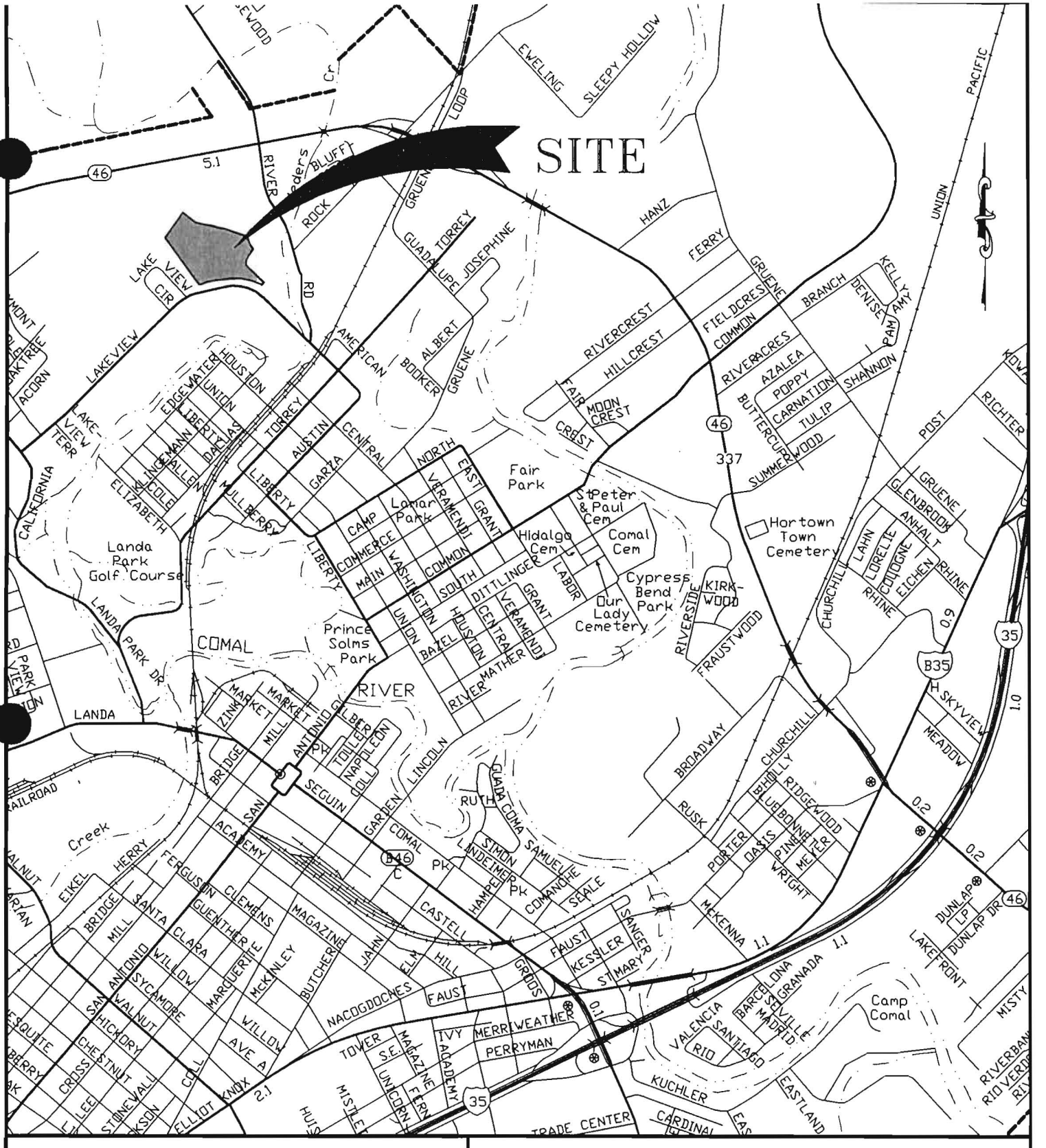
Signature of Customer/Agent

8-28-13

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.



LOCATION MAP

SCALE: 1" = 2000'

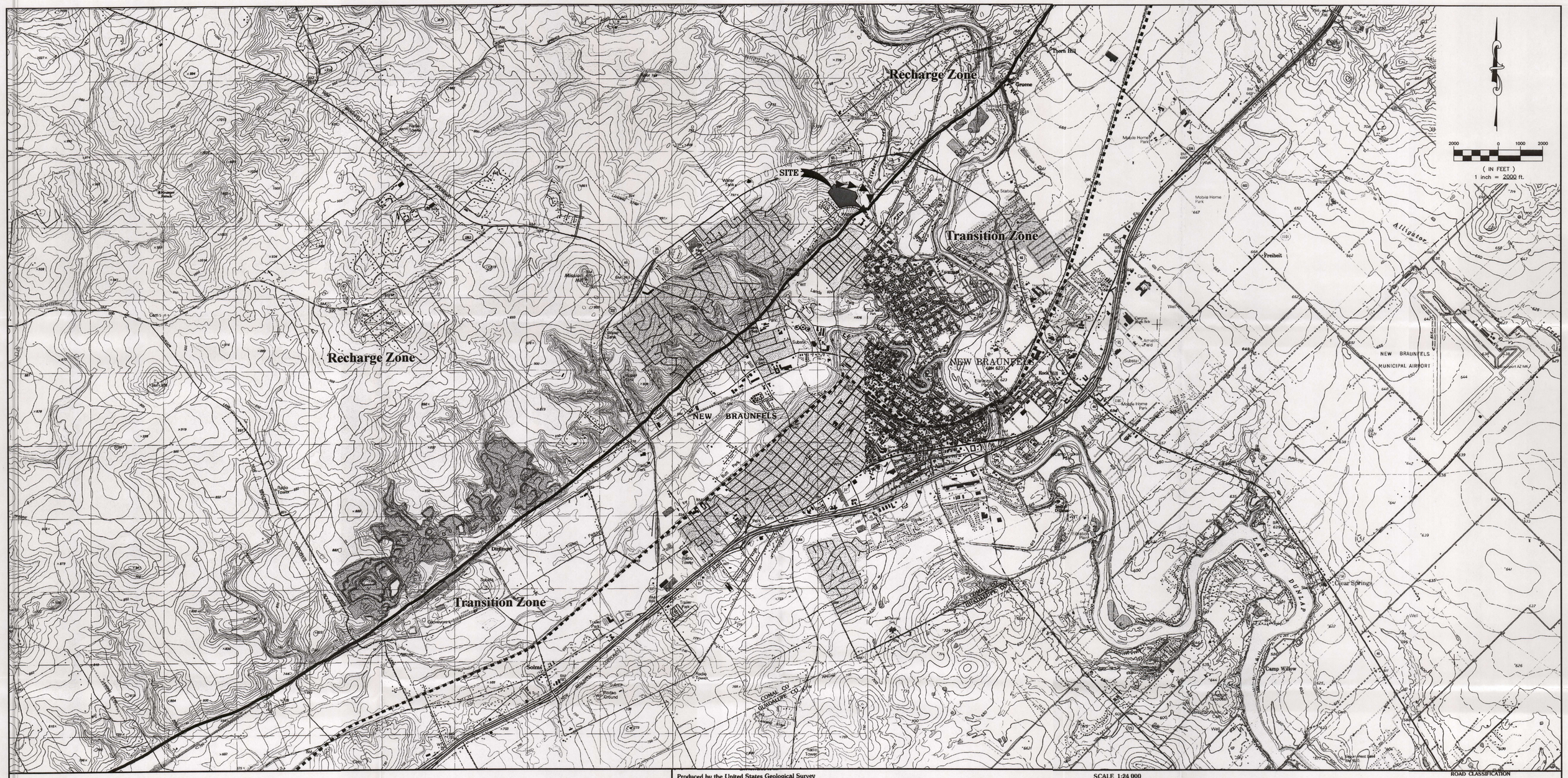
ATTACHMENT A
ROAD MAP

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

TECHNICIAN:	D.G.III	DATE:	SEPTEMBER 2012
JOB NO.	1108.01	SHEET:	R1

ATTACHMENT B

USGS/EDWARDS RECHARGE ZONE MAP



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

Control by USGS, NOS/NOAA, and USCE

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

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

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

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

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

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

QUADRANGLE LOCATION

2998-413

ROAD CLASSIFICATION

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

NEW BRAUNFELS WEST, TEX.
29098-F2-TF-024

1988

DMA 6343 II NW–SERIES V822

Produced by the United States Geological Survey in
cooperation with the Defense Mapping Agency
Control by USGS and NOS/NOAA and USCE
Compiled from aerial photographs taken 1956. Revisions in purple
and woodland compiled from aerial photographs taken 1986 and
other sources and has been field checked. Map edited 1994
Conflicts may exist between some updated features and previously
mapped contours
North American Datum of 1927 (NAD 27). Projection and
10 000-foot ticks : Texas Coordinate System, south central zone
(Lambert Conformal Conic)
Blue 1000-meter Universal Transverse Mercator ticks, zone 14
North American Datum of 1983 (NAD 83) is shown by dashed
corner ticks. The values of the shift between NAD 27 and NAD 83
for 7.5-minute intersections are obtainable from National Geodetic
Survey NADCON software

UTM GRID AND 1994 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

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

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

QUADRANGLE LOCATION

2998-414

ROAD CLASSIFICATION

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

NEW BRAUNFELS EAST, TEX.
29098-F1-TF-024

1958
REVISED 1994
DMA 6343 II NE-SERIES V882

ATTACHMENT "C"
PROJECT DESCRIPTION

This 20.62 acre site is located at 631 Lakeview Blvd. in New Braunfels, approximately 0.25 miles northwest of the intersection of River Road and Lakeview Blvd. on the north side of Lakeview Blvd. The existing site consists of various buildings and parking facilities associated with the Continuing Care Retirement Community.

This proposed modification is for the addition of parking areas, covered pavilion and concrete sidewalks consisting of 0.98 acres of additional impervious cover and updating the site plan per the approved technical clarification correspondence with TCEQ for this site. 1.03 acres will be treated with Engineered Vegetative Filter strips and 11.12 acres will be treated with an existing Partial Sedimentation & Filtration Basin. Therefore, the total impervious cover of the site per the approved WPAP dated October 9, 2006 was 11.17 acres (54.17% impervious) and the new total impervious cover of the site is 12.15 acres (58.92%).

GEOLOGIC SITE ASSESSMENT

PREPARED BY

FROST GEOSCIENCES

FOR

EDEN HOME

Geologic Site Assessment (WPAP)

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

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

Frost GeoSciences Control # FGS-06273

August 17, 2011

Prepared exclusively for

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

Frost GeoSciences

Geologic and Environmental Consulting

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www.frostgeosciences.com
TBPE Firm Registration # F-9227
TBPG Firm Registration # 50040

August 17, 2011

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

Attn: Mr. Larry Dahl, Executive Director

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

Frost GeoSciences, Inc. Control # FGS-06273

Gentlemen:

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

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

Sincerely,
Frost GeoSciences, Inc.

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

Distribution: (1) Eden Home, Inc.
(6) Pawelek & Moy, Inc.

Table of Contents

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

REGULATED ENTITY NAME: Eden Home

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

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

PROJECT INFORMATION

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

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

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

* Soil Group Definitions (Abbreviated)

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

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

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

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

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

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

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

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

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

6. Method of collecting positional data:

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

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

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

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

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

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

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

ADMINISTRATIVE INFORMATION

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

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

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

Steve Frost, C.P.G.
Print Name of Geologist

(210) 372-1315
Telephone

(210) 372-1318
Fax

Steve Frost
Signature of Geologist

August 17, 2011
Date

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

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

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

Stratigraphic Column

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

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

GEOLOGIC ASSESSMENT TABLE

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

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

* DATUM 1927 North American Datum (NAD27)

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

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

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

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

Signature Steve Frost Date August 17, 2011 Sheet 1 of 1

LOCATION

The project site is located at 631 Lakeview Boulevard in New Braunfels, Texas. An overall view of the area is shown on copies of the site plan, a street map, the U.S.G.S. Topographic Map, the Edwards Underground Water District Reference Map, the FIRM Map, a geologic map, a 2005 Aerial Photograph at a scale of 1"=500', a 2005 Aerial Photograph at a scale of 1"=100 meters, and a 1973 Photograph at a scale of 1"=500', Plates 1 through 9 in Appendix A.

METHODOLOGY

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

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

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

features, as recommended in the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-01-04). The Site Geologic Map indicating the limits of the project site and the locations of potential recharge features is included in Appendix C. A copy of a 2005 Aerial Photograph at an approximate scale of 1"=100 meters' indicating the limits of the project site and the locations of potential recharge features is included on Plate 8 in Appendix A. The Geologic Assessment Form, Stratigraphic Column, and the Geologic Assessment Table have been filled with the appropriate information for this project site and are included on pages 1-4 of this report.

RESEARCH & OBSERVATIONS

7.5 Minute Quadrangle Map Review

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

Recharge / Transition Zone

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

100-Year Floodplain

According to the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) Panel # 48091C0435F, revised 09-02-09, no portion of the project site is located within the 100 year floodplain. The project site is located within Zone C. According the panel legend, Zone C is defined as areas of minimal flooding. A copy of the above referenced FIRM panel indicating the location of the project site is included on Plate 5 in Appendix A.

Soils

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

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

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

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

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

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

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

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

Narrative Description of the Site Geology

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

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

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

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

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

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

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

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

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

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

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

BEST MANAGEMENT PRACTICE (BMP)

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

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

DISCLAIMER

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

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

REFERENCES

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

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

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

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

Geology, The University of Texas at Austin, Texas.

5) Federal Emergency Management Agency (FEMA), September 2, 2009, Comal County, Texas and Incorporated Areas, Flood Insurance Rate Map (FIRM), Panel #48091C0435F FEMA, Washington D.C.

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

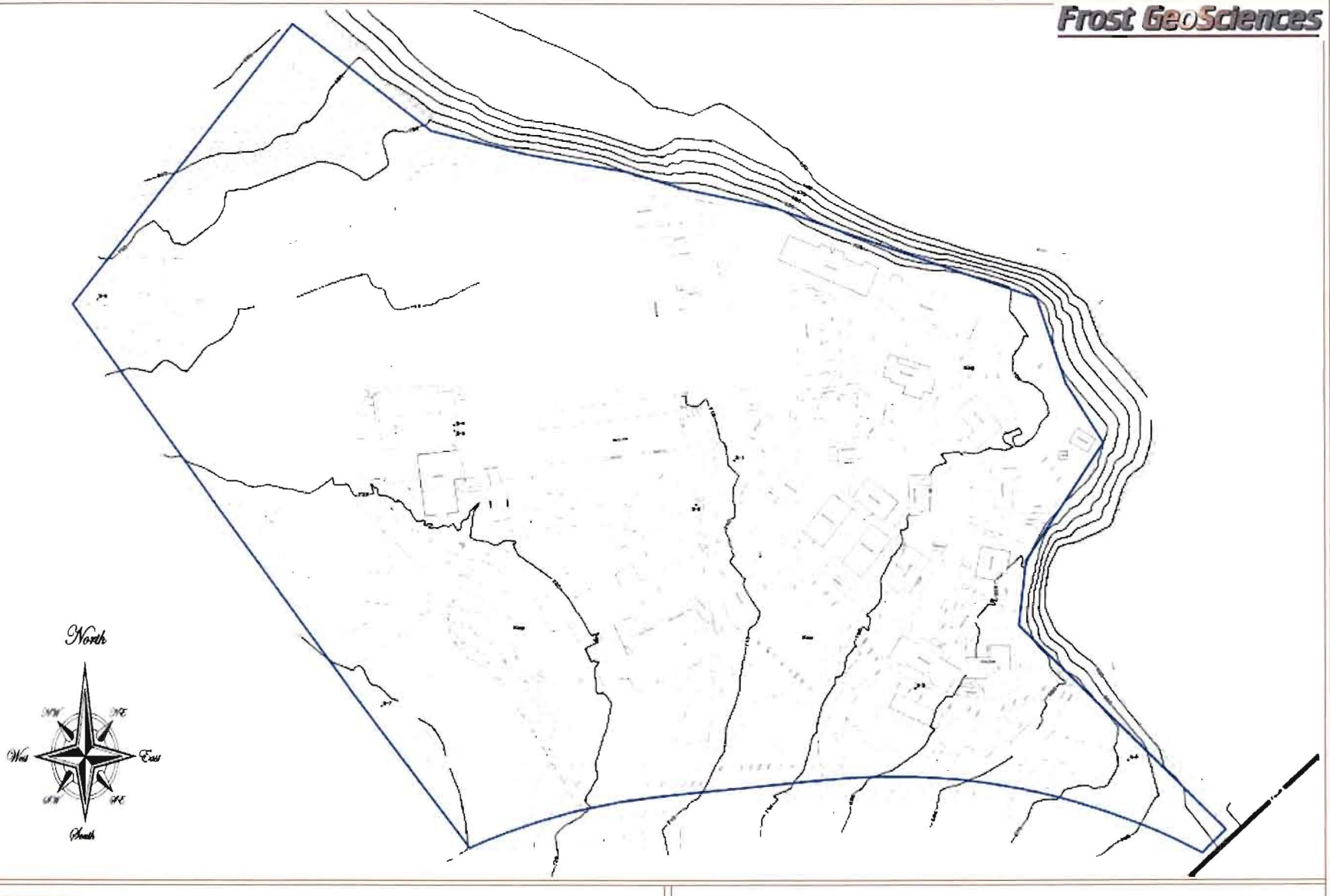
7) TCEQ-0585-Instructions (Rev. 10-01-04). "Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zone".

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

Appendix A

Site Location Plates

Frost GeoSciences

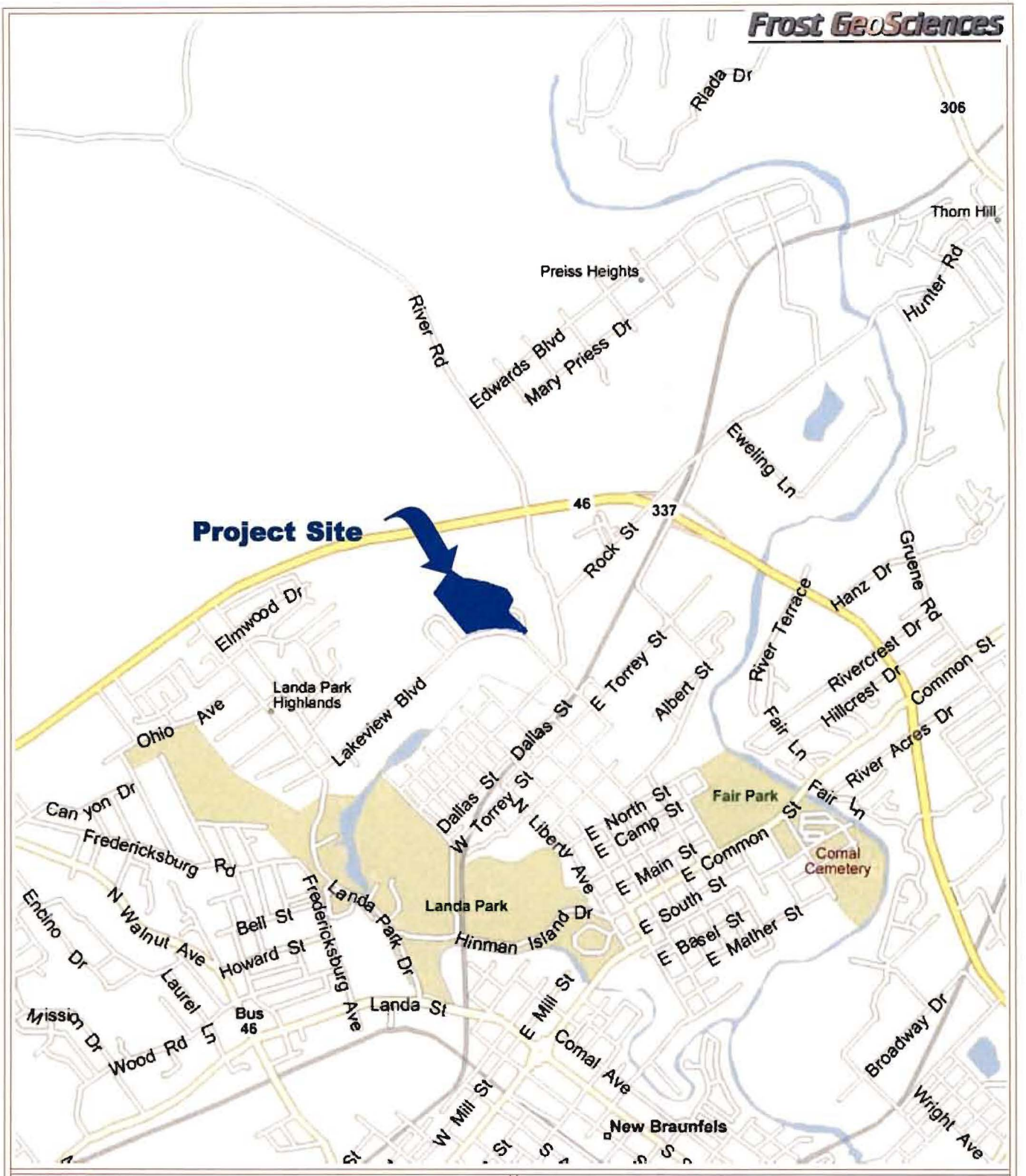


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

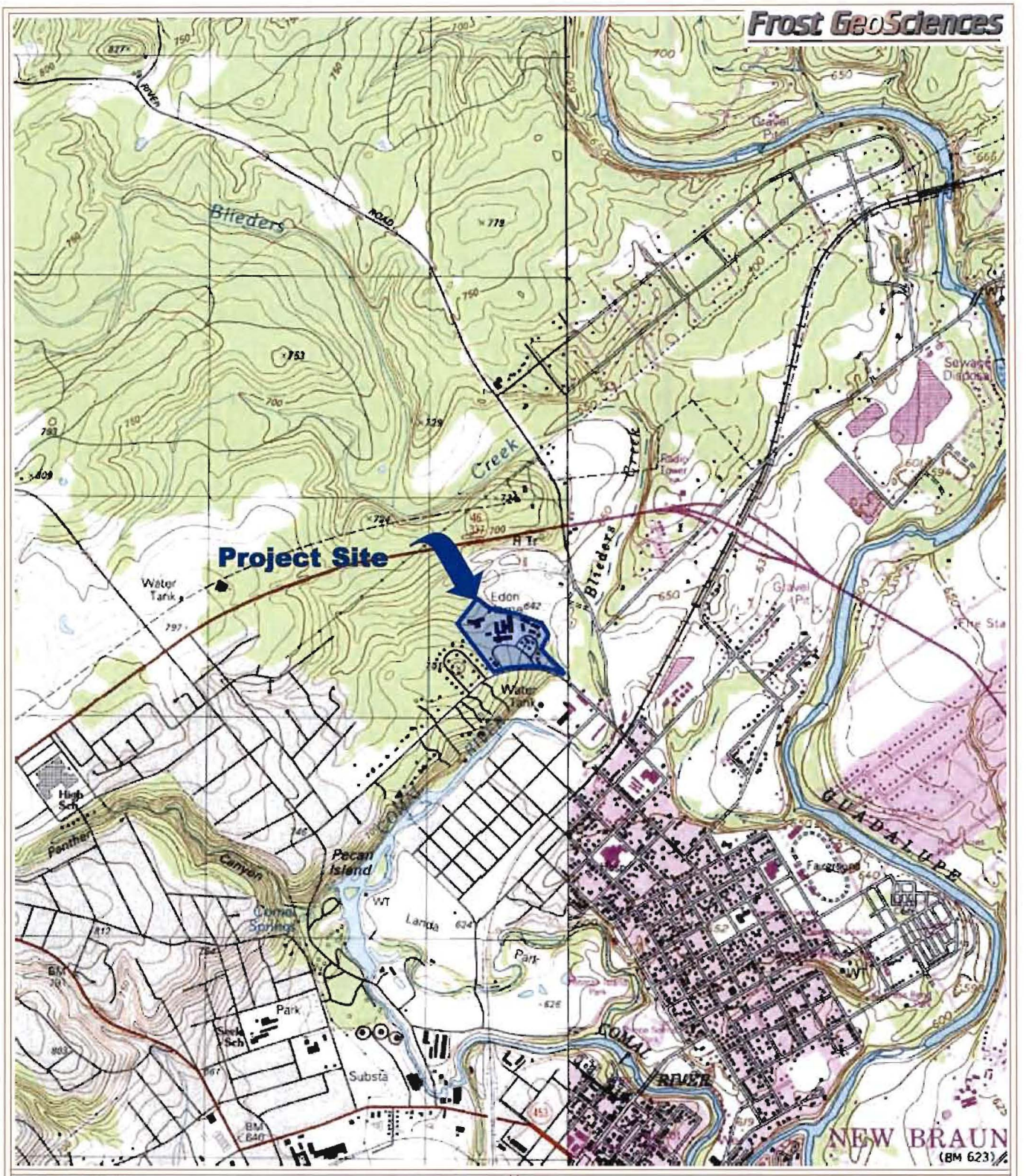
Site Plan

PROJECT NO.: FGS--06273

DATE: August 17, 2011



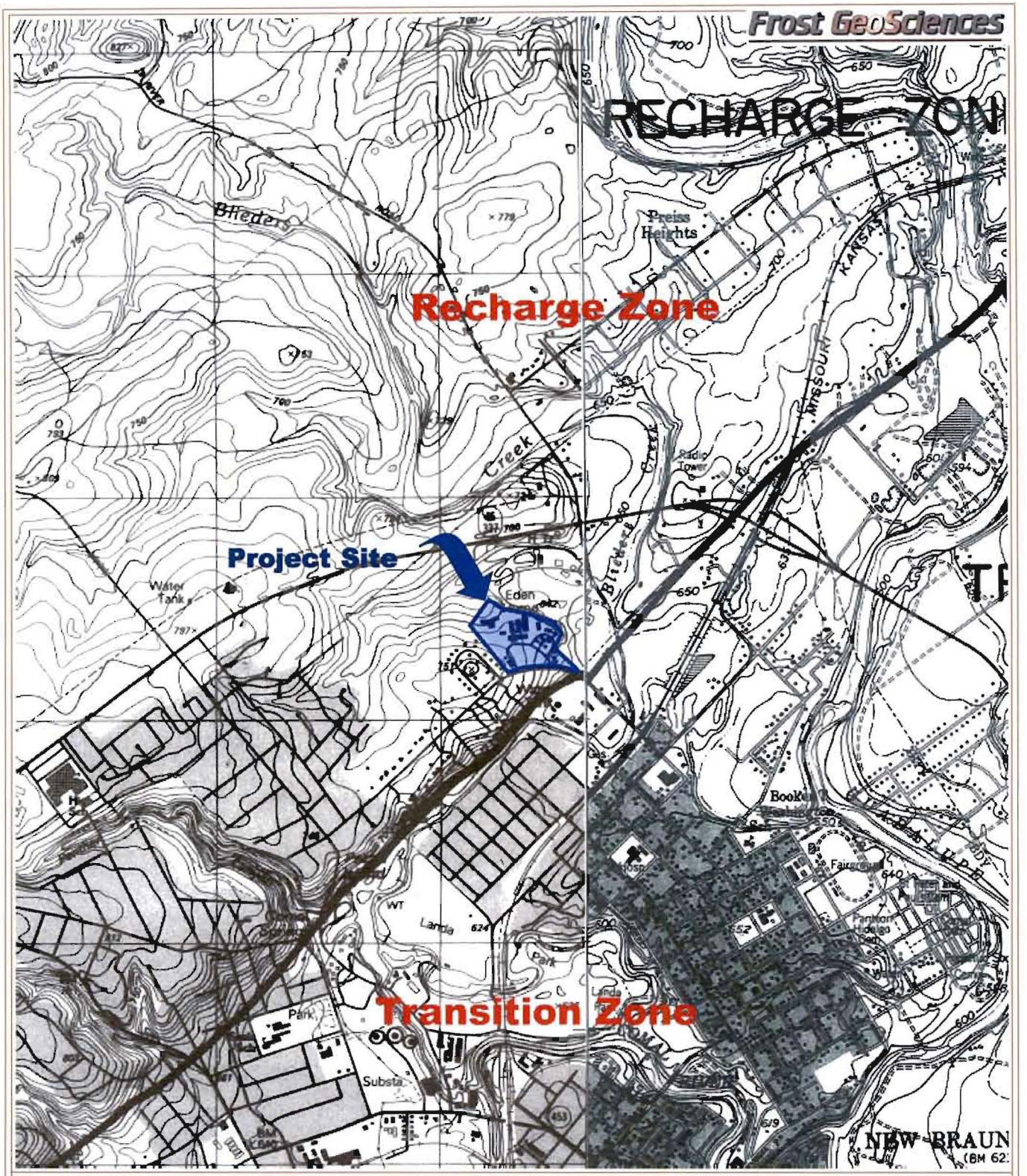
PROJECT NAME:	Street Map	
Geologic Site Assessment (WPAP) for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone Eden Home - 20.62 Acres New Braunfels, Texas		
	PROJECT NO.: FGS-06273	DATE: August 17, 2011



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

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

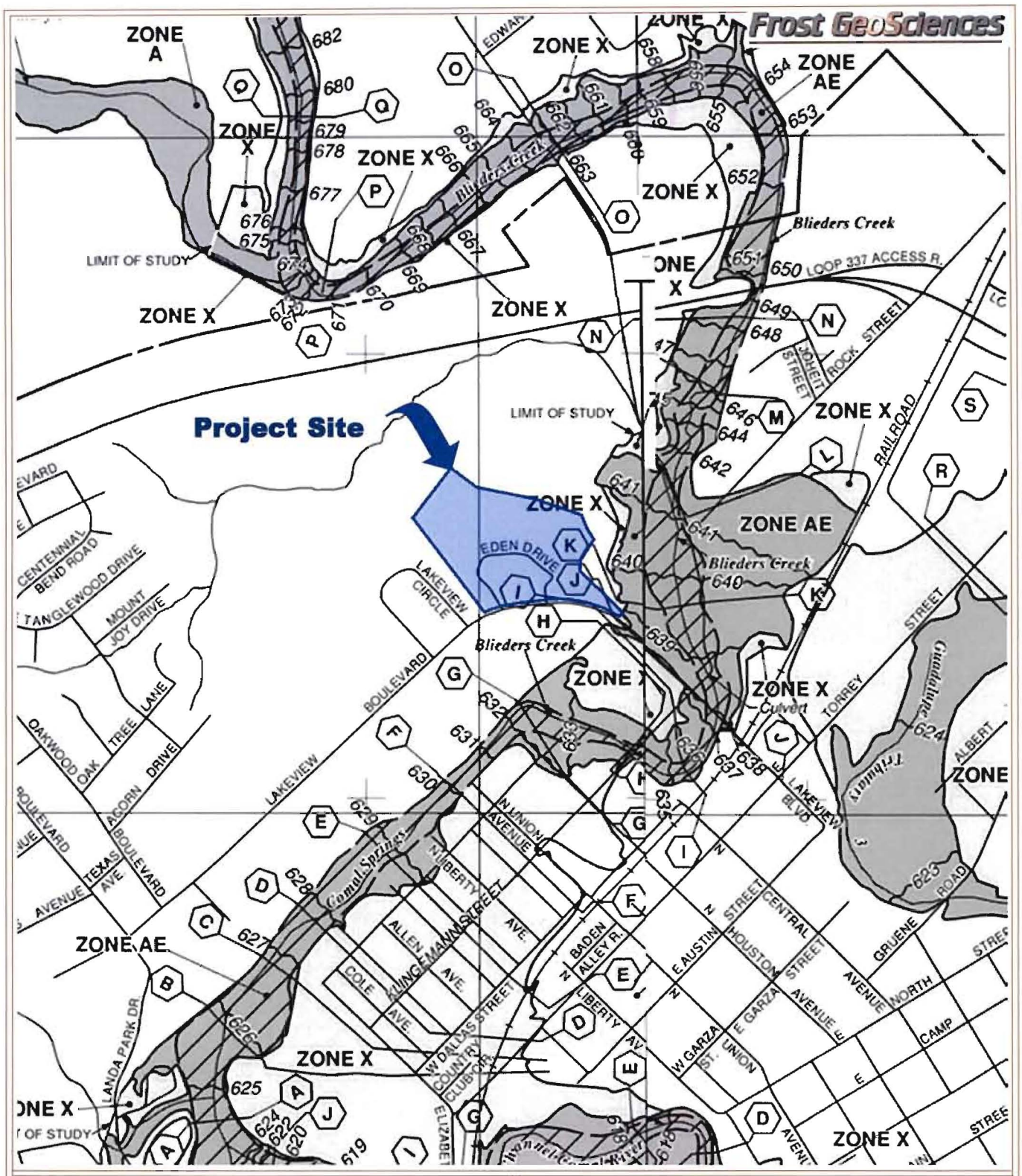
PROJECT NO.:	DATE:
FGS-06273	August 17, 2011



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

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

PROJECT NO.:	DATE:
FGS-06273	August 17, 2011



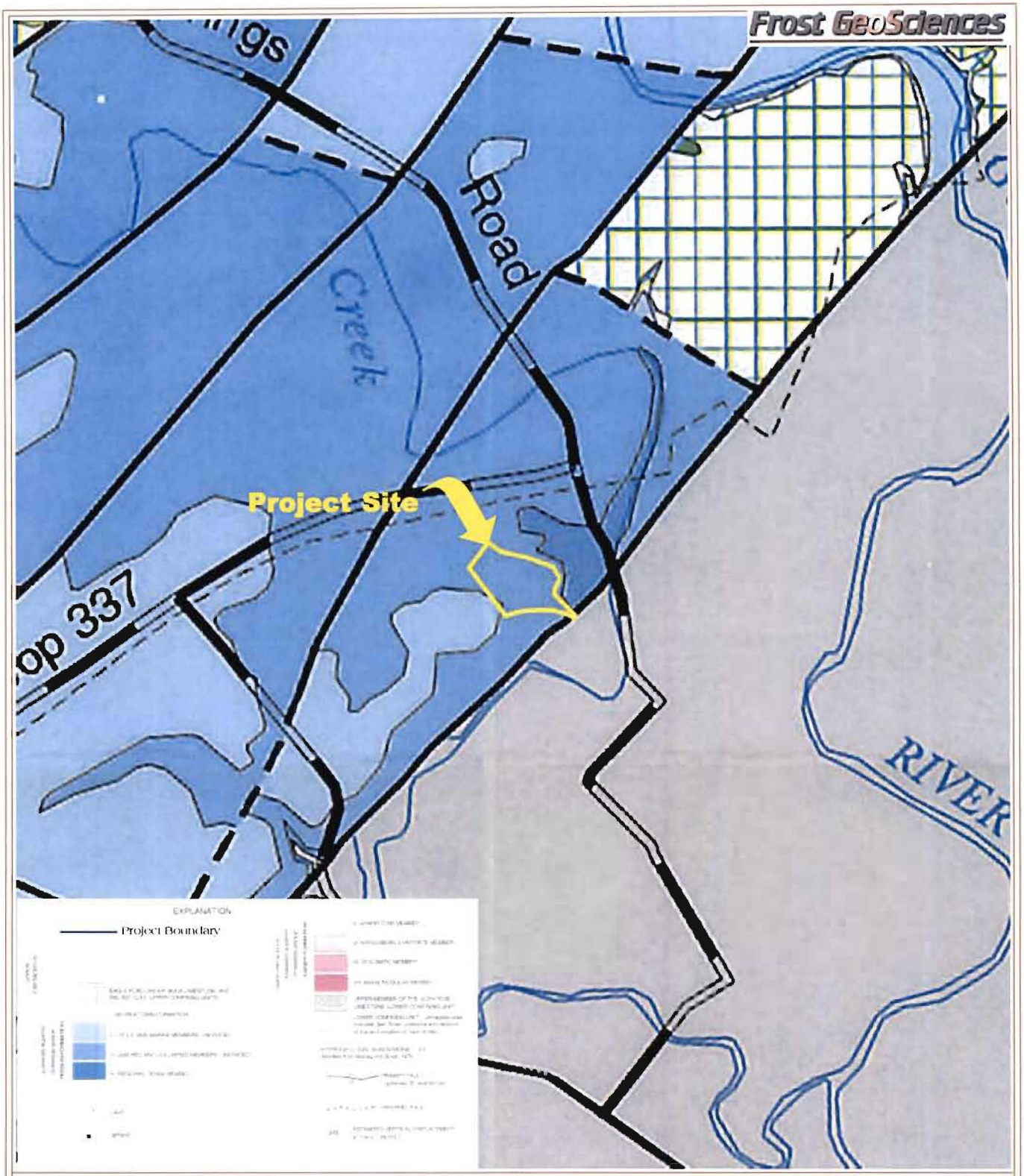
PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

Flood Insurance Rate Map (FIRM)
Community Panel
48091C0435F (Revised 09-02-09)

PROJECT NO.: FGS-06273

DATE: August 17, 2011

Frost GeoSciences

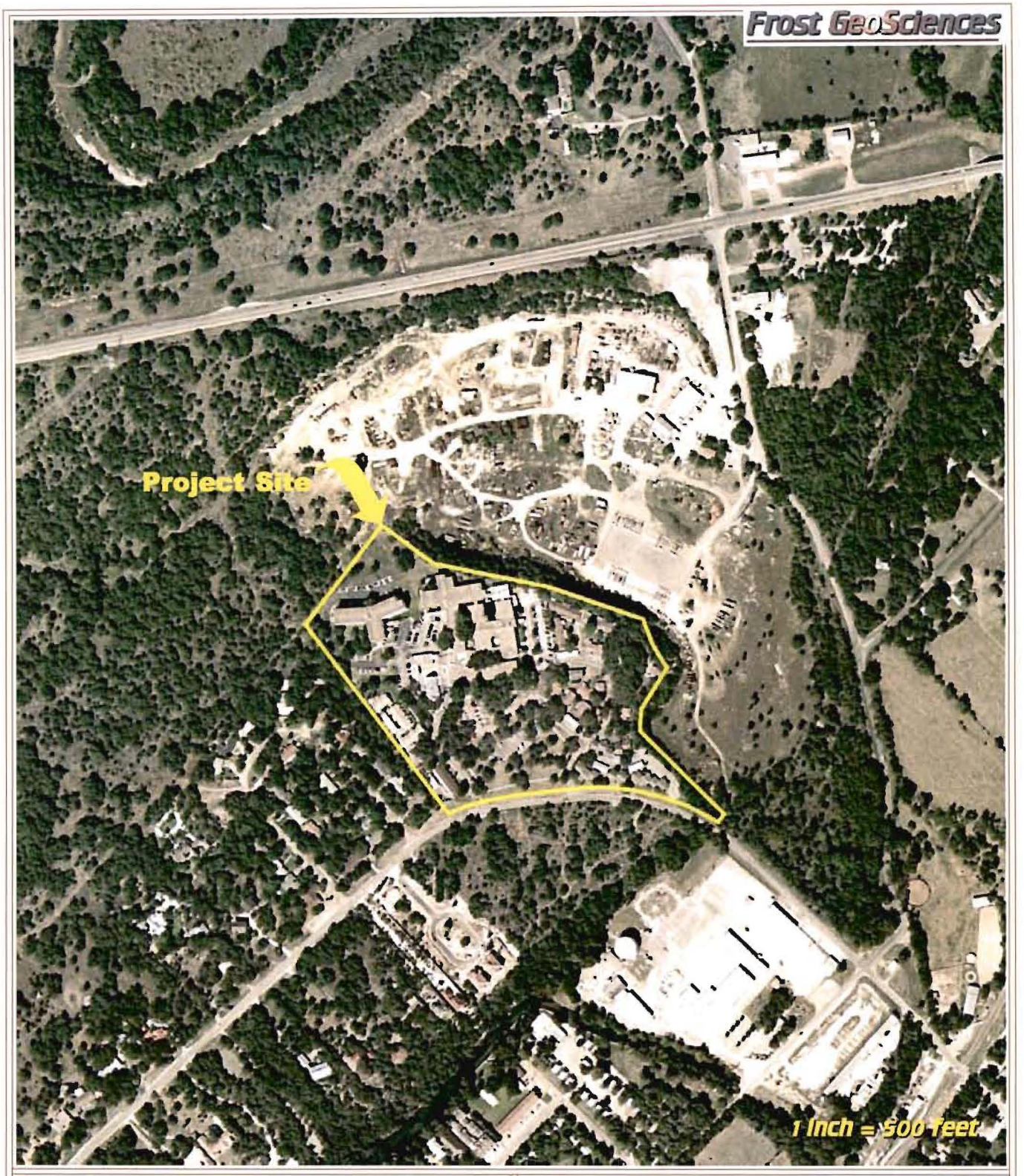


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Eden Home - 20.62 Acres
New Braunfels, Texas

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

PROJECT NO.: FGS-06273

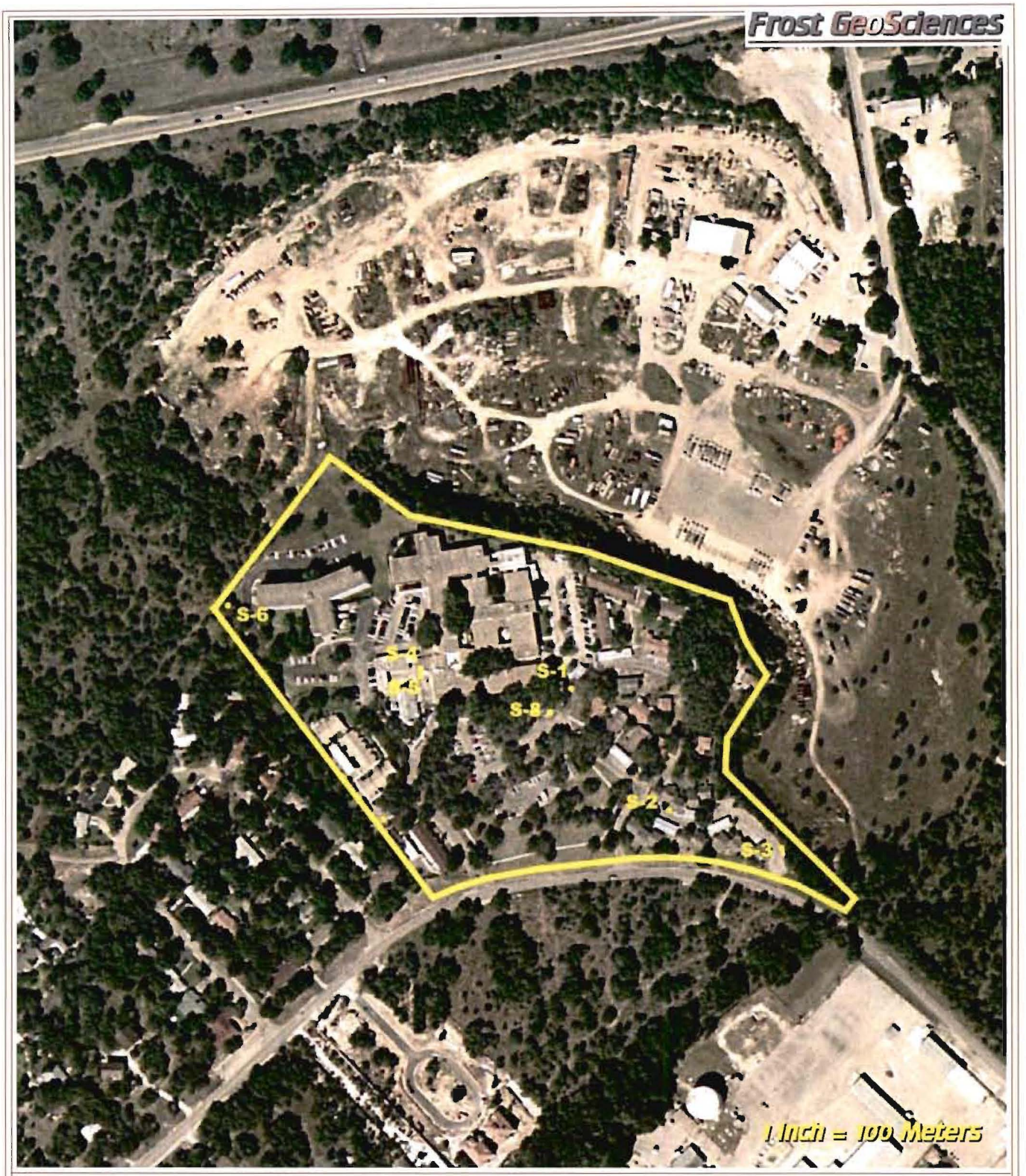
DATE: August 17, 2011



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

2005 Aerial Photograph
Landiscor Aerial Information

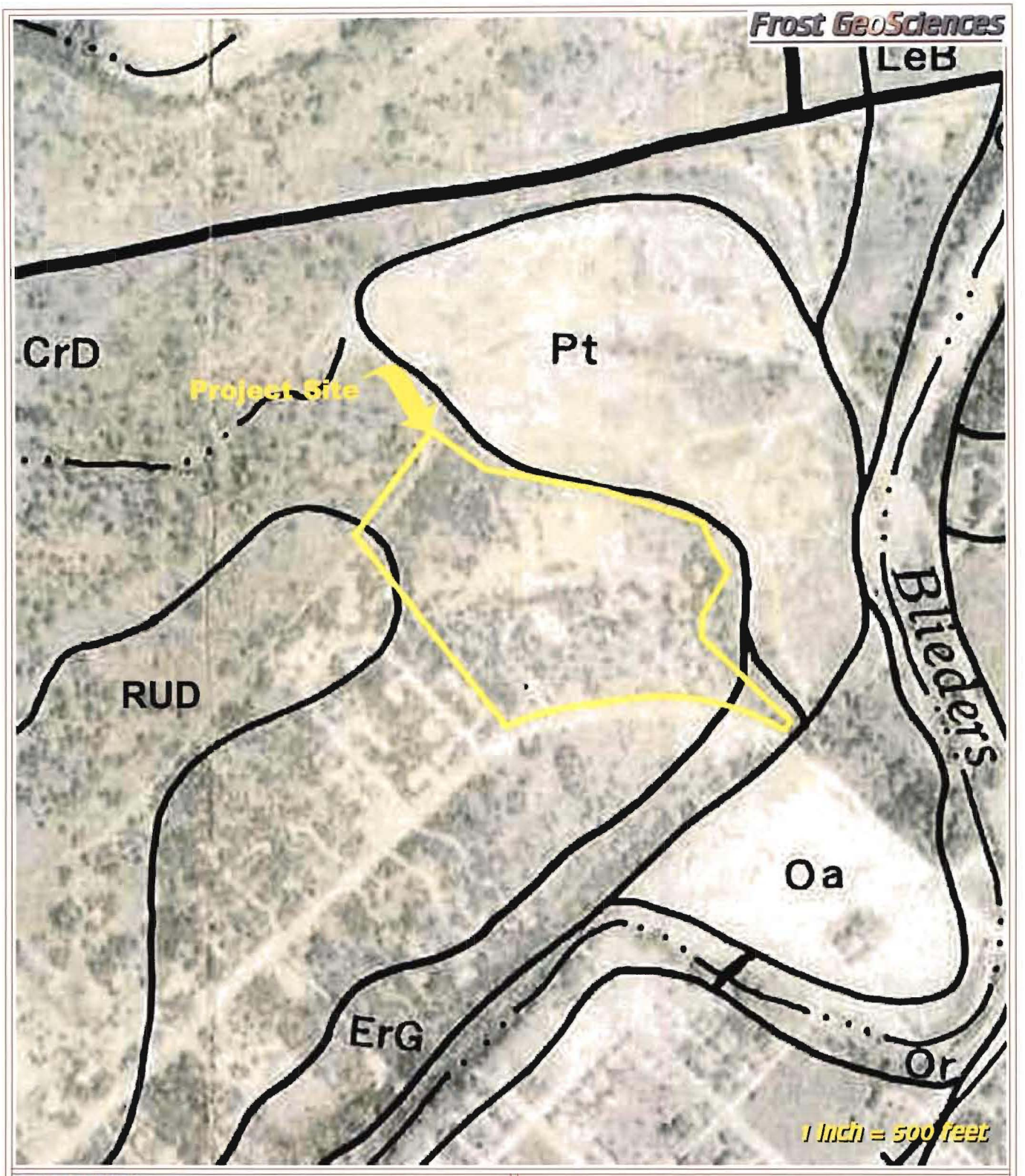
PROJECT NO.:	DATE:
FGS-06273	August 17, 2011



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

2005 Aerial Photograph with PRF's
Landiscor Aerial Information

PROJECT NO.:	DATE:
FGS-06273	August 17, 2011



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

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

PROJECT NO.:	DATE:
FGS-06273	August 17, 2011

Appendix B

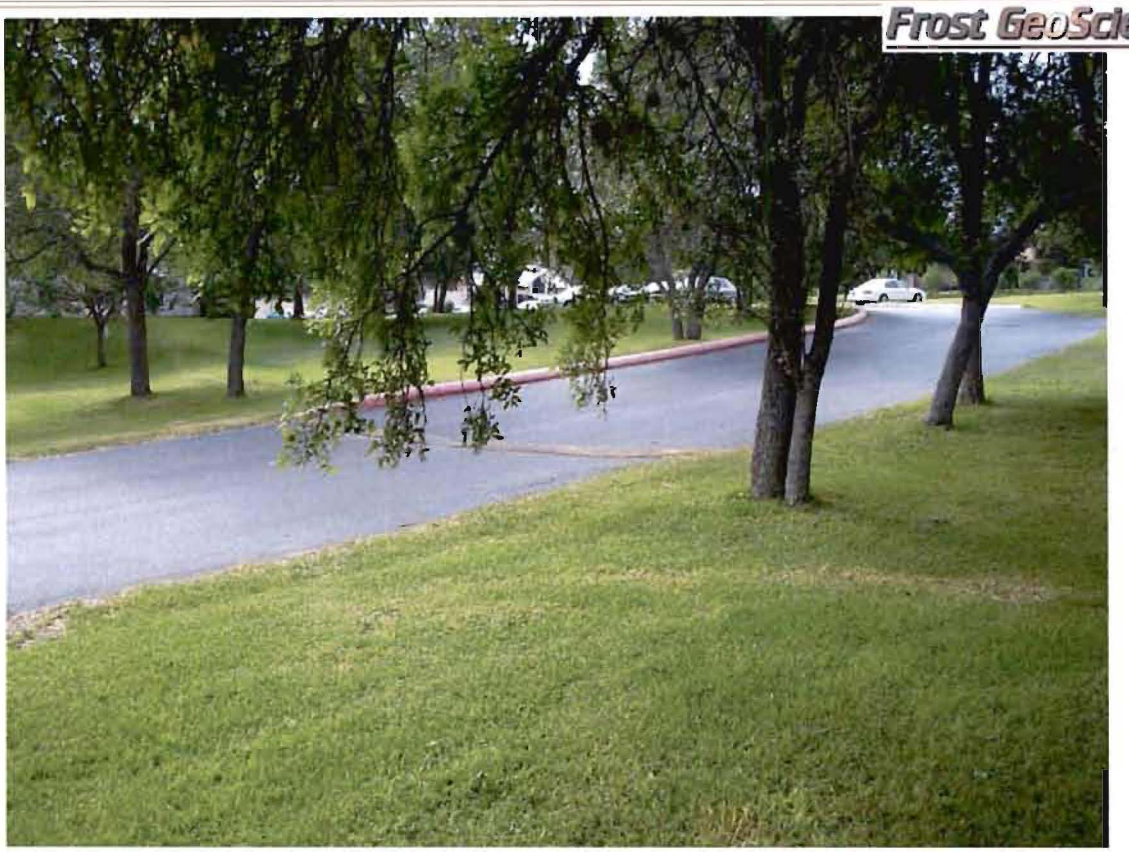
Site Inspection Photographs

Typical view of the northern portion of the project site.

Typical view of the northern portion of the project site.

Typical view of the northeastern portion of the project site.

Typical view of the northeastern portion of the project site.



Typical view of the northwestern portion of the project site.

Typical view of the northwestern portion of the project site.

Typical view of the southern portion of the project site.

Typical view of the southern portion of the project site.

Typical view of the southeastern portion of the project site.

Typical view of the southeastern portion of the project site.

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

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

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

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

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

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

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

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

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

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

Appendix C

Site Geologic Map

Location Map

Steve M. Frost
Geology
License No. 315
LICENSED

8/17/11

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

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 the
Eden Home
631 Lakeview Blvd - 20.62 Acres
San Antonio, Texas

Frost GeoSciences, Inc. Control # FGS-06273

Legend

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

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

Floodplain Information Obtained From:
FIRM: Flood Insurance Rate Map
Comal County, Texas: Panel # 48091C0435F, Revised 9-02-09

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

North
NW NE
West East
SW SE
South

Graphic Scale
50 0 25 50 100
(In Feet)

1 inch = 50 feet
Representative Fraction 1:600

Contour Interval - 2 foot

Modification of a Previously Approved Plan

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

1. Current Regulated Entity Name: Eden Home
   Original Regulated Entity Name: Eden Home Expansion
   Assigned Regulated Entity Numbers (RN): 1) RN101762425, 2) _____, 3) _____

   X The applicant has not changed and the Customer Number (CN) is: CN 600951248
   ___ The applicant has changed. A new Core Data Form has been provided.

2. X **Attachment A: Original Approval Letter and Approved Modification Letters:** A copy of the original approval letter and copies any letters approving modification are found at the end of this form.

3. A modification of a previously approved plan in requested for (check all that apply):

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

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

X WPAP Modification Summary	Approved Project	Proposed Modification
Acres	20.62	20.62
Type of Development	Continuing Care Retirement Community	Continuing Care Retirement Community
Number of Residential Lots	N/A	N/A
Impervious Cover (acres)	11.17	12.15
Impervious Cover (%)	54.17	58.92
Permanent BMPs	Partial Sedimentation	Proposed Veg. Filter Strips
Other	Filtration Basin	and Using Existing Partial Sedimentation/Filtration Basin

N/A SCS Modification Summary	Approved Project	Proposed Modification
Linear Feet		
Pipe Diameter		
Other		

N/A AST Modification Summary	Approved Project	Proposed Modification
Number of ASTs		
Volume of ASTs		
Other		

N/A	UST Modification Summary	Approved Project	Proposed Modification
	Number of USTs		
	Volume of USTs		
	Other		

5. X **Attachment B: Narrative of Proposed Modification**. A narrative description of the nature of the proposed modification is provided at the end of this form. It discusses what was approved, including previous modifications, and how this proposed modification will change the approved plan.

6. X **Attachment C: Current site plan of the approved project.** A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is provided at the end of this form. A site plan detailing the changes proposed in the submitted modification is required elsewhere.

___ The approved construction has not commenced. The original approval letter, and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.

___ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.

___ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.

X The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved. (In accordance with approved Technical Clarification correspondence with TCEQ)

___ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. ___ The acreage of the approved plan has increased. A Geologic Assessment has been provided for the new acreage.

X Acreage has not been added to **or** removed from the approved plan.

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

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

Daryl D. Pawelek

Print Name of Customer/Agent

Signature of Customer/Agent

8-28-13

Date

ATTACHMENT 'A'

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 9, 2006

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

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

Dear Mr. Dahl:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the request for modification of the approved WPAP for the referenced project submitted to the San Antonio Regional Office by The Schultz Group, Inc. on behalf of Eden Home, Inc. on September 8, 2006. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer protection plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

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

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

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

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

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

PERMANENT POLLUTION ABATEMENT MEASURES

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

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

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

GEOLOGY

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

SPECIAL CONDITIONS

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

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

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

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

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

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

VII. In addition to the rules of the commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

STANDARD CONDITIONS

1. Pursuant to Chapter 7, Subchapter C, of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

Prior to Commencement of Construction:

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

form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

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

4. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

5. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and file number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension of an approved plan.

6. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

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

<u>During Construction:</u>

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

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

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

11. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

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

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

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

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

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

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

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

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

If you have any questions or require additional information, please contact Lynn M. Bumguardner of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210/403-4023.

Sincerely,

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality

GS/lmb/eg

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

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

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 16, 2010

Mr. Laurence Dahl
Eden Home, Inc.
631 Lakeview Blvd.
New Braunfels, Texas 78130-4098

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Eden Home Expansion; Located at 631 Lakeview Blvd.; New Braunfels, Texas
TYPE OF PLAN: Request for Technical Clarification on a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer; Edwards Aquifer Protection Program San Antonio File No. 1282.02; Regulated Entity No. RN101762425; Investigation No. 884438

Dear Mr. Dahl:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the request for technical clarification of the approved WPAP for the above-referenced project submitted to the San Antonio Regional Office by Pawelek & Moy, Inc. on behalf of Eden Home, Inc. on August 20, 2010. Final review of the request was completed after additional material was received on December 14, 2010.

As presented to the TCEQ, the submitted request describes a proposed change to the site layout from the previously approved site plan. The request includes changes to the sizes and locations of the previously approved building, parking areas, and sidewalks. The resulting impervious cover for the site will decrease as a result from the proposed changes from the previously approved 11.17 acres to 10.80 acres. The drainage areas within the site have been revised, including the drainage area to the previously approved partial sedimentation/filtration basin, to accommodate the proposed change to the site layout. The previously approved basin has been constructed as approved and is sufficiently sized to accommodate the proposed changes without modification to the basin.

Based on the engineer's concurrence of compliance, and the submitted planning materials, the proposed project does not include any activities outlined in 30 TAC 213.4(j) that would require a modification to the approved WPAP. The above

referenced file will be updated with the submitted information. Please note the activities described in the submitted request are subject to all Special and Standard Conditions listed in the WPAP approval letter dated October 9, 2006.

If you have any questions or require additional information, please contact Javier Anguiano of the Edwards Aquifer Protection Program with the San Antonio Regional Office at (210) 403-4019.

Sincerely,

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

LMB/JA/eg

cc: Mr. Daryl D. Pawelek, P.E., Pawelek & Moy, Inc.
TCEQ Central Records, MC 212

Daryl Pawelek

From: Javier Anguiano [Javier.Anguiano@tceq.texas.gov]
Sent: Tuesday, September 27, 2011 10:42 AM
To: Daryl Pawelek
Cc: johnmoy711@sbcglobal.net; Todd Jones
Subject: Re: Eden Home Expansion - File No. 1282.02

Daryl,

The described changes to the site plan/project appear to be in line with the previous "Technical Assistance Request". As such, it does not appear that a modification of the approved is necessary based on the information provided and your concurrence of compliance. However, due to the number of revision and the revised sizing parameters (drainage area, impervious cover, etc.) for the completed basin, we ask that you provide a revised site plan with the proposed changes labeled (e.g. bubbled) and the site plan signed and sealed by the engineer.

If you have any questions please feel free to contact me.

Best Regards,

Javier Anguiano
Environmental Investigator
TCEQ - EAPP San Antonio Regional Office
14250 Judson Rd.
San Antonio, TX 78233
(210) 403-4019
(210) 545-4329
Javier.Anguiano@tceq.texas.gov

>>> "Daryl Pawelek" <daryl.pawelek@sbcglobal.net> 9/20/2011 5:06 PM >>>
Javier,

As we discussed, Eden Home has made changes to the site plan that was approved in a Technical Clarification on Dec. 16, 2010(see attached approval). I have attached a copy of the new site plan. The changes were made because of Owner and City comments(such as; owner added rooms, city required wider existing and proposed drives for fire lanes, etc.). The changes to the site plan result in a proposed impervious cover of 11.14 ac. This is still less than the originally approved impervious cover of 11.17 ac and the overall project area 20.62 acres has not changed. It our opinion that the intent of the original plan is still being met. Eden Home is working on financing and they need to know that the approvals from various entities that affect their site are current. Will this be sufficient for updating the file?

Eden Home is under some tight time constraints, please let me know as soon as you can.

Thank you.

Daryl D. Pawelek, P.E.

Pawelek & Moy, Inc.

130 W. Jahn Street

New Braunfels, Texas 78130

phone: 830-629-2563

fax: 830-629-2564

email:
<http://us.f825.mail.yahoo.com/ym/Compose?To=daryl.pawelek@sbcglobal.net>
daryl.pawelek@sbcglobal.net

website: <http://www.pm-engineers.com/> pm-engineers.com

Top of Form

Bottom of Form

ATTACHMENT "B"
NARRATIVE OF PROPOSED MODIFICATION

The purpose of this modification is to add additional parking areas, a covered pavilion and sidewalks to the existing retirement community site and update the overall site plan per the approved technical clarification correspondence with TCEQ for this site. The proposed modification will change the previously approved WPAP by adding 0.98 acres of total parking and sidewalk impervious cover. The additional impervious cover associated with the proposed improvements will be treated by Engineered Vegetative Filter Strips and an existing Partial Sedimentation and Filtration Basin.

Therefore, the proposed Modification will change the previously approved WPAP by adding 0.98 acres of impervious cover to the 20.62 acre site. The total impervious cover of the site per the approved WPAP dated October 9, 2006 was 11.17 acres (54.17%) and the new total impervious cover of the site is 12.15 acres (58.92%).

ATTACHMENT 'C'

CURRENT SITE PLAN

Pollution Abatement Measures Table

Existing Partial Sedimentation and Filtration Basin Summary

Drainage Area	Total Area (acres)	Existing Imp. Cover (acres)	Post Imp. Cover (acres)[I]	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Design Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Design Filter Area (ft^2)[G]	Target TSS Removal (lb/yr)[H]	Design TSS Provided (lb/yr)[H]
(A1-A3)+(B1-B13)[A]	7.81	4.12	5.27	0.11	1755[D]	2127[F]	146[D]	192	1032	1068
A4[C]	0.76	0.15	0.17	-	-	-	-	-	18	0
A5[B]	0.14	0.03	-	-	-	-	-	-	-27	0
C[C]	1.67	0.62	0.63	-	-	-	-	-	9	0
(D1-D5)+D8[C]	5.18	3.31	3.29	-	-	-	-	-	-18	0
D6[B]	0.22	0.00	-	-	-	-	-	-	0	0
D7[B]	0.35	0.00	-	-	-	-	-	-	0	0
E1[B]	0.22	0.05	-	-	-	-	-	-	-45	0
E2[B]	0.25	0.01	-	-	-	-	-	-	-9	0
E3[B]	0.07	0.05	-	-	-	-	-	-	-45	0
E4+E5[C]	1.22	0.49	0.69	-	-	-	-	-	180	0
E6[C]	0.20	0.09	-	-	-	-	-	-	-81	0
F[C]	2.53	1.06	1.07	-	-	-	-	-	9	0
Sub-Total - Basin	20.62	9.98	11.12	-	1755[D]	2127[F]	146[D]	192	1023	1068

Proposed Engineered Vegetative Filter Strips Summary

Watershed Area	Permanent BMP	Drainage Area (Acres)	Imp. Cover (Acres)[I]	Target TSS Removal (lb/yr)	TSS Removal Provided (lb/yr)
A5	VFS	0.14	0.10	90	90
E1	VFS	0.22	0.15	135	135
E2	VFS	0.25	0.16	144	144
E3	VFS	0.07	0.05	45	45
E6	VFS	0.20	0.14	125	125
D6	VFS	0.22	0.17	153	153
D7	VFS	0.35	0.26	233	233
Sub-Total - Vegetative Filter Strips	------	1.45	1.03	925	925
Total		20.62	12.15	1,948	1,993

A Includes over-treatment from Drainage Areas C, D and E, not otherwise treated.
B No treatment provided by basin; but by vegetated filter strips, only shown in this table for total drainage area.
C Required TSS removal for this basin added to or subtracted from Basin A1-A3 and B1-B13 for overtreatment.
D Includes volume necessary for over-treatment.
E For drainage areas, individually.
F 2127 cf (WQV Design per previously approved WPAP) > 1755 cf required for modification.
G 192 sf (Sand Filter Area Designed per previously approved WPAP) > 146 sf required for modification.
H 1068 lb/yr (TSS Provided from previously approved WPAP) > 1023 lb/yr required for modification.
I Post developed impervious cover (per this modification) = 12.15 acres; with 11.12 acres(treated by basin) < Post developed impervious cover (per previously approved WPAP) = 11.17 acres, and 1.03 acres(treated by proposed vegetated filter strips).

SOIL STABILIZATION NOTE

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

VELOCITY CONTROL NOTE

AT THE POINT WHERE THE PROPOSED CULVERT PIPES OUTFALL AND THE OVERFLOW WEIR FROM THE DETENTION POND DISCHARGE, A VELOCITY CONTROL PROCEDURE UTILIZING HEAVY ROCK RIPRAP (TYPE 'R' PER TXDOT ITEM 432) SHALL BE USED TO DISSIPATE THESE FLOWS (SEE DETAIL ON SHEET S2). THIS APPLICATION SHALL REMAIN IN PLACE AND NOT BE REMOVED UPON COMPLETION OF THE CONSTRUCTION ACTIVITIES.

FLOODPLAIN NOTE

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

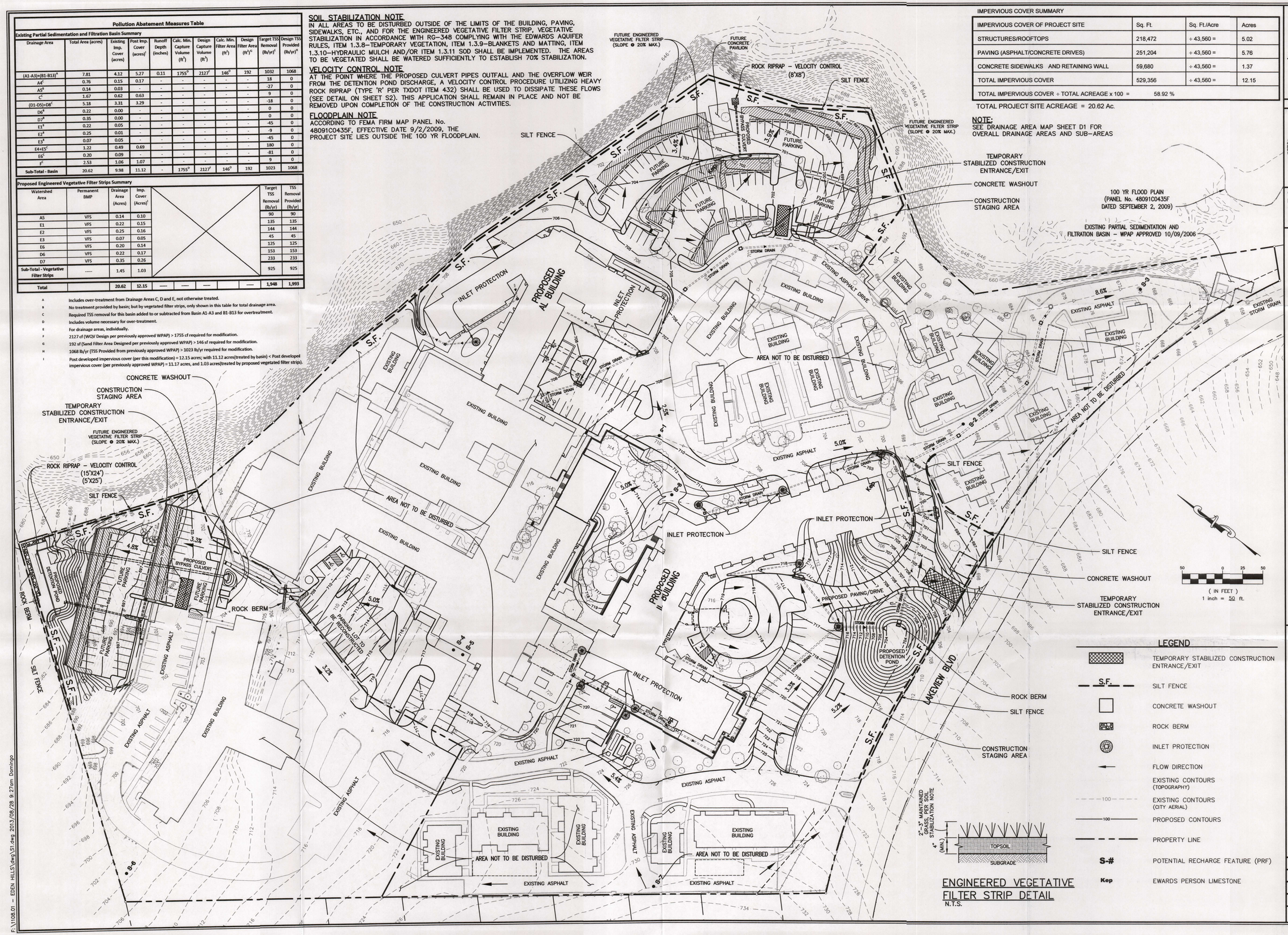
IMPERVIOUS COVER SUMMARY

IMPERVIOUS COVER OF PROJECT SITE	Sq. Ft.	Sq. Ft./Acre	Acres
STRUCTURES/ROOFTOPS	218,472	÷ 43,560 =	5.02
PAVING (ASPHALT/CONCRETE DRIVES)	251,204	÷ 43,560 =	5.76
CONCRETE SIDEWALKS AND RETAINING WALL	59,680	÷ 43,560 =	1.37
TOTAL IMPERVIOUS COVER	529,356	÷ 43,560 =	12.15

TOTAL IMPERVIOUS COVER ÷ TOTAL ACREAGE x 100 = 58.92 %

TOTAL PROJECT SITE ACREAGE = 20.62 Ac.

NOTE:
SEE DRAINAGE AREA MAP SHEET D1 FOR OVERALL DRAINAGE AREAS AND SUB-AREAS



LEGEND

- TEMPORARY STABILIZED CONSTRUCTION ENTRANCE/EXIT
- S.F. — SILT FENCE
- CONCRETE WASHOUT
- ROCK BERM
- INLET PROTECTION
- FLOW DIRECTION
- EXISTING CONTOURS (TOPOGRAPHY)
- 100 — EXISTING CONTOURS (CITY AERIAL)
- 100 — PROPOSED CONTOURS
- PROPERTY LINE
- S-# — POTENTIAL RECHARGE FEATURE (PRF)
- Kep — EWARDS PERSON LIMESTONE

ENGINEERED VEGETATIVE FILTER STRIP DETAIL
N.T.S.

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

STATE OF TEXAS — DARYL D. PAWELEK — 84770 LICENSED PROFESSIONAL ENGINEER — 8.26.13

OWNER:
EDEN HOME, INC.
dba, EDEN HILL COMMUNITIES
631 LAKEVIEW BLVD
NEW BRAUNFELS, TX 78130

SITE PLAN FOR EDEN HOME

(EDENHILL COMMUNITIES)
NEW BRAUNFELS, TEXAS

REVISIONS	DESCRIPTION	DATE

DRAWN BY:	D.G. III
CHECKED BY:	D.D.P.
DATE:	AUGUST 2013
JOB NO.:	1108.01

S1 OF 2

F:\1108.01 - EDEN HILLS\dwg\S1.dwg 2013/08/28 9:27am Domingo

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

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

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

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

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

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

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

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

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

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

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

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

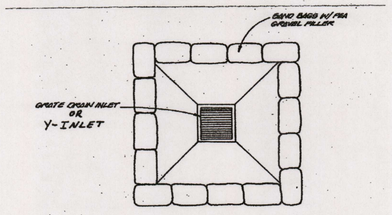
12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

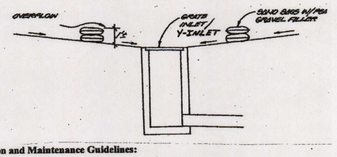
   A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

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

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

Austin Regional Office 2800 S. IH 35, Suite 100 Austin, Texas 78704-5712 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329





Inspection and Maintenance Guidelines:

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

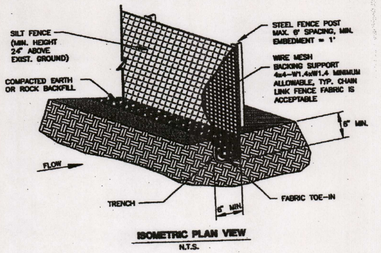
(2) Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.

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

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

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

INLET PROTECTION DETAIL
N.T.S.



ISOMETRIC PLAN VIEW
N.T.S.

Materials:

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

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

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

Installation:

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

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

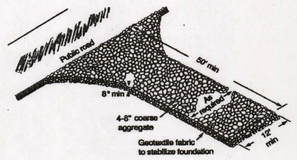
(3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill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

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

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

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

SILT FENCE DETAIL
N.T.S.



Schematic of Temporary Construction Entrance/Exit

Cross-section of a Construction Entrance/Exit

Materials:

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

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

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

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

Installation:

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

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

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

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

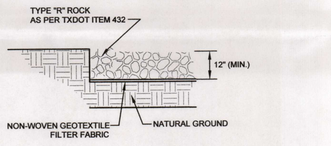
(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.

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

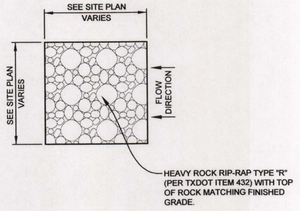
(7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.

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

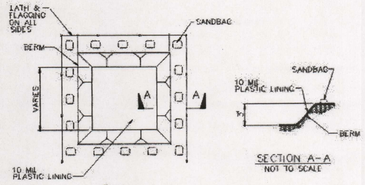
TEMPORARY CONSTRUCTION ENTRANCE/EXIT DETAIL
N.T.S.



ROCK RIPRAP DETAIL
N.T.S.

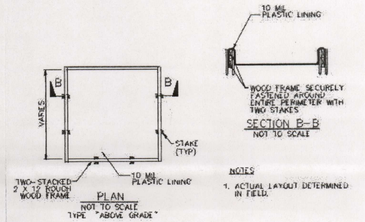


VELOCITY CONTROL DETAIL
N.T.S.



PLAN
NOT TO SCALE
TYPE "BELOW GRADE"

SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

PLAN
NOT TO SCALE
TYPE "ABOVE GRADE"

NOTES
1. ACTUAL LAYOUT DETERMINED IN FIELD.

FOR ONSITE WASHOUT:

1) LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE.

2) WASH OUT WASTES INTO THE TEMPORARY PIT WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED OF PROPERLY.

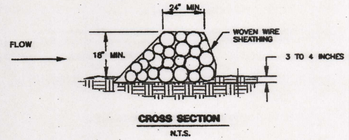
3) PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

4) WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF PROPERLY. MATERIALS USED TO CONSTRUCT THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF PROPERLY.

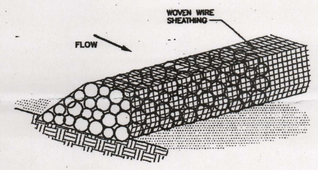
5) HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

6) SEE TCEQ RG-348 SECTION 1.4.18 CONCRETE WASHOUT AREAS FOR ANY ADDITIONAL INFORMATION.

CONCRETE WASHOUT DETAIL
N.T.S.



CROSS SECTION
N.T.S.



ISOMETRIC PLAN VIEW
N.T.S.

Materials:

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

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

Installation:

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

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

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

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

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

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

ROCK BERM DETAIL
N.T.S.

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

STATE OF TEXAS · DANIEL D. PAWELEK · 84770 · LICENSED PROFESSIONAL ENGINEER · 8-28-15

OWNER:
EDEN HOME, INC.
dba, EDEN HILL COMMUNITIES
631 LAKEVIEW BLVD
NEW BRAUNFELS, TX 78130

WATER POLLUTION ABATEMENT PLAN GENERAL NOTES AND DETAILS FOR EDEN HOME

(EDENHILL COMMUNITIES)
NEW BRAUNFELS, TEXAS

REVISIONS

DATE	DESCRIPTION

DRAWN BY:	D.G. III
CHECKED BY:	D.D.P.
DATE:	AUGUST 2013
JOB NO.:	1108.01

S2 OF 2

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

REGULATED ENTITY NAME: Eden Home

REGULATED ENTITY INFORMATION

1. The type of project is:
   - ___ Residential: # of Lots: _____
   - ___ Residential: # of Living Unit Equivalents: _____
   - ___ Commercial
   - ___ Industrial
   - X Other: Expansion of Continuing Care Retirement Community

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

3. Projected population: Increase by 162

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	218,472	÷ 43,560 =	5.02
Parking (Asphalt/Concrete Drives)	251,204	÷ 43,560 =	5.76
Other paved surfaces (Sidewalks & Misc. Conc.)	59,680	÷ 43,560 =	1.37
Total Impervious Cover	529,356	÷ 43,560 =	12.15
Total Impervious Cover ÷ Total Acreage x 100 =			58.92%

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

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

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

8. Type of pavement or road surface to be used:
   - ___ Concrete
   - ___ Asphaltic concrete pavement
   - ___ Other: _____

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

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

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

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

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

100% Domestic	12,390	gallons/day (increase)
__% Industrial	_____	gallons/day
__% Commingled	_____	gallons/day

TOTAL 12,390 gallons/day (increase)

15. Wastewater will be disposed of by:

N/A **On-Site** Sewage Facility (OSSF/Septic Tank):

__ **ATTACHMENT C - Suitability Letter from Authorized Agent.** An on-site sewage facility will be used to treat and dispose of the wastewater. The appropriate licensing authority's (authorized agent) written approval is provided at the end of this form. It states that the land is suitable for the use of an on-site sewage facility or identifies areas that are not suitable.

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

X Sewage Collection System (Sewer Lines):

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

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

__ The SCS was previously submitted on _____.

__ The SCS was submitted with this application.
__ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

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

X existing.
__ proposed.

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

SITE PLAN REQUIREMENTS

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

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

18. 100-year floodplain boundaries
__ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
X No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
FEMA Flood Insurance Rate Map - Comal County, Texas and Incorporated Areas, Map Number 48091C0435F (Rev. 9/02/09)

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 16 TAC §76.
X There are no wells or test holes of any kind known to exist on the project site.

21. Geologic or manmade features which are on the site:
X All **sensitive** geologic or manmade features identified in the Geologic Assessment are shown and labeled.
__ No **sensitive** geologic or manmade features were identified in the Geologic Assessment.
__ **ATTACHMENT D - Exception to the Required Geologic Assessment**. An exception to the Geologic Assessment requirement is requested and explained at the end of this form.

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

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

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

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

26. X Surface waters (including wetlands).

27. X Locations where stormwater discharges to surface water or sensitive features.
__ There will be no discharges to surface water or sensitive features. (Site generally drains to north and east sides of the property)

ADMINISTRATIVE INFORMATION

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

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

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

Daryl D. Pawelek
Print Name of Customer/Agent

Signature of Customer/Agent

8-28-13
Date

WATER POLLUTION ABATEMENT PLAN APPLICATION

5. Attachment A – Factors Affecting Water Quality

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

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

Prior to any construction activity, stormwater pollution prevention controls shall be installed and these controls include silt fence and rock berms, down-gradient of the soil disturbance, and the installation of a stabilized construction entrance/exit to reduce sediment removal from the site. The construction contractor will be responsible for the installation, repair and upkeep of all control measures.

After construction is complete and the site has been built, the factors affecting water quality will include runoff from the roofs, paved areas, sidewalks and greenbelt areas. Chemicals that may be present include pesticides and fertilizers for the greenbelt areas as well as miscellaneous oils or fuels from vehicles utilizing the drives. However, the stormwater runoff from these areas will be treated by the proposed Engineered Vegetative Filter Strips and the existing Partial Sedimentation/Filtration pond as shown on the Site Plan, Sheet S1.

13. Attachment B – Volume and Character of Stormwater

The stormwater runoff generated from this site will consist of runoff from the roofs, paved areas, sidewalks and greenbelt areas. The runoff may contain small amounts of suspended solids, fertilizers/pesticides for the greenbelt areas or oils/fuel that would be associated with vehicles entering/exiting and/or being stored on the site. The average runoff coefficient for the site is $C_{100pre} = 0.75$ due to the existing improvements and the average Post-Construction runoff coefficient is $C_{100post} = 0.81$. Based on the BMP calculations provided in this submittal, there is an existing Water Quality Capture Volume of 2,127 cf present to treat a portion of the proposed impervious cover via the Partial Sedimentation and Filtration Pond. The remainder of the proposed impervious cover will be treated via vegetated filter strips downstream of the impervious cover areas. Additionally, there will be two detention ponds located on the site that will aid in the sedimentation of solids and improve the overall water quality.

SITE PLAN

Revised Pollution Abatement Measures Table(per current proposed Eden Home, Inc. Project - 9/20/2011)										
Drainage Area	Total Area (acres)	Existing Imp. Cover (acres)	Post imp. Cover (acres)	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Design Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Design Filter Area (ft^2)	Target TSS Removal (lb/yr)[E]	Design TSS Removal (lb/yr)
A+B	7.83	4.14	5.29	0.11	1762[D]	2127[F]	147[D]	192	1032	1041[A]
A4[C]	0.99	0.19	0.14	-	-	-	-	-	-45	0
C[C]	1.67	0.62	0.61	-	-	-	-	-	-9	0
D[C]	5.69	3.31	3.22	-	-	-	-	-	-81	0
E[C]	1.85	0.66	0.82	-	-	-	-	-	144	0
F[B]	2.59	1.06	1.06	-	-	-	-	-	0	0
Totals	20.62	9.98	11.14[G]	-	1762[F]	2127[F]	147	192	1041	1041

A Includes over-treatment from Drainage Areas A4, C, D and E, not otherwise treated.

B No treatment required, no increase in impervious cover.

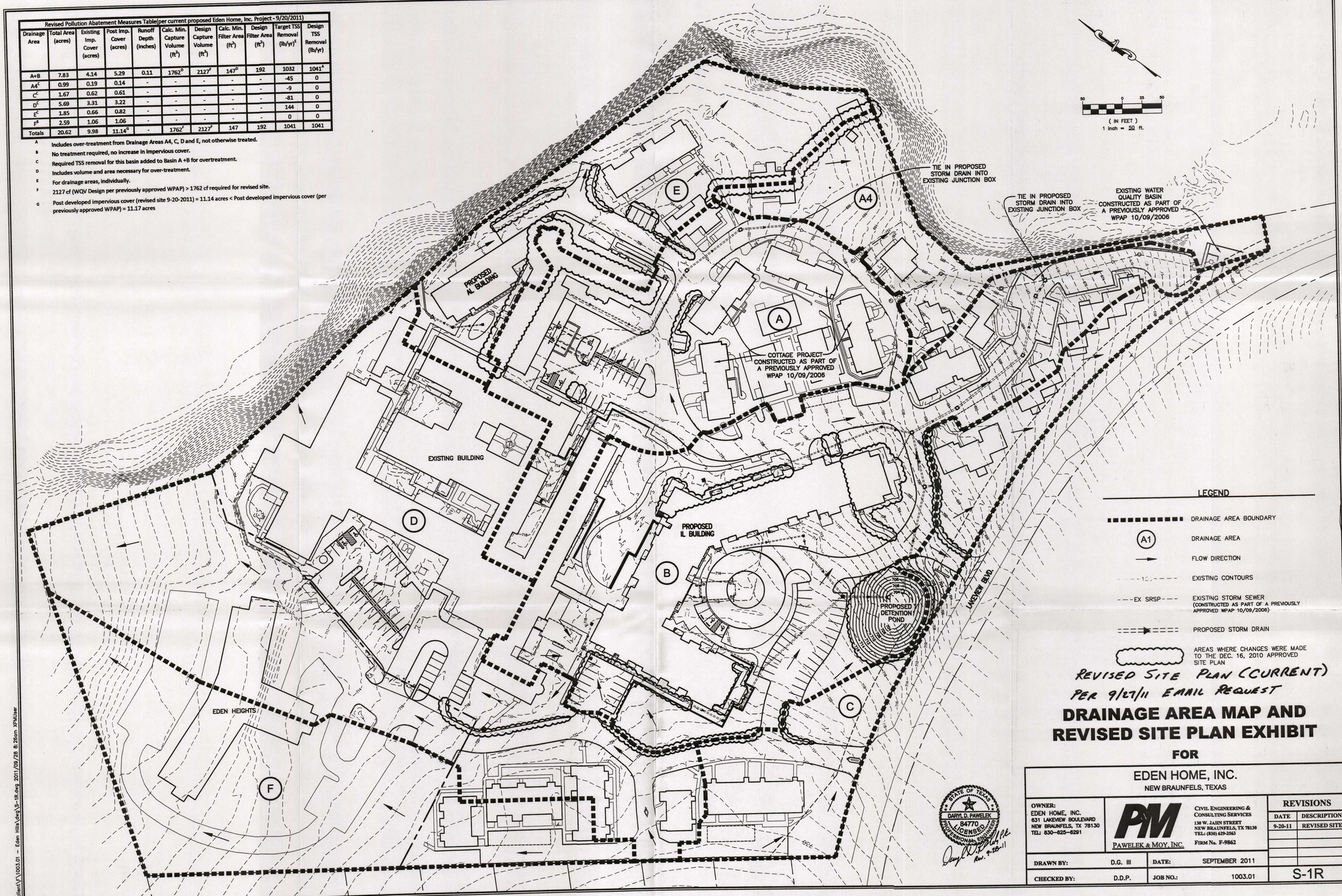
C Required TSS removal for this basin added to Basin A +B for overtreatment.

D Includes volume and area necessary for over-treatment.

E For drainage areas, individually.

F 2127 cf (WQV Design per previously approved WPAP) > 1762 cf required for revised site.

G Post developed impervious cover (revised site 9-20-2011) = 11.14 acres < Post developed impervious cover (per previously approved WPAP) = 11.17 acres



LEGEND

- DRAINAGE AREA BOUNDARY
- (A1) DRAINAGE AREA
- FLOW DIRECTION
- 10 EXISTING CONTOURS
- EX SRSP EXISTING STORM SEWER (CONSTRUCTED AS PART OF A PREVIOUSLY APPROVED WPAP 10/09/2006)
- PROPOSED STORM DRAIN
- AREAS WHERE CHANGES WERE MADE TO THE DEC. 16, 2010 APPROVED SITE PLAN

REVISED SITE PLAN (CURRENT) PER 9/27/11 EMAIL REQUEST

DRAINAGE AREA MAP AND REVISED SITE PLAN EXHIBIT

FOR

EDEN HOME, INC.
NEW BRAUNFELS, TEXAS

STATE OF TEXAS
DARYL D. PAWELEK
84770
LICENSED
PROFESSIONAL ENGINEER
Rev. 9-28-11

OWNER: EDEN HOME, INC. 631 LAKEVIEW BOULEVARD NEW BRAUNFELS, TX 78130 TEL: 830-625-6291	PAWELEK & MOY, INC. CIVIL ENGINEERING & CONSULTING SERVICES 130 W. JAHN STREET NEW BRAUNFELS, TX 78130 TEL: (830) 629-2563 FIRM No. F-9862	REVISIONS: DATE 9-20-11 — DESCRIPTION REVISED SITE	
DRAWN BY: D.G. III	DATE: SEPTEMBER 2011		
CHECKED BY: D.D.P.	JOB NO.: 1003.01		S-1R

Revised Pollution Abatement Measures Table(per current proposed Eden Home, Inc. Project)										
Drainage Area	Total Area (acres)	Existing Imp. Cover (acres)	Post Imp. Cover (acres)	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Design Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Design Filter Area (ft^2)	Target TSS Removal (lb/yr)[E]	Design TSS Removal (lb/yr)
A+B	7.40	3.97	4.87	0.08	1233[D]	2127[F]	124[D]	192	808	736[A]
A4[B]	1.25	0.19	0.19	-	-	-	-	-	0	0
C[C]	1.83	0.53	0.47	-	-	-	-	-	-54	0
D[C]	5.96	3.55	3.43	-	-	-	-	-	-108	0
E[C]	1.60	0.68	0.78	-	-	-	-	-	90	0
F[B]	2.58	1.06	1.06	-	-	-	-	-	0	0
Totals	20.62	9.98	10.80[G]	-	1233[F]	2127[F]	124	192	736	736

A Includes over-treatment from Drainage Areas C, D and E, not otherwise treated.

B No treatment required, no increase in impervious cover.

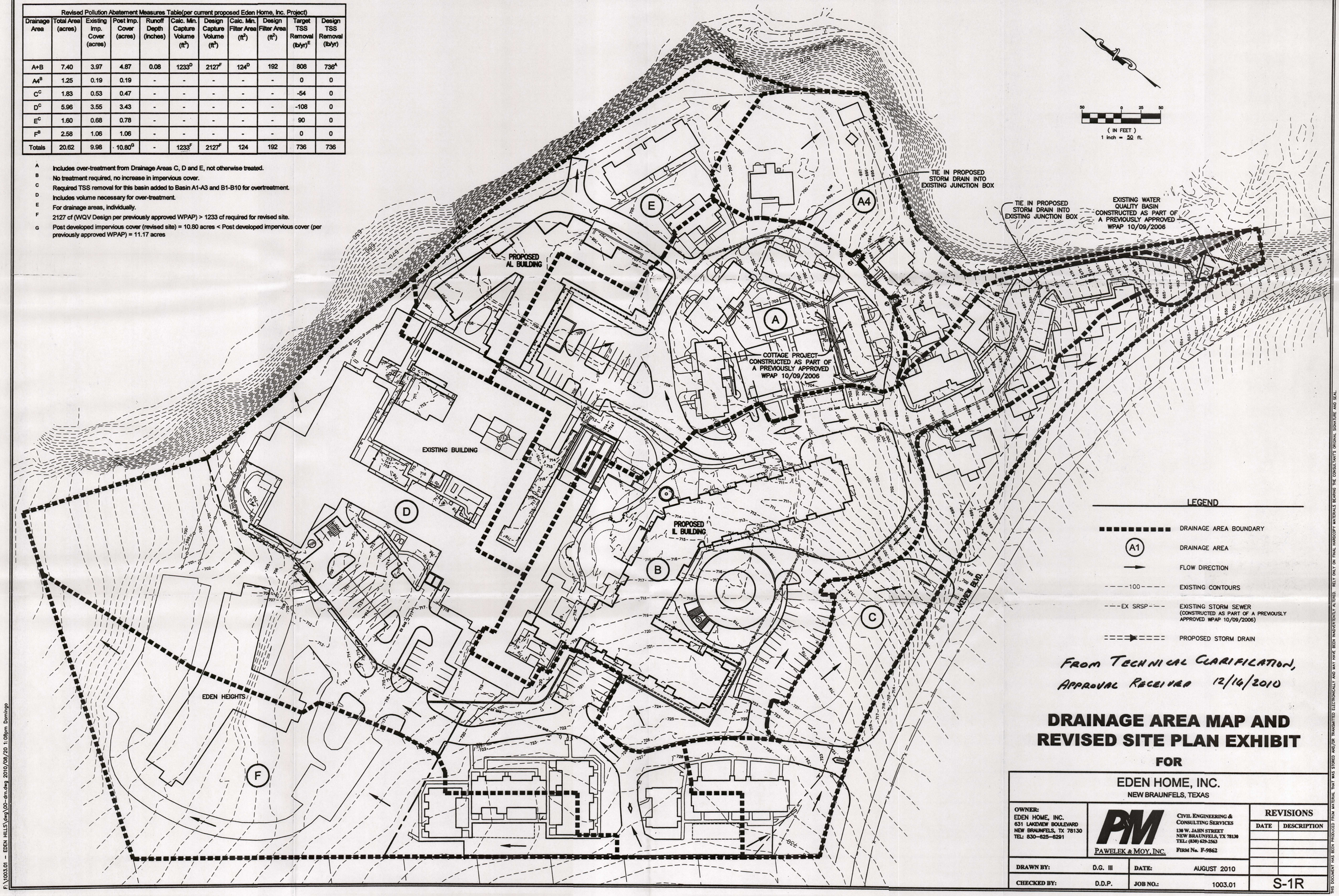
C Required TSS removal for this basin added to Basin A1-A3 and B1-B10 for overtreatment.

D Includes volume necessary for over-treatment.

E For drainage areas, individually.

F 2127 cf (WQV Design per previously approved WPAP) > 1233 cf required for revised site.

G Post developed impervious cover (revised site) = 10.80 acres < Post developed impervious cover (per previously approved WPAP) = 11.17 acres



LEGEND

- DRAINAGE AREA BOUNDARY
- (A1) DRAINAGE AREA
- FLOW DIRECTION
- ---100--- EXISTING CONTOURS
- ---EX SRSP--- EXISTING STORM SEWER (CONSTRUCTED AS PART OF A PREVIOUSLY APPROVED WPAP 10/09/2006)
- PROPOSED STORM DRAIN

FROM TECHNICAL CLARIFICATION, APPROVAL RECEIVED 12/16/2010

DRAINAGE AREA MAP AND REVISED SITE PLAN EXHIBIT

FOR

EDEN HOME, INC.
NEW BRAUNFELS, TEXAS

OWNER:
EDEN HOME, INC.
631 LAKEVIEW BOULEVARD
NEW BRAUNFELS, TX 78130
TEL: 830-625-6291

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

REVISIONS	
DATE	DESCRIPTION

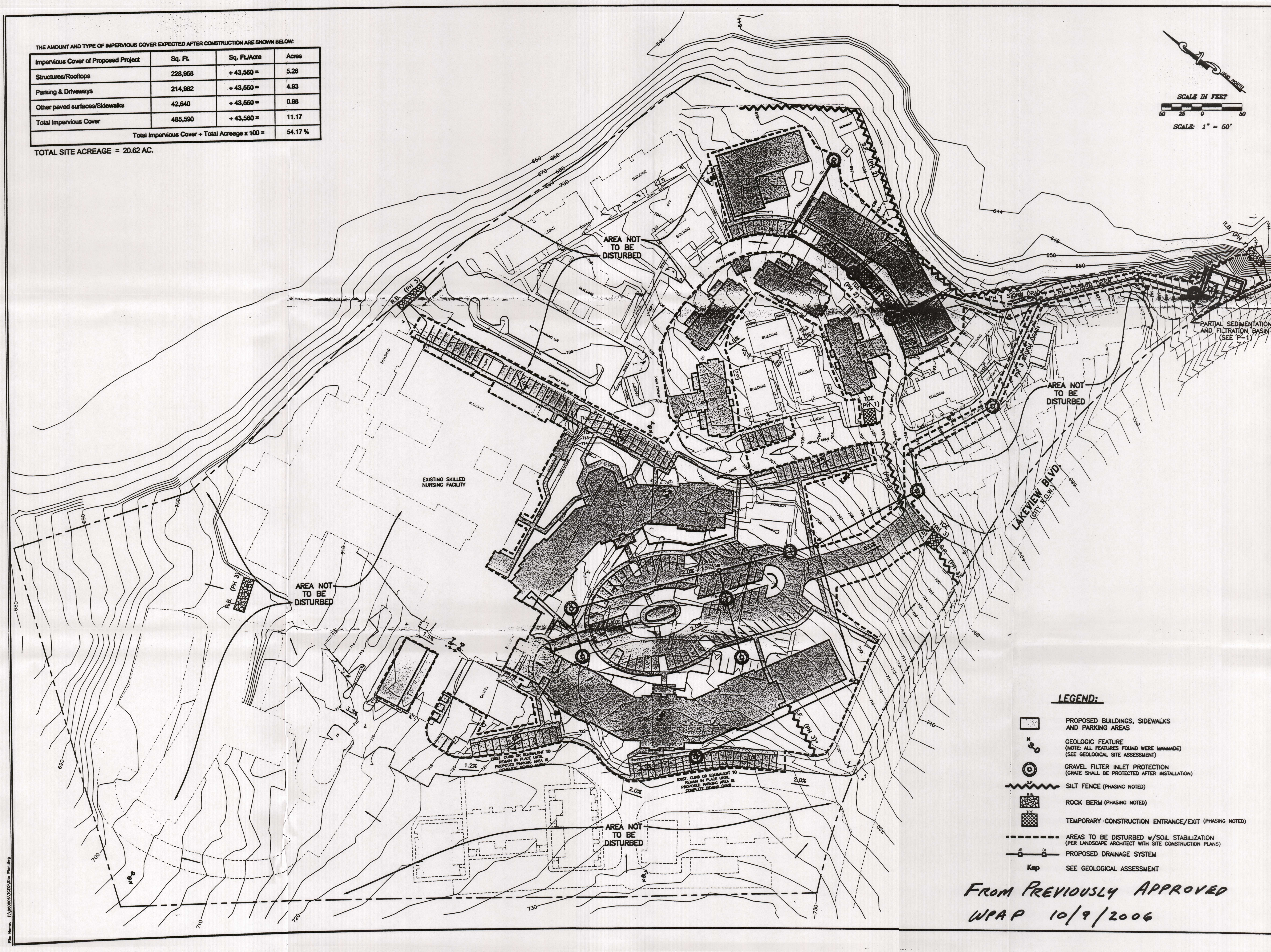
DRAWN BY:	D.G. III	DATE:	AUGUST 2010
CHECKED BY:	D.D.P.	JOB NO.:	1003.01

S-1R

THE AMOUNT AND TYPE OF IMPERVIOUS COVER EXPECTED AFTER CONSTRUCTION ARE SHOWN BELOW:

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	228,968	+ 43,560 =	5.26
Parking & Driveways	214,982	+ 43,560 =	4.93
Other paved surfaces/Sidewalks	42,640	+ 43,560 =	0.98
Total Impervious Cover	485,590	+ 43,560 =	11.17
Total Impervious Cover + Total Acreage x 100 =			54.17 %

TOTAL SITE ACREAGE = 20.62 AC.



FROM PREVIOUSLY APPROVED
WPAP 10/9/2006

REVISIONS

DATE	DESCRIPTION

SITE PLAN
FOR
EDEN HOME EXPANSION
NEW BRAUNFELS, TEXAS

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

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

S-1

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

REGULATED ENTITY NAME: Eden Home

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. ___ **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.

   X The are no other potential sources of contamination. (None anticipated beyond those listed as Examples under Potential Sources of Contamination shown above.)

SEQUENCE OF CONSTRUCTION

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

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

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SOIL STABILIZATION PRACTICES

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

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

Daryl D. Pawelek

Print Name of Customer/Agent

Signature of Customer/Agent

8-28-13

Date

TEMPORARY STORMWATER SECTION

2. Attachment A – Spill Response Actions

Regarding spill prevention and control, found directly behind this sheet is copy of Section 1.4.16 of the Texas Commission on Environmental Quality (TCEQ) "Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices, pages 1-118 through 1-121, Spill Prevention and Control which covers necessary procedures for spill prevention and control. In the event of a significant or hazardous spill (per the attached TCEQ criteria and guidelines) the contractor or construction personnel shall notify the TCEQ by telephone as soon as possible and within 24 hours at (512) 339-2929 (Austin) or (210) 490-3096 (San Antonio) between 8 am and 5 pm. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

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

RG-348
Revised July 2005

Complying with the Edwards Aquifer Rules

Technical Guidance on Best Management Practices

printed on
recycled paper

Field Operations Division

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

1.4.16 Spill Prevention and Control

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

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

Education

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

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

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

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

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

General Measures

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

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

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

(4) Train employees in spill prevention and cleanup.

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

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

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

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

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

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

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

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

Cleanup

(1) Clean up leaks and spills immediately.

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

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

Minor Spills

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

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

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

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

(5) Contain the spread of the spill.

(6) Recover spilled materials.

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

Semi-Significant Spills

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

Spills should be cleaned up immediately:

(1) Contain spread of the spill.

(2) Notify the project foreman immediately.

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

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

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

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

(2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.

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

(4) The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.

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

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

Vehicle and Equipment Maintenance

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

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

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

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

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

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

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

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

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

Vehicle and Equipment Fueling

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

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

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

5. Attachment C – Sequence of Major Activities

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

Sequence No.	Description of Soil Disturbing Activity	Estimated Area to be Disturbed by each Activity (Acres ~ Total)
1	Clearing/Grubbing/Construction Staging (For Proposed parking, sidewalk and detention pond)	2.0
2	Excavation and Grading (Proposed Parking, Sidewalk and Detention Pond)	1.9
3	Final Paving and Sidewalks	1.0

7. Attachment D – Temporary Best Management Practices and Measures

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

a. There are drainage areas that originate off-site and flow onto the project site, Drainage Areas $C_{offsite}$, $D_{offsite}$ and $F_{offsite}$ (see Drainage Area Map, Sheet D1). Drainage Area $D_{offsite}$ will enter the site and then be conveyed around the disturbed areas via the paved drives and a proposed bypass culvert. The drives and culvert outfall into the proposed detention pond where a rock berm will be installed at the pond outfall. Located just below the outlet pipe of the detention pond will be a temporary rock berm and a permanent velocity control measure consisting of rock riprap which will be applied to reduce the velocity of the concentrated flow. Therefore off-site water required to enter the site via Drainage Area $D_{offsite}$ will be treated by temporary rock berms prior to exiting the site. Drainage Areas $C_{offsite}$ and $F_{offsite}$ flow onto the project site but drain across areas to not be disturbed and follow existing drainage patterns.

b. The stormwater that originates on-site will be controlled and filtered by rock berms and silt fences on the down gradient side of the areas of disturbance. The rock berms and silt fences will reduce the velocity of the water and allow the sediment to settle out and be trapped by the control device. After a significant rainfall event, it will be the contractor's responsibility to remove the sediment and debris that is captured.
c. The BMP's will prevent pollutants from entering surface streams, sensitive features (no sensitive features present on this site), or the aquifer by capturing the silts and sediments through the utilization of the previously mentioned control devices such as silt fences and rock berms. These devices are located such that they capture the silts and sediment prior to entering the surface streams, etc. where they would otherwise be carried downstream. The settlement of the silts and sediment is due to the reduction of the velocity of the water.
d. There were no sensitive features located on the site. However, previously described temporary measures will be maintained and incorporated where necessary to prevent contamination of stormwater runoff. In the event a sensitive feature is discovered during construction, the contractor or construction personnel shall notify the TCEQ by telephone as soon as possible and within 24 hours at (512) 339-2929 (Austin) or (210) 490-3096 (San Antonio) between 8 am and 5 pm. At that point an assessment will be made with the TCEQ as to how to best protect what was discovered.

9. Attachment F – Structural Practices

The structural practices that will be used for temporary erosion/sediment control for this development are rock berms, silt fences, temporary construction entrance/exits, and a concrete washout area. The rock berms and silt fences will allow the silts and sediment to settle out prior to discharging into surface streams or sensitive features (no sensitive features present on this site). As mentioned previously, there will be two detention ponds being constructed on the project site and these detention ponds will aid in the sedimentation of solids and improve the overall water quality.

10. Attachment G – Drainage Area Map

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

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

A. Rock Berm Inspection and Maintenance Guidelines:

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

B. Silt Fence Inspection and Maintenance Guidelines:

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

C. Temporary Construction Entrance/Exit:

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

D. Concrete Washout Area Inspection and Maintenance Guidelines:

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

E. Inlet Protection Inspection and Maintenance Guidelines:

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

TEMPORARY CONSTRUCTION ENTRANCE/EXIT
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes

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

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

Maintenance Required for Temporary Construction Entrance/Exit:

_____

_____

_____

_____

To Be Performed by:_____ On or Before:_____

SILT FENCE
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

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

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

Maintenance Required for Silt Fence:

_____

_____

_____

_____

To Be Performed by:_____ On or Before:_____

ROCK BERMS
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

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

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

Maintenance Required for Rock Berms:

_____

_____

_____

_____

To Be Performed by:_____ On or Before:_____

CONCRETE WASHOUT AREA
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

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

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

Maintenance Required for Concrete Washout Area:

_____

_____

_____

_____

To Be Performed by:_____ On or Before:_____

INLET PROTECTION
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

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

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

Maintenance Required for Silt Fence:

_____
_____
_____
_____

To Be Performed by:_____ On or Before:_____

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

A. Temporary Stabilization

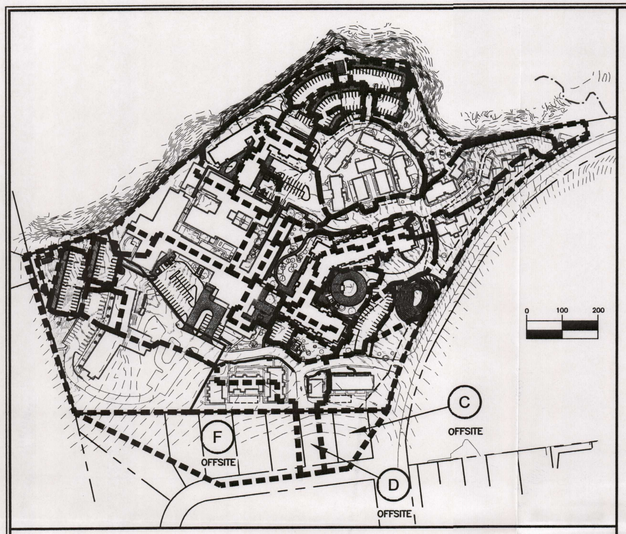
No bare ground exposed during construction will be left to stabilize naturally. Any disturbed area where construction activities have ceased, permanently or temporarily, the contractor shall initiate temporary stabilization of the area by the use of seeding and mulching within 14 days, except in areas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

B. Permanent Stabilization

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

ATTACHMENT G

MASTER DRAINAGE AREA MAP



OFF-SITE DRAINAGE AREAS

LEGEND

- DRAINAGE AREA BOUNDARY
- A1 — DRAINAGE AREA
- FLOW DIRECTION
- EXISTING CONTOURS (TOPOGRAPHY)
- 100 — EXISTING CONTOURS (CITY AERIAL)
- EX SRSP — EXISTING STORM SEWER (CONSTRUCTED AS PART OF A PREVIOUSLY APPROVED WPAP 10/09/2006)
- PROPOSED STORM DRAIN

50 0 25 50
(IN FEET)
1 inch = 50 ft.

TIE IN PROPOSED STORM DRAIN INTO EXISTING JUNCTION BOX

TIE IN PROPOSED STORM DRAIN INTO EXISTING JUNCTION BOX

EXISTING WATER QUALITY BASIN CONSTRUCTED AS PART OF A PREVIOUSLY APPROVED WPAP 10/09/2006

PROPOSED AL BUILDING

COTTAGE PROJECT- CONSTRUCTED AS PART OF A PREVIOUSLY APPROVED WPAP 10/09/2006

EXISTING BUILDING

PROPOSED IL BUILDING

PROPOSED DETENTION POND

PROPOSED DETENTION POND

EDEN HEIGHTS

LAKEVIEW BLVD.

(SEE OFF-SITE DRAINAGE AREAS INSET ABOVE)

OFF-SITE	
DRAINAGE NODE	DRAINAGE AREA
C OFF-SITE	0.50 AC
D OFF-SITE	0.26 AC
F OFF-SITE	1.93 AC

ON-SITE	
DRAINAGE NODE	DRAINAGE AREA
A1	1.49 AC
A2	1.04 AC
A3	0.32 AC
A4	0.76 AC
A5	0.14 AC
B1	1.48 AC
B2	0.23 AC
B3	0.57 AC
B4	0.43 AC
B5	0.39 AC
B6	0.31 AC
B7	0.22 AC
B8	0.28 AC
B9	0.19 AC
B10	0.11 AC
B11	0.16 AC
B12	0.29 AC
B13	0.30 AC
C	1.67 AC
D1	1.43 AC
D2	3.02 AC
D3	0.36 AC
D4	0.24 AC
D5	0.02 AC
D6	0.22 AC
D7	0.35 AC
D8	0.11 AC
E1	0.22 AC
E2	0.25 AC
E3	0.07 AC
E4	0.27 AC
E5	0.95 AC
E6	0.20 AC
F	2.53 AC

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

STATE OF TEXAS DARYL D. PAWELEK 84770 LICENSED PROFESSIONAL ENGINEER 8-28-13

OWNER:
EDEN HOME, INC.
dba, EDEN HILL COMMUNITIES
631 LAKEVIEW BLVD
NEW BRAUNFELS, TX 78130

DRAINAGE AREA MAP
FOR
EDEN HOME
(EDENHILL COMMUNITIES)
NEW BRAUNFELS, TEXAS

REVISIONS

DESCRIPTION	DATE

DRAWN BY: D.G. III
CHECKED BY: D.D.P.
DATE: AUGUST 2013
JOB NO.: 1108.01

D1

F:\1108.01 - EDEN HILLS\dwg\D1.dwg 2013/08/28 9:34am Domingo

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

REGULATED ENTITY NAME: Eden Home

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.

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

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

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

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

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

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

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

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

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

__ 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.

__ **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.

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

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

13. 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:

Daryl D. Pawelek

Print Name of Customer/Agent

Signature of Customer/Agent

8-28-13

Date

PERMANENT STORMWATER SECTION

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

Not Applicable.

6. Attachment B- BMP's for Upgradient Stormwater

Permanent BMP's or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient of the site because the upgradient stormwater runoff that enters this site will be conveyed via paved drives or stabilized(grassed) areas around on-site permanent BMP's and the off-site water is of different land ownership predominantly in an existing residential state.

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

The proposed BMP's for a majority of the proposed parking areas are Engineered Vegetative Filter Strips with the remainder being filtered via an existing partial sedimentation and sand filtration pond. With the partial sedimentation and sand filtration pond, the first flush is captured in the pond (Capture Volume) which allows the larger particles to settle out. The outflow from the sedimentation chamber to the sand filter chamber is controlled by a gabion basket. The sand filters the fines and other contaminated stormwater pollutants that are present in the runoff and a network of perforated PVC piping allows the filtered water to be released from the pond. In the event that a hazardous spill would occur, a gate valve will be located outside of the sand filter to close off flow.

Engineered vegetative filter strips adjacent to the proposed parking areas are being proposed for the areas outside of the drainage basin conveying runoff to the sedimentation/filtration pond. With this BMP, the storm water will drain, in a sheet flow manner, from the paved area across the 15' wide grass filter. With the contributing drainage area being less than 72 feet and the slope of the engineered vegetated filter strip ranging from 2% to 20% (max.), the 80% removal requirement will be achieved (per TCEQ RG-348).

8. Attachment D- BMP's for Surface Streams

The proposed BMP's for this site include an existing partial sedimentation and sand filtration pond and engineered vegetative filter strips. The water quality pond system will capture and filter the first flush of stormwater runoff which appears to contain the most pollutants and prevent these pollutants from entering the surface streams, sensitive features (no sensitive features on this site), or the aquifer. Additionally, the proposed parking area located in the northwest portion of the site (Drainage Area D), drains to the engineered vegetative filter strip which then outfalls into a proposed detention pond. This proposed detention pond allows for additional solids/pollutants time to settle. This additional time for settlement will aid in the improvement of the overall water quality and further reduce the impact of the pollutants on surface streams, sensitive features (no sensitive features on this site), or the aquifer.

The engineered vegetative filter strips will filter the storm water runoff coming off of the parking areas. With this BMP, the storm water will drain, in a sheet flow manner, from the parking areas across the 15' wide grass filter. With the contributing drainage area being less than 72 feet and the slope of the engineered vegetated filter strip ranging from 2% to 20% (max.), the 80% removal requirement will be achieved (per TCEQ RG-348) and will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

10. Attachment F- Construction Plans and Calculations

See the Site Plan (Sheet S1) for the existing Partial Sedimentation & Filtration Pond and proposed Engineered Vegetative Filter Strip locations.

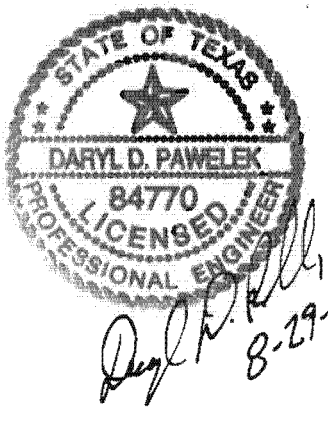
The design criteria/requirements for the proposed Engineered Vegetative Filter Strips was taken from the TCEQ "Calculation Template 4-20-09" spreadsheet for Vegetative Filter Strips and is shown below.

"There are no calculations required for determining the load or size of vegetative filter strips. The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with a maximum slope of 20% or across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%."

CALCULATIONS

FOR

PERMANENT BMP'S



Pollution Abatement Measures Table

Existing Partial Sedimentation and Filtration Basin Summary

Drainage Area	Total Area (acres)	Existing Imp. Cover (acres)	Post Imp. Cover (acres)[I]	Runoff Depth (inches)	Calc. Min. Capture Volume (ft^3)	Design Capture Volume (ft^3)	Calc. Min. Filter Area (ft^2)	Design Filter Area (ft^2)[G]	Target TSS Removal (lb/yr)[E]	Design TSS Provided (lb/yr)[H]
(A1-A3)+(B1-B13)[A]	7.81	4.12	5.27	0.11	1755[D]	2127[F]	146[D]	192	1032	1068
A4[C]	0.76	0.15	0.17	-	-	-	-	-	18	0
A5[B]	0.14	0.03	-	-	-	-	-	-	-27	0
C[C]	1.67	0.62	0.63	-	-	-	-	-	9	0
(D1-D5)+D8[C]	5.18	3.31	3.29	-	-	-	-	-	-18	0
D6[B]	0.22	0.00	-	-	-	-	-	-	0	0
D7[B]	0.35	0.00	-	-	-	-	-	-	0	0
E1[B]	0.22	0.05	-	-	-	-	-	-	-45	0
E2[B]	0.25	0.01	-	-	-	-	-	-	-9	0
E3[B]	0.07	0.05	-	-	-	-	-	-	-45	0
E4+E5[C]	1.22	0.49	0.69	-	-	-	-	-	180	0
E6[C]	0.20	0.09	-	-	-	-	-	-	-81	0
F[C]	2.53	1.06	1.07	-	-	-	-	-	9	0
Sub-Total - Basin	20.62	9.98	11.12	-	1755[D]	2127[F]	146[D]	192	1023	1068

Proposed Engineered Vegetative Filter Strips Summary

Watershed Area	Permanent BMP	Drainage Area (Acres)	Imp. Cover (Acres)[I]						Target TSS Removal (lb/yr)	TSS Removal Provided (lb/yr)
A5	VFS	0.14	0.10						90	90
E1	VFS	0.22	0.15						135	135
E2	VFS	0.25	0.16						144	144
E3	VFS	0.07	0.05						45	45
E6	VFS	0.20	0.14						125	125
D6	VFS	0.22	0.17						153	153
D7	VFS	0.35	0.26						233	233
Sub-Total - Vegetative Filter Strips	-----	1.45	1.03						925	925
Total		**20.62**	**12.15**	-----	-----	-----		-----	**1,948**	**1,993**

A Includes over-treatment from Drainage Areas C, D and E, not otherwise treated.

B No treatment provided by basin; but by vegetated filter strips, only shown in this table for total drainage area.

C Required TSS removal for this basin added to or subtracted from Basin A1-A3 and B1-B13 for overtreatment.

D Includes volume necessary for over-treatment.

E For drainage areas, individually.

F 2127 cf (WQV Design per previously approved WPAP) > 1755 cf required for modification.

G 192 sf (Sand Filter Area Designed per previously approved WPAP) > 146 sf required for modification.

H 1068 lb/yr (TSS Provided from previously approved WPAP) > 1023 lb/yr required for modification.

I Post developed impervious cover (per this modification) = 12.15 acres; with 11.12 acres(treated by basin) < Post developed impervious cover (per previously approved WPAP) = 11.17 acres, and 1.03 acres(treated by proposed vegetated filter strips).

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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

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

where:

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P = Average annual precipitation, inches

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

County =	Comal	
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Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	(A1-A3 & B1-B13)	
Total drainage basin/outfall area =	7.81	acres
Predevelopment impervious area within drainage basin/outfall area =	4.12	acres
Post-development impervious area within drainage basin/outfall area =	5.27	acres
Post-development impervious fraction within drainage basin/outfall area =	0.67	
$L_{M\ THIS\ BASIN}$ =	1032	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Sand Filter
Removal efficiency = 89 percent

Aqualogic Cartridge Filter

Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:

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

A_C =	7.81	acres
A_I =	5.27	acres
A_P =	2.54	acres
L_R =	5396	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	1023	lbs.
F =	0.19	

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 =	0.11	inches
Post Development Runoff Coefficient =	0.48	
On-site Water Quality Volume =	1462	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	292	

Total Capture Volume (required water quality volume(s) x 1.20) =	**1755**	cubic feet	< 2127 cf from Previously Approved WPAP Design

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

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 =	**1755**	cubic feet	
Minimum filter basin area =	**81**	square feet	
Maximum sedimentation basin area =	**731**	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	**183**	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	**1755**	cubic feet	
Minimum filter basin area =	**146**	square feet	< 192 sf from Previously Approved WPAP Design
Maximum sedimentation basin area =	**585**	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	**37**	square feet	For maximum water depth of 8 feet

Texas Commission on Environmental Quality

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Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = A4

Total drainage basin/outfall area =	0.76	acres
Predevelopment impervious area within drainage basin/outfall area =	0.15	acres
Post-development impervious area within drainage basin/outfall area =	0.17	acres
Post-development impervious fraction within drainage basin/outfall area =	0.22	
$L_{M\ THIS\ BASIN}$ =	18	lbs.

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Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	A5	
Total drainage basin/outfall area =	0.14	acres
Predevelopment impervious area within drainage basin/outfall area =	0.03	acres
Post-development impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.00	
$L_{M\ THIS\ BASIN}$ =	-27	lbs.

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Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	C	
Total drainage basin/outfall area =	1.67	acres
Predevelopment impervious area within drainage basin/outfall area =	0.62	acres
Post-development impervious area within drainage basin/outfall area =	0.63	acres
Post-development impervious fraction within drainage basin/outfall area =	0.38	
$L_{M\ THIS\ BASIN}$ =	9	lbs.

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Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = (D1-D5) + D8

Total drainage basin/outfall area =	5.18	acres
Predevelopment impervious area within drainage basin/outfall area =	3.31	acres
Post-development impervious area within drainage basin/outfall area =	3.29	acres
Post-development impervious fraction within drainage basin/outfall area =	0.64	
$L_{M\ THIS\ BASIN}$ =	-18	lbs.

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Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1948	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	D6	
Total drainage basin/outfall area =	0.22	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.00	
$L_{M\ THIS\ BASIN}$ =	0	lbs.

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P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	D7	
Total drainage basin/outfall area =	0.35	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.00	
$L_{M\ THIS\ BASIN}$ =	0	lbs.

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P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	E1	
Total drainage basin/outfall area =	0.22	acres
Predevelopment impervious area within drainage basin/outfall area =	0.05	acres
Post-development impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.00	
$L_{M\ THIS\ BASIN}$ =	-45	lbs.

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Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = E2

Total drainage basin/outfall area =	0.25	acres
Predevelopment impervious area within drainage basin/outfall area =	0.01	acres
Post-development impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.00	
$L_{M\ THIS\ BASIN}$ =	-9	lbs.

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where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

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

County =	Comal	
Total project area included in plan * =	20.62	acres
Predevelopment impervious area within the limits of the plan * =	9.98	acres
Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = E3

Total drainage basin/outfall area =	0.07	acres
Predevelopment impervious area within drainage basin/outfall area =	0.05	acres
Post-development impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.00	
$L_{M\ THIS\ BASIN}$ =	-45	lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Eden Hill - Modification for Added Parking
Date Prepared: 8/27/2013

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

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Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1948	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	E4+E5	
Total drainage basin/outfall area =	1.22	acres
Predevelopment impervious area within drainage basin/outfall area =	0.49	acres
Post-development impervious area within drainage basin/outfall area =	0.69	acres
Post-development impervious fraction within drainage basin/outfall area =	0.57	
$L_{M\ THIS\ BASIN}$ =	180	lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = E6

Total drainage basin/outfall area =	0.20	acres
Predevelopment impervious area within drainage basin/outfall area =	0.09	acres
Post-development impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.00	
$L_{M\ THIS\ BASIN}$ =	-81	lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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County =	Comal	
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Predevelopment impervious area within the limits of the plan * =	9.98	acres
Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1948	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	F	
Total drainage basin/outfall area =	2.53	acres
Predevelopment impervious area within drainage basin/outfall area =	1.06	acres
Post-development impervious area within drainage basin/outfall area =	1.07	acres
Post-development impervious fraction within drainage basin/outfall area =	0.42	
$L_{M\ THIS\ BASIN}$ =	9	lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	A5	
Total drainage basin/outfall area =	0.14	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.10	acres
Post-development impervious fraction within drainage basin/outfall area =	0.71	
$L_{M\ THIS\ BASIN}$ =	90	lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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Predevelopment impervious area within the limits of the plan * =	9.98	acres
Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	**0.59**	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	E1	
Total drainage basin/outfall area =	0.22	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.15	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.68**	
$L_{M\ THIS\ BASIN}$ =	**135**	lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = E2

Total drainage basin/outfall area =	0.25	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.16	acres
Post-development impervious fraction within drainage basin/outfall area =	0.64	
$L_{M\ THIS\ BASIN}$ =	**144**	lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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P = Average annual precipitation, inches

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Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	E3	
Total drainage basin/outfall area =	0.07	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.05	acres
Post-development impervious fraction within drainage basin/outfall area =	0.71	
$L_{M\ THIS\ BASIN}$ =	45	lbs.

Texas Commission on Environmental Quality

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Date Prepared: 8/27/2013

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Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	**1948**	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = E6

Total drainage basin/outfall area =	0.20	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.14	acres
Post-development impervious fraction within drainage basin/outfall area =	0.70	
$L_{M\ THIS\ BASIN}$ =	125	lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1948	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	D6	
Total drainage basin/outfall area =	0.22	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.17	acres
Post-development impervious fraction within drainage basin/outfall area =	0.77	
$L_{M\ THIS\ BASIN}$ =	153	lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

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Total post-development impervious area within the limits of the plan* =	12.15	acres
Total post-development impervious cover fraction * =	0.59	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	1948	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 6

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	D7	
Total drainage basin/outfall area =	0.35	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.26	acres
Post-development impervious fraction within drainage basin/outfall area =	0.74	
$L_{M\ THIS\ BASIN}$ =	233	lbs.

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

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

12. Attachment H- Pilot-Scale Field Testing Plan

Not Applicable.

The proposed BMP's for this site were designed according to the TCEQ Technical Guidance Manual.

13. Attachment I – Measures for Minimizing Surface Stream Contamination

As mentioned previously, one of the proposed BMP's for this site is an existing partial sedimentation and sand filtration pond. With this BMP, the first flush is captured in the pond (Capture Volume) which allows the larger particles to settle out. The outflow from the sedimentation chamber to the sand filter chamber is controlled by a gabion basket. The sand filters the fines and other contaminated stormwater pollutants that are present in the runoff and a network of perforated PVC piping allows the filtered water to be released from the pond. In the event that a hazardous spill would occur, a gate valve will be located outside of the sand filter to close off flow. The outflow from this sand filter pond is an existing storm drain that outfalls into an existing City of New Braunfels culvert downstream of the site. The proposed parking area located in the northwest portion of the site (Drainage Area D), drains to the engineered vegetative filter strip which then outfalls into a proposed detention pond. This proposed detention pond allows for additional solids/pollutants time to settle. This additional time for settlement will aid in the improvement of the overall water quality and further reduce the impact of the pollutants on surface streams, sensitive features (no sensitive features on this site), or the aquifer. Located at the outfall of the detention pond is a proposed velocity control measure which utilizes heavy rock riprap to dissipate the higher flow velocities prior to entering the natural low located downstream of the detention pond.

Attachment "G"
Maintenance Plan and Schedule for Vegetative Filter Strip

PROJECT NAME: Eden Home

ADDRESS: 631 Lakeview Blvd.

CITY, STATE, ZIP: New Braunfels, Texas 78130

VEGETATIVE FILTER STRIP (per TCEQ: RG-348)

Pest Management: An Integrated Pest Management (IPM) Plan shall be implemented consisting of minimal or no use of herbicides for insect and weed control. Weeds shall be manually removed from the vegetative filter strip where possible and if an abundance of weeds/insects are present, the filter strip shall be sprayed with an environmentally/vegetative safe pesticide/herbicide.

Seasonal Mowing and Lawn Care: If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter may require less frequent mowing, but at a minimum of twice annually. Grass clippings and brush debris should not be deposited on the vegetated filter strip areas. Regular mowing shall include weed control practices, with herbicide use kept to a minimum.

Inspection: The filter strip shall be inspected at a minimum of twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip shall be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

Debris and Litter Removal: All filter strips shall be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection, but shall be performed no less than 4 times per year.

Sediment Removal: Sediment removal is not normally required, since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment shall be removed by hand or with flat-bottomed shovels.

Grass Reseeding and mulching: A healthy dense grass shall be maintained on the filter strip. If areas are eroded, they shall be filled, compacted and reseeded so that the final grade is level. Grass damaged during the sediment removal process shall be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting shall be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, during particularly dry periods and when vegetation is initially established.

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

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

Responsible Party for Maintenance: Eden Home – Laurence Dahl
Address: 631 Lakeview Blvd.
City, State Zip: New Braunfels, Texas 78130
Telephone Number: (830) 625-6291

Signature of Responsible Party: _____ 8/26/2013 DATE

Print Name of Responsible Party: Laurence Dahl

Laurence P. Dahl
Executive Director/CEO

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

I Laurence P. Dahl,
Print Name

Executive Director/CEO,
Title - Owner/President/Other

of Eden Home, Inc. (dba, EdenHill Communities),
Corporation/Partnership/Entity Name

have authorized Daryl D. Pawelek
Print Name of Agent/Engineer

of Pawelek & Moy, Inc.
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

08/09/2013
Date

Laurence P. Dahl
Executive Director/CEO

THE STATE OF Texas §

County of Comal §

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

GIVEN under my hand and seal of office on this 9th day of August, 2013.

NOTARY PUBLIC

JANET G. MACK
Notary Public, State of Texas
My Commission Expires
November 26, 2014

Janet G. Mack
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11-26-2014

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

NAME OF PROPOSED REGULATED ENTITY: Eden Home
REGULATED ENTITY LOCATION: 631 Lakeview Blvd., New Braunfels, TX
NAME OF CUSTOMER: Eden Home, Inc.(dba, as Eden Hill Communities)
CONTACT PERSON: Laurence P. Dahl PHONE: (830)625-6291
(Please Print)

Customer Reference Number (if issued): CN 600951248 (nine digits)

Regulated Entity Reference Number (if issued): RN 101762425 (nine digits)

Austin Regional Office (3373) ☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362) ☐ Bexar ☒ Comal ☐ Medina ☐ Kinney ☐ Uvalde

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

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

☐ **Overnight Delivery to TCEQ**:
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-1278

Site Location (Check All That Apply): ☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	20.62 Acres	$ 6,500.00
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

Laurence P. Dahl
Executive Director/CEO

08/09/2013
Date

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

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

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

PROJECT	PROJECT AREA IN ACRES	FEE
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

PROJECT	COST PER LINEAR FOOT	MINIMUM FEE MAXIMUM FEE
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

PROJECT	COST PER TANK OR PIPING SYSTEM	MINIMUM FEE MAXIMUM FEE
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

EDEN HOME, INC.

45910

Date	8/12/2013	Check Number	45910

Invoice ID	Invoice Description	Amount Due	Discount	Payment
[08/12/13] 081213	APPLICATION FEE	$6,500.00	$0.00	$6,500.00
Vendor ID TEX057	Pay To Name TEXAS COMMISSION	Amount Due Total $6,500.00	Discount Total $0.00	Payment Total $6,500.00

TexStar National Bank
P.O. Box 2988 • 210-659-4000
Universal City, TX 78148

30-1711/1140

45910

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

Account Number	CN 600951248/RN101762425	Date	8/12/2013

Amount	$6,500.00

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

TO THE ORDER OF
TEXAS COMMISSION
ON ENVIRONMENTAL QUALITY
REGIONAL OFFICE
SAN ANTONIO, TX

⑈045910⑈ ⑆114017112⑆ ⑈151⑈7259⑈

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

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

[X] Yes [ ] No — Modification of a Previously Approved Water Pollution Abatement Plan(WPAP)

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN 600951248		RN 101762425

SECTION II: Customer Information

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

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

[X] Owner [ ] Operator [ ] Owner & Operator
[ ] Occupational Licensee [ ] Responsible Party [ ] Voluntary Cleanup Applicant [ ] Other: _____

7. General Customer Information

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

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

8. Type of Customer:			
[ ] Corporation	[ ] Individual	[ ] Sole Proprietorship- D.B.A	
[ ] City Government	[ ] County Government	[ ] Federal Government	[ ] State Government
[ ] Other Government	[ ] General Partnership	[ ] Limited Partnership	[ ] Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)*	*If new Customer, enter previous Customer below*	*End Date:*

10. Mailing Address:

City		State		ZIP		ZIP + 4	

11. Country Mailing Information *(if outside USA)*	12. E-Mail Address *(if applicable)*
	larryd@edenhill.org

13. Telephone Number	14. Extension or Code	15. Fax Number *(if applicable)*
( ) -	-	( ) -

16. Federal Tax ID *(9 digits)*	17. TX State Franchise Tax ID *(11 digits)*	18. DUNS Number *(if applicable)*	19. TX SOS Filing Number *(if applicable)*

20. Number of Employees

[ ] 0-20 [ ] 21-100 [ ] 101-250 [ ] 251-500 [ ] 501 and higher

21. Independently Owned and Operated?

[ ] Yes [ ] No

SECTION III: Regulated Entity Information

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

[ ] New Regulated Entity [ ] Update to Regulated Entity Name [ ] Update to Regulated Entity Information [X] No Change** *(See below)*

**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

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

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*							
	City		State		ZIP		ZIP + 4	
25. Mailing Address:							
	City		State		ZIP		ZIP + 4	
26. E-Mail Address:							

27. Telephone Number	28. Extension or Code	29. Fax Number *(if applicable)*
( ) -	-	( ) -

30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)	33. Secondary NAICS Code (5 or 6 digits)

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

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

35. Description to Physical Location:	

36. Nearest City	County	State	Nearest ZIP Code

37. Latitude (N) In Decimal:			38. Longitude (W) In Decimal:		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

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

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

SECTION IV: Preparer Information

40. Name:	Daryl D. Pawelek, P.E.	41. Title:	Civil Engineer

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

SECTION V: Authorized Signature

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

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

Company:	Pawelek & Moy, Inc.	Job Title:	Project Engineer
Name *(In Print)*:	Daryl D. Pawelek	Phone:	(830)629-2563
Signature:	Daryl D. Pawelek	Date:	8-28-13