TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 26, 2014

Mr. Juan C. Lopez
Garden Ridge Assisted Living Inc.
9621 Meadow Rue
Garden Ridge, Texas 78266

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: The Village of Garden Ridge Assisted Living; Located at 9514 FM 1863, approximately 0.85 miles east of the intersection of FM 1863 and FM 3009; Comal County, Texas

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

Regulated Entity No. RN107271926; Investigation No. 1172089; Additional ID No. 13-14051501

Dear Mr. Lopez:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the above-referenced project submitted to the San Antonio Regional Office by Civil Tech PLLC on behalf of Garden Ridge Assisted Living Inc. on May 15, 2014. Final review of the WPAP was completed after additional material was received on June 18, 2014. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were selected and prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 5.3 acres. It will include the construction of one 8,600 square foot building, parking lot, and driveway. The impervious cover will be 0.67 acres (12.6 percent). According to a letter dated, May 1, 2014, signed by Mr. Robert

Boyd, P.E., with Comal County, the site in the development is acceptable for the use of on-site sewage facilities.

PERMANENT POLLUTION ABATEMENT MEASURES

This small business will not have more than 20 percent impervious cover.

GEOLOGY

According to the geologic assessment included with the application, the site is located on the Basal nodular member of the Cretaceous Edwards Kainer Limestone and the Cretaceous Glen Rose Limestone. One non-sensitive man-made feature in bedrock (water well) was identified by the geologist in the original report. The San Antonio Regional Office site assessment conducted on June 12, 2014 revealed the site is generally as described in the geologic assessment.

SPECIAL CONDITION

The applicant requested a waiver to the requirement for other permanent BMPs for this commercial project because the development will have less than 20 percent impervious cover. Based on the TCEQ's Review of the proposed activities and the site conditions, the required waiver is hereby granted. If the percent impervious cover ever increases above 20 percent or the land use changes, the exemption for the whole site as described in the Water Pollution Abatement Plan may no longer apply and the property owner must notify the San Antonio Regional Office of these changes.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP

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

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

<u>During Construction:</u>

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. One well exists on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and

Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

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

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. Alex Grant of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4035.

Sincerely,

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

LB/AG/eg

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

cc: Mr. James McGarr, P.E., Civil Tech, PLLC
Mr. Tom Hornseth, P.E., Comal County
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

The Villages of Garden Ridge
GENERAL INFORMATION SECTION

ATTACHMENT C
Project Description

The Villages of Garden Ridge site is currently a single family homestead property with several small barn type buildings on the site. There is a fair amount of trees existing on the property.

The slopes on the site range from 3 to 5 % with fair to moderate grass coverage. The total impervious cover anticipated is 12.8% (0.68 acres) of the 5.3 acres. The proposed impervious cover will consist of the proposed building (8,600 sf), barn/storage (400 sf), parking lot (4,000 sf), and driveway (16,500 sf). Because the impervious cover for this site does not exceed 20%, a permanent structure is not proposed in this Water Pollution Abatement Plan (WPAP). The building will host a small business type B assisted living center. The small business is less than $1 million in revenue and has less than 100 employees.

All domestic wastewater generated by this project will be disposed of by conveyance to a proposed onsite septic treatment process. See sanitary engineers report. All potable water will be supplied by the existing onsite water well.

ATTACHMENT D

Temporary Best Management Practices and Measures

Interceptor Berms

- Small berms placed along the boundary of the property to catch up gradient water and redirect the flow away from disturbed areas. These berms will utilize vegetation to slow the water and to allow for any sediment particles to settle out before leaving the site, thus minimizing the amount of contaminants leaving the site. See location on the SWPPP sheet.

Silt Fence

- Placed on the down gradient slope of the disturbed areas to catch sediment before it leaves the site. Temporary measure, to be removed once the disturbance activities have ceased and stabilization completed. See details on the SWPPP sheet.

Construction Exit

- Located at the entrance/exit of the site and used to reduce materials from being tracked onto existing roads from construction vehicles. Usually consists of oversized rock gravel that will allow for material to fall off vehicles therefore reducing the amount of material that leaves the site. See SWPPP sheet for location and specifications.

Truck Washout Pit

- Designed to trap and store waste from concrete and similar activities. This allows for safe storage and removal from the site by not allowing contaminants to enter the storm water. Contaminants can be kept in a location that will not allow storm water to mix and flow off the site. See SWPPP sheet for location and specifications.

The Villages of Garden Ridge
PERMANENT STORMWATER SECTION

ATTACHMENT A
20% or Less Impervious Cover Waiver

This site will not be used for multi-family residential developments and will have an impervious cover value less than 20%. The development is classified as commercial by the county, but the building will be almost identical to a typical residential building, only with more bedrooms.

The total impervious cover for the site will be 12.8%. The construction will consist of a small business operation for assisted living for the elderly. The estimated occupancy is less than 20 individuals and a staff of less than 10. The business is listed as a Type B Assisted Living without the disposal of hazardous medical waste. This business has less than 100 employees and $1 million in revenue.

The site will have several berms to direct storm water runoff around and away from any sensitive areas like the existing water well and proposed septic drain field. The berms will be vegetated with natural grasses from the area and sloped to control velocities.

Therefore we request not to construct any permanent BMP's on the site.

ATTACHMENT B

BMPs for up gradient Storm water

The site drains from the northern boundary to the south. The site is bounded by FM 1863 which has roadside ditches that drain water away from the site. Any water that would drain onto the site would come from the ROW of 1863 and would not account for significant storm water.

Water from the site will drain across the site and will be diverted from the proposed building by means of small earthen berms. These berms will consists of 6-12" of soil and will be re-vegetated with natural grass from the site.

ATTACHMENT C

BMPs for On-Site Storm water

The proposed project will have three drainage areas and have impervious cover as previously discussed. The buildings and parking areas will drain to the south and through established grass areas before leaving the site.

The first drainage area will have 1.77 acres of drainage with a portion of the proposed road. This water will be drained off the site and diverted with a small drainage berm to the west.

The second drainage area will have 2.025 acres and contain the remaining portions of the road, parking and building. This area will drain to the south and diverted off site with a second earthen berm.

The remaining acreage will host the septic drain field and will be kept to existing conditions or better, (additional grass cover).

ATTACHMENT B

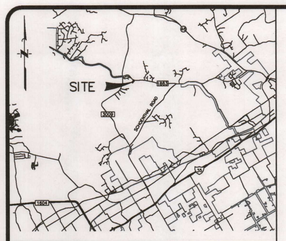
Storm water to be generated by the Proposed Project

The 5.3 acre site will be divided into three major drainage areas that generate approximately 6 cfs of storm water runoff for a 25-year storm event. A coefficient of 0.45 was used for the drainage basin. This value is based on the land use and impervious cover. The character of the storm water runoff can be described as a combination of sheet flow from the landscaped areas, and shallow concentrated flow from the parking lot.

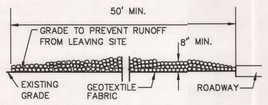
The first drainage area will have 1.77 acres of drainage with a portion of the proposed road. This water will be drained off the site to the west.

The second drainage area will have 2.025 acres and contain the remaining portions of the road, parking and building. The area will drain to the south and off site.

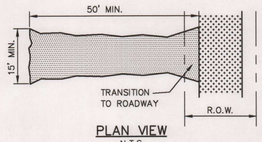
The remaining acreage (1.5) will host the septic drain field and will be kept to existing conditions or better, (additional grass cover) and will leave the site as sheet flow over vegetated areas. This area is outside the disturbed area and will be vegetated with grass and landscaping to eliminate contaminates from leaving the site.



LOCATION MAP
NOT TO SCALE



PROFILE
N.T.S.



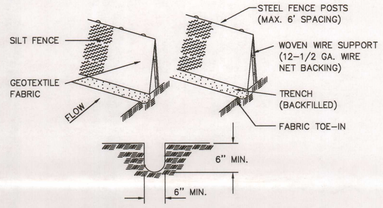
PLAN VIEW
N.T.S.

GENERAL NOTES:
1. STONE SIZE– 4 TO 8 INCH WASHED STONE.
2. GEOTEXTILE FABRIC– SHALL CONSISTS OF 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.
3. LENGTH– AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
4. THICKNESS– NOT LESS THAN 8 INCHES.
5. WIDTH– NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
6. WASHING– WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
7. MAINTENANCE– THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
8. DRAINAGE– ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

REFERENCE TCEQ RG–348 FOR MORE DETAIL

STABILIZED CONSTRUCTION ENTRANCE
SCALE N.T.S.

SCALE: 1"=50'
50 25 0 50



TRENCH CROSS–SECTION
N.T.S.

GENERAL NOTES:
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TREATED IN (e.g. pavement) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

REFERENCE TCEQ RG–348 FOR MORE DETAIL

SILT FENCE
SCALE N.T.S.

NOTE:

AERIAL CONTOURS PROVIDED BY USGS 10' INTERVALS.

FEMA FLOOD PLAIN MAP # 48091C0410F DATED SEPTEMBER 2, 2009.

NO MORE THAN 10 ACRES WITHIN A COMMON DRAINAGE AREA WILL BE DISTURBED.

S.W.P.P.P. DOCUMENT SHALL BE KEPT ONSITE IN AN ACCESSIBLE PLACE.

PLAN
N.T.S.

SECTION A–A
N.T.S.

GENERAL NOTES:
1. DETAIL ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. POLY WRAP TO CONSIST OF 10 MIL. OR GREATER AND PLACED ON TOP OF VIRGIN SOIL.
3. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
4. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

REFERENCE TCEQ RG–348 FOR MORE DETAIL

CONCRETE TRUCK WASHOUT PIT
SCALE N.T.S.

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	1950.08'	203.51' (203.79'	203.42' (203.70')	S 72°37'57" E (S 72°13'15" E)	05°58'46"

CIVIL TECH, PLLC.
ENGINEERS, CONSULTANTS, LAND PLANNERS
Firm No. 13711
(210) 365-5029
P.O. BOX 2203 BOERNE, TX. 78006

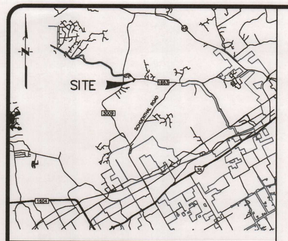
STATE OF TEXAS
JAMES P. McGARR
108753
LICENSED PROFESSIONAL ENGINEER
6/16/2014

DATE

REVISIONS:

VILLAGES OF GARDEN RIDGE
FM 1863
COMAL COUNTY, TEXAS
S.W.P.P.P

DESIGNED BY:
DRAWN BY:
SCALE:
DATE:
SHEET NO.
C2.0



LOCATION MAP
NOT TO SCALE

SCALE: 1"=20'
20 10 0 20

WILBERT D. AND MARJORIE E. SPAETH
VOL. 812 PG. 455-458
18.294 ACRES

3% SLOPES

PROPOSED 6-12" BERM

AREA OF LANDSCAPING/SOIL STABILIZING

AREA OF SOIL DISTURBANCE

5.281 ACRES
THE VILLAGES OF GARDEN RIDGE

5% SLOPES

EXISTING POWER POLE

5' SIDEWALK

8' SIDEWALK

PROPOSED BUILDING

EXISTING WELL

CONSTRUCTION ENTRANCE/EXIT

CONCRETE WASHOUT PIT

S 73°20'07" W 229.20'

600 L.F. SILT FENCE

EXISTING ELECTRIC EASEMENT

S 18°59'49" W 346.99'

TIMOTHY DENNIS AND VICKI DENNIS
REMAINING 12.0 ACRES
DOC NO. 200006037367

FM 1863

EXISTING PAVEMENT

EXISTING PAVEMENT

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	1950.08'	203.51' (203.79'	203.42' (203.70')	S 72°37'57" E (S 72°13'15" E)	05°58'46"

NOTE:

AERIAL CONTOURS PROVIDED BY USGS 10' INTERVALS.

FEMA FLOOD PLAIN MAP # 48091C0410F DATED SEPTEMBER 2, 2009.

FOR DETAILS, REFRENCE SWPPP SHEET C2.0

CIVIL TECH, PLLC.
ENGINEERS, CONSULTANTS, LAND PLANNERS
Firm No. 13711
(210) 365-5029
P.O. BOX 2203 BOERNE, TX. 78006

STATE OF TEXAS
JAMES P. McGARR
108753
LICENSED PROFESSIONAL ENGINEER
6/16/2014

DATE

REVISIONS:

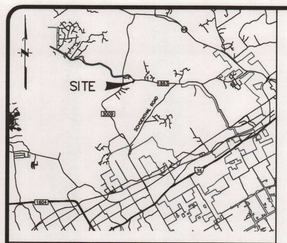
VILLAGES OF GARDEN RIDGE

FM 1863
COMAL COUNTY, TEXAS

SITE PLAN

DESIGNED BY:
DRAWN BY:
SCALE:
DATE:
SHEET NO.

C1.0



LOCATION MAP
NOT TO SCALE

SCALE: 1"=50'
50 25 0 50

EXISTING POWER POLE
FM 1863
EXISTING PAVEMENT
CONSTRUCTION ENTRANCE/EXIT
PROPOSED 6-12" BERM
CONCRETE WASHOUT PIT
PROPERTY BOUNDARY
AREA A 1.77 ACRES
AREA B 2.025 ACRES
AREA C 1.5 ACRES
EXISTING WELL
5.281 ACRES THE VILLAGES OF GARDEN RIDGE
WILBERT D. AND MARJORIE E. SPAETH VOL. 812 PG 455-458 18.294 ACRES
TIMOTHY DENNIS AND VICKI DENNIS REMAINING 12.0 ACRES DOC NO. 20006037367
S 18°39'49" W 346.99'
S 73°20'07" W 229.20'
S 57°11'42" W 159.64'
S 31°03'41" E 54.75'
S 00°31'08" W 15.83'
S 37°26'53" W 322.91'
N 51°25'26" W 250.04'
(BEARING BASIS) N 38°33'32" E 936.88'
FEMA 100 YEAR FLOODPLAIN
UNNAMED CREEK
960
950
940
930
C.M.

NOTE:

AERIAL CONTOURS PROVIDED BY USGS 10' INTERVALS.

FEMA FLOOD PLAIN MAP # 48091C0410F DATED SEPTEMBER 2, 2009.

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	1950.08'	203.51' (203.79'	203.42' (203.70')	S 72°37'57" E (S 72°13'15" E)	05°58'46"

RECEIVED
JUL 02 2014
COUNTY ENGINEER

CIVIL TECH, PLLC.
ENGINEERS, CONSULTANTS, LAND PLANNERS
Firm No. 13711
(210) 365-5029
P.O. BOX 2203 BOERNE, TX. 78006

STATE OF TEXAS
JAMES P. McGARR
108753
LICENSED PROFESSIONAL ENGINEER
6/16/2014

DATE
REVISIONS:

VILLAGES OF GARDEN RIDGE

FM 1863
COMAL COUNTY, TEXAS

DRAINAGE AREA MAP

DESIGNED BY:
DRAWN BY:
SCALE:
DATE:
SHEET NO.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 19, 2014

RECEIVED
MAY 20 2014
COUNTY ENGINEER

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

Re: Edwards Aquifer, Comal County
PROJECT NAME: The Village of Garden Ridge Assisted Living, located at 9314 FM 1863, Bulverde, Texas

PLAN TYPE: Application for Approval of Water Pollution Abatement Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File No. and Regulated Entity No.: RN107271926
EAPP Additional ID: 13-14051501

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 June 19, 2014.

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

Sincerely

Todd Jones
Water Section Work Leader
San Antonio Regional Office

TJ/eg

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

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

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

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

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

☐ Yes ☒ No

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

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy) 4/2/2014

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

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

7. General Customer Information

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

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

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

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

The Villages of Garden Ridge Assisted Living INC.

10. Mailing Address: 9621 Meadow Rue

City	Garden Ridge	State	TX	ZIP	78266	ZIP + 4	2547

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

12. E-Mail Address *(if applicable)*
gardenridgealf@yahoo.com

13. Telephone Number	14. Extension or Code	15. Fax Number *(if applicable)*
(210) 651-3770		(210) 651-7400

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)*
46-349835	32051710906		0801832528

20. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated?

☒ Yes ☐ No

SECTION III: Regulated Entity Information

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

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information ☐ No Change** *(See below)*

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

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

The Village of Garden Ridge Assisted Living INC.

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*	9514 FM 1863							
	City	Bulverde	State	TX	ZIP	78266	ZIP + 4	2655
25. Mailing Address:	9621 Meadow Rue							
	City	Garden Ridge	State	TX	ZIP	78266	ZIP + 4	2547

26. E-Mail Address:	gardenridgealf@yahoo.com

27. Telephone Number	28. Extension or Code	29. Fax Number *(if applicable)*
(210) 651-3770		(210) 651-7400

30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)	33. Secondary NAICS Code (5 or 6 digits)
8361	8050	623311	623312

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

Elderly Assisted Living Facility

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

35. Description to Physical Location:	Take I-35 north to FM 3009. Take FM 3009 north to FM 1863. Turn right on FM 1863 and go approximatelly 0.85 miles and the site is on the right (south side of road).

36. Nearest City	County	State	Nearest ZIP Code
Bulverde	Comal	TX	78163

37. Latitude (N) In Decimal:	29.71344		38. Longitude (W) In Decimal:	98.2978	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	42	48.40	98	17	52.16

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
		1964.07		
☐ 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:	James McGarr, P.E.	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 365-5029		( ) -	jmcgarr@civiltechmc.com

SECTION V: Authorized Signature

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

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

Company:	Civil Tech PLLC	**Job Title:**	Owner
Name *(In Print)* :	James McGarr, P.E.	**Phone:**	(210) 365-5029
Signature:	James McGarr	**Date:**	5-2-14

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

NAME OF PROPOSED REGULATED ENTITY: The Village of Garden Ridge Assisted Living INC
REGULATED ENTITY LOCATION: 9514 FM 1863
NAME OF CUSTOMER: Garden Ridge Assisted Living
CONTACT PERSON: Juan C. Lopez, R.N. PHONE: 210-651-3770
(Please Print)

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

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

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

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

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

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

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

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

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	5.3 Acres	$5,000
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature _____ Date 5-2-14

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

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

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

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

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

I Juan C. Lopez, R.N.& Maria M. Lopez,
Print Name

Owners,
Title - Owner/President/Other

of 5.281 Acre tract,
Corporation/Partnership/Entity Name

have authorized Juan C. Lopez, R.N.& Maria M. Lopez

of The Village of Garden Ridge Assisted Living 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:

Juan Lopez

Maria Magdalena Lopez

Applicant's Signature

5/5/14

5/5/2014

Date

THE STATE OF Texas §

County of Guadalupe §

BEFORE ME, the undersigned authority, on this day personally appeared Juan C. Lopez and Maria M Lopez 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 5 day of May, 2014.

AMBER SMITH
Notary Public
State of Texas
My Comm. Exp. 12-04-2017

Amber Smith

NOTARY PUBLIC

Amber Smith

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 12-04-2017

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

I Juan C. Lopez, R.N.& Maria M. Lopez,
Print Name

Owner,
Title - Owner/President/Other

of The Village of Garden Ridge Assisted Living INC.,
Corporation/Partnership/Entity Name

have authorized James McGarr, P.E.
Print Name of Agent/Engineer

of Civil Tech PLLC
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:

Ma Magdalena Lopez
Juan Lopez
Applicant's Signature

4/29/2014
Date
4/29/2014

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Juan & Magdalena Lopez 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 29th day of April, 2014.

NOTARY PUBLIC

RAUL GUERRA
Notary Public, State of Texas
My Commission Expires
September 7, 2014

Raul Guerra
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: September 7, 2014

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: The Village of Garden Ridge Assisted Living INC.
COUNTY: Comal STREAM BASIN: Unnamed, Cibolo

EDWARDS AQUIFER: X RECHARGE ZONE
__ TRANSITION ZONE

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

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: Juan C. Lopez
Entity: Garden Ridge Assisted Living
Mailing Address: 9621 Meadow Rue
City, State: Garden Ridge Texas Zip: 78266
Telephone: (210) 744-2971 FAX: (210)651-7400

Agent/Representative (If any):

Contact Person: James McGarr, P.E.
Entity: Civil Tech PLLC
Mailing Address: PO Box 2203
City, State: Boerne Texas Zip: 78006
Telephone: (210)365-5029 FAX: jmcgarr@civiltechmc.com

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

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

The site is located in Comal county off of FM 1863 approximately 0.85 miles west of the intersection of FM 1863 and FM 3009. The site is on the south side of 1863 and has a black pipe fence.

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

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

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

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

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

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

PROHIBITED ACTIVITIES

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

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

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

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

ADMINISTRATIVE INFORMATION

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

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

footage of all collection system lines.

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

__ A 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:

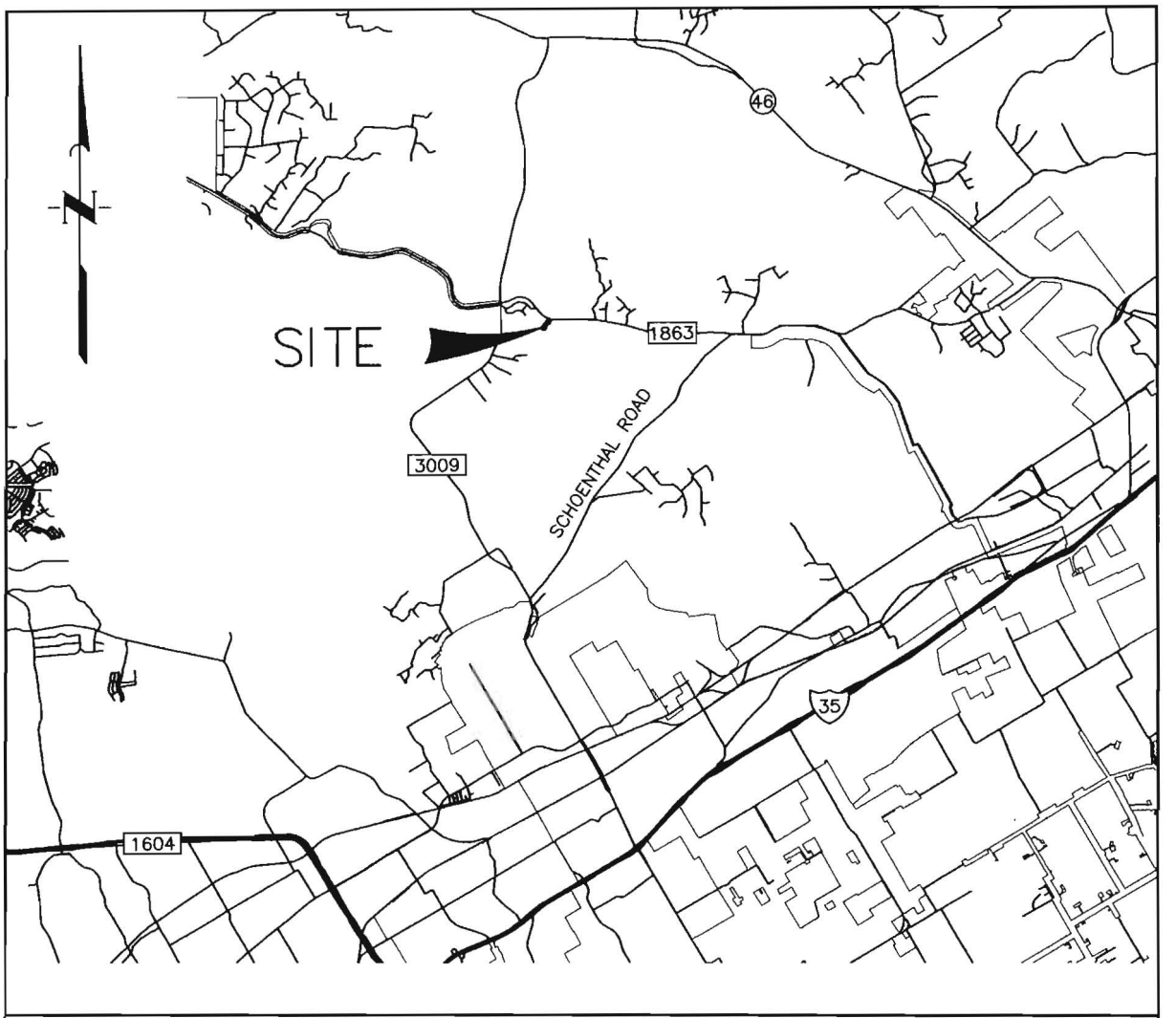
James McLaar / Civil Tech PLLC
Print Name of Customer/Agent

Signature of Customer/Agent

5-2-14
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

NOT TO SCALE

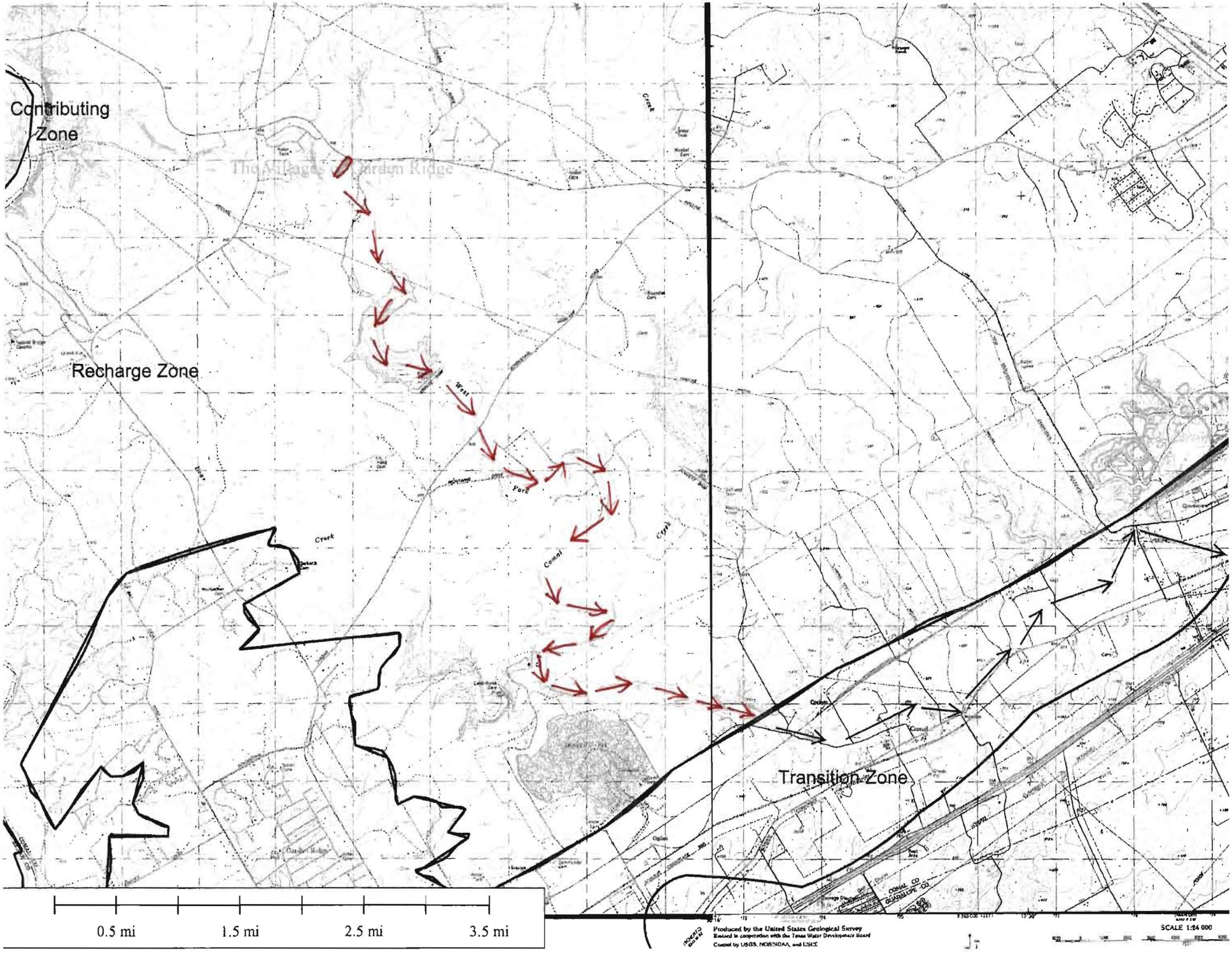
THE VILLAGE OF GARDEN RIDGE

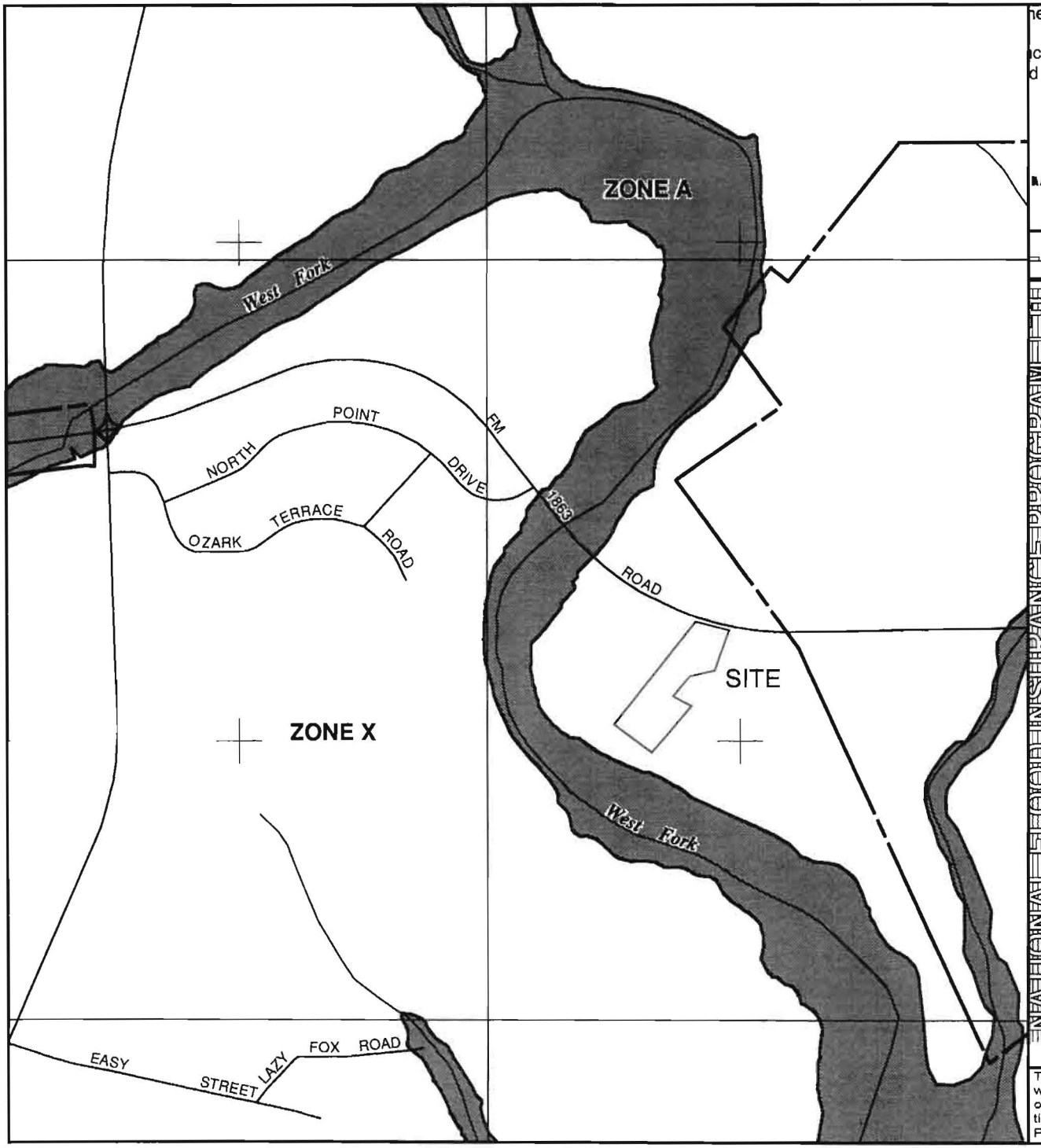
9514 FM 1863

COMAL COUNTY, TEXAS

REVISIONS | DATE

CIVIL TECH, PLLC.
ENGINEERS, CONSULTANTS, LAND PLANNERS
Firm No. 13711 (210) 365-5029 P.O. BOX 2203 BOERNE, TX. 78006


Contributing Zone
Recharge Zone
Transition Zone
0.5 mi
1.5 mi
2.5 mi
3.5 mi
SCALE 1:24 000



...e Flood Insurance Study report for this jurisdiction.

...ce is available in this community, contact your insurance ...d Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0410F

FIRM

FLOOD INSURANCE RATE MAP

COMAL COUNTY, TEXAS

AND INCORPORATED AREAS

PANEL 410 OF 505

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
COMAL COUNTY	485483	0410	F
BULVERDE, CITY OF	481681	0410	F
NEW BRAUNFELS, CITY OF	485493	0410	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
48091C0410F

EFFECTIVE DATE
SEPTEMBER 2, 2009

Federal Emergency Management Agency

ATTACHMENT C
Project Description

The Villages of Garden Ridge site is currently a single family homestead property with several small barn type buildings on the site. There is a fair amount of trees existing on the property.

The slopes on the site range from 3 to 5 % with fair to moderate grass coverage. The total impervious cover anticipated is 12.6% (0.67 acres) of the 5.3 acres. The proposed impervious cover will consist of the proposed building (8,600 sf), barn/storage (400 sf), parking lot (4,000 sf), and driveway (16,500 sf). Because the impervious cover for this site does not exceed 20%, a permanent structure is not proposed in this Water Pollution Abatement Plan (WPAP). The building will host a small business type B assisted living center.

All domestic wastewater generated by this project will be disposed of by conveyance to a proposed onsite septic treatment process. See sanitary engineers report. All potable water will be supplied by the existing onsite water well.

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: The Village of Garden Ridge Assisted Living INC.

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

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

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

   ___ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.
   ___ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is provided below:

   _____
   _____

3. NA 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. NA 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.

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

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

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

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

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

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

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

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

__ 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.

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

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

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

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

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

NA 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.

NA **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:

James McGregor / Civil Tech PLLC
Print Name of Customer/Agent

Signature of Customer/Agent

5-2-14
Date

The Villages of Garden Ridge
PERMANENT STORMWATER SECTION

ATTACHMENT A

20% or Less Impervious Cover Waiver

This site will not be used for multi-family residential developments and will have an impervious cover value less than 20%. The development is classified as commercial by the county, but the building will be almost identical to a typical residential building, only with more bedrooms.

The total impervious cover for the site will be 12.8%. The construction will consist of a small business operation for assisted living for the elderly. The estimated occupancy is less than 20 individuals and a staff of less than 10. The business is listed as a Type B Assisted Living without the disposal of hazardous medical waste. This business has less than 100 employees and $1 million in revenue.

The site will have several drainage swales to direct storm water runoff around and away from any sensitive areas like the existing water well and proposed septic drain field. The swales will be vegetated with natural grasses from the area and sloped to control velocities.

Therefore we request not to construct any permanent BMP's on the site.

ATTACHMENT B

BMPs for up gradient Storm water

The site drains from the northern boundary to the south. The site is bounded by FM 1863 which has roadside ditches that drain water away from the site. Any water that would drain onto the site would come from the ROW of 1863 and would not account for significant storm water.

Water from the site will drain across the site and will be diverted from the proposed building by means of small earthen swales. These swales will be re-vegetated with grass.

ATTACHMENT C

BMPs for On-Site Storm water

The proposed project will have three drainage areas and have impervious cover as previously discussed. The buildings and parking areas will drain to the south and through established grass areas before leaving the site.

The first drainage area will have 1.77 acres of drainage with a portion of the proposed road. This water will be drained off the site through a small drainage swale to the west.

The second drainage area will have 2.025 acres and contain the remaining portions of the road, parking and building. The area will drain to the south through a separate drainage swale and off site.

The remaining acreage will host the septic drain field and will be kept to existing conditions or better, (additional grass cover).

ATTACHMENT D

BMPs for Surface Streams

The proposed project does not have surface streams or sensitive features within the boundaries of the site.

ATTACHMENT E

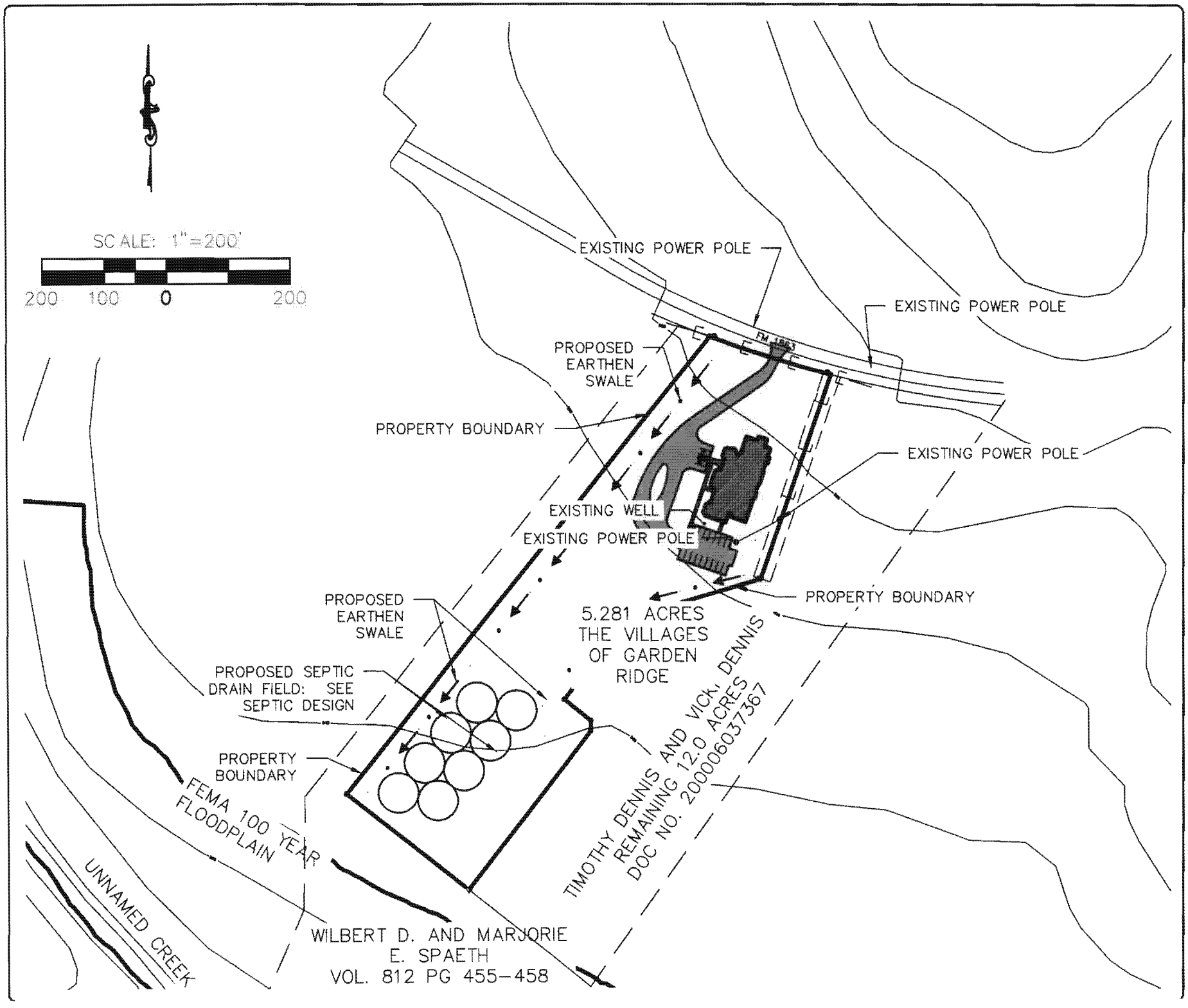
Request to Seal Features

There are no naturally occurring sensitive features located within the boundaries of the site.

ATTACHMENT F

Site Plan sheet C1.0 size 8.5x11 is attached on the following pages, full size sheet is attached at the end of the plan.

SWPPP sheet C2.0 size 8.5x11 is attached on the following pages, full size sheet is attached at the end of the plan.



CIVIL TECH, PLLC.
ENGINEERS, CONSULTANTS, LAND PLANNERS
Firm No. 13711 (210) 365-5029 P.O. BOX 2203 BOERNE, TX. 78006

THE VILLAGE OF GARDEN RIDGE
9514 FM 1863
COMAL COUNTY, TEXAS

C1.0

ATTACHMENT G

Inspection, Maintenance, Repair and Retrofit Plan

The proposed development will not have any permanent BMP'S constructed on the site.

ATTACHMENT H

Pilot-scale Field Testing

This site will not have a pilot-scale field testing.
This site will not have permanent BMP's.

ATTACHMENT I

Measures for Minimizing Surface Stream Contamination

Any discharges from the site that achieves erosive velocities will include appropriately sized energy dissipation to reduce velocities to non-erosive levels. Natural drainage channels will be utilized when possible and grass vegetation established where needed.

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: The Village of Garden Ridge Assisted Living INC.

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

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

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

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

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

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

SEQUENCE OF CONSTRUCTION

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

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

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 up gradient 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.

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

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

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

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

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

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

SOIL STABILIZATION PRACTICES

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

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

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

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

ADMINISTRATIVE INFORMATION

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

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

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

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

James McGarr / Civil Tech PLLC
Print Name of Customer/Agent

Signature of Customer/Agent

5-2-14
Date

ATTACHMENT A
Spill Response Actions

In the event of an accidental leak or spill:

- Contractor shall take immediate action to contain a spill. The contractor may use sand or other absorbent material stockpiled on site to absorb a spill. Absorbent material should be spread over the spill area to absorb the spilled product.
- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms down gradient of the spill with sand or other absorbent material to contain and absorb the spilled product.
- Sand or material used to contain the spill should be collected and stored in such a way so as not to continue to affect additional ground. Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. In the event of potential rainfall, the material should be covered with poly or plastic sheeting to prevent contaminating runoff.
- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a spill. Additional notifications as required by the type and amount of spill will be conducted by the owner or owner's representative.

In the event of an accidental significant or hazardous spill:

- the contractor will be required to report significant or hazardous spills in reportable quantities to:
    - the National Response Center at (800) 424-8802
    - the Edwards Aquifer Authority at (210) 222-2204
    - the TCEQ Regional Office (210) 490-3096 (if during business hours: 8 am to 5 pm) or
    - the State Emergency Response Center (800) 832-8224 (if after hours)
- Contaminated soils will be sampled for waste characterization. When the analysis results are know the contaminated soils will be removed from the site and disposed of in a permitted landfill in accordance with applicable regulations.

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

ATTACHMENT B

Potential Sources of Contamination

Potential Sources:

1. Asphalt products used by this project.
2. Oil, grease, fuel and hydraulic fluid contamination form construction equipment and vehicle dripping.
3. Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.
4. Miscellaneous trash and litter from construction workers and materials wrappings.
5. Construction debris.
6. Spills/Overflow of waste from portable toilets.

Preventative Measure:

1. After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain.
2. Vehicle maintenance when possible will be performed within the construction staging area. Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.
3. Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures. Contractor's superintendent or representative oversee shall enforce proper spill prevention and control measures. Hazardous materials and wastes shall be stored in covered containers and protected from vandalism. A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.
4. Trash containers will be placed throughout the site to encourage proper trash disposal.
5. Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.
6. Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets on a level ground surface. Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.

ATTACHMENT C

Sequence of Major Activities

The sequence of major activities which disturb soil during construction on this site will consist of two stages. Stage one will include site preparation that will include clearing and grubbing of vegetation where applicable. This will disturb approximately 0.7 acres. The second stage is the construction stage that will include the buildings, paved parking, sidewalks, landscaping, and site cleanup. This will disturb approximately 0.7 acres.

ATTACHMENT D

Temporary Best Management Practices and Measures

Interceptor Swales

- Shallow swales placed along the boundary of the property to catch up gradient water and redirect the flow away from disturbed areas. These swales will utilize vegetation to slow the water and to allow for any sediment particles to settle out before leaving the site, thus minimizing the amount of contaminants leaving the site. See location and details on the SWPPP sheet.

Silt Fence

- Placed on the down gradient slope of the disturbed areas to catch sediment before it leaves the site. Temporary measure, to be removed once the disturbance activities have ceased and stabilization completed. See details on the SWPPP sheet.

Rock Berm with Silt Fence

- Placed in areas where flows are concentrated and silt fence alone will not contain the flows. Consists of rocks held in place with wire mesh and silt fence placed along the face of the rock. Stops sediment from leaving the site from runoff flowing through the site. See details on the SWPPP sheet.

Construction Exit

- Located at the entrance/exit of the site and used to reduce materials from being tracked onto existing roads from construction vehicles. Usually consists of oversized rock gravel that will allow for material to fall off vehicles therefore reducing the amount of material that leaves the site. See SWPPP sheet for location and specifications.

Truck Washout Pit

- Designed to trap and store waste from concrete and similar activities. This allows for safe storage and removal from the site by not allowing contaminants to enter the storm water. Contaminants can be kept in a location that will not allow storm water to mix and flow off the site. See SWPPP sheet for location and specifications.

ATTACHMENT E

Request to Temporarily Seal A Feature

No features will be sealed within the site.

ATTACHMENT F

Structural Practices

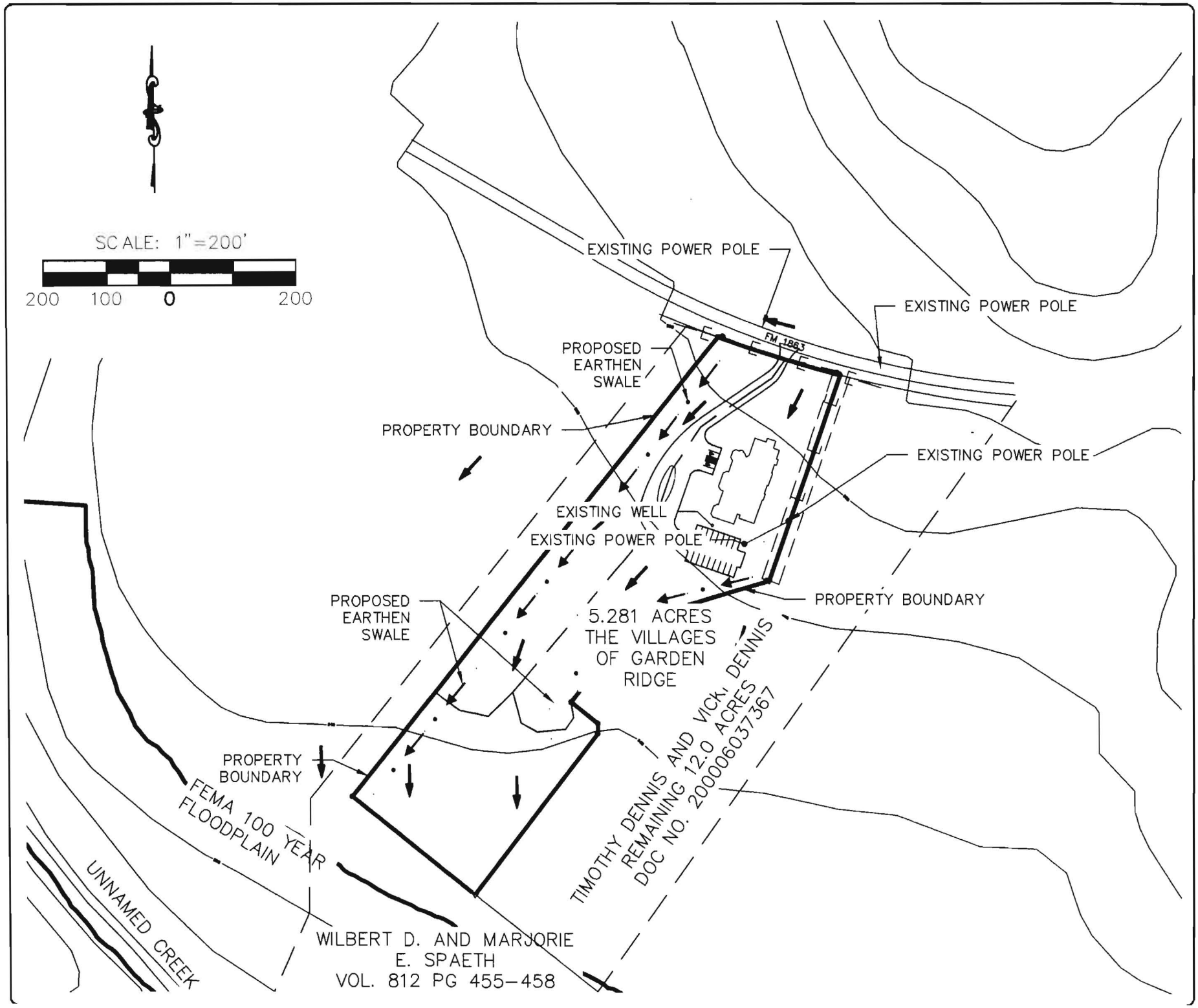
There will be no structural practices within a floodplain for this project.

Within the site, there are no major drainage areas that would cause the need for structural practices to divert water or store water on the site. During the construction of the building, temporary walls may be constructed to divert water from entering the foundation of the building.

ATTACHMENT G

Drainage Area Map

Sheet DAM size 8.5x11 is attached on the following pages, full size sheet is attached at the end of the plan.



CIVIL TECH, PLLC.
ENGINEERS, CONSULTANTS, LAND PLANNERS
Firm No. 13711 (210) 365-5029 P.O. BOX 2203 BOERNE, TX 78006

THE VILLAGE OF GARDEN RIDGE
9514 FM 1863
COMAL COUNTY, TEXAS

C1.0

ATTACHMENT H

Temporary Sediment Pond(s) Plans and Calculations.

No will be no sediment ponds within the site.
See 20% impervious waiver.

ATTACHMENT I
Inspections and Maintenance for BMPs

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

The inspector shall observe the following as a minimum:

1. Significant disturbed areas for evidence of erosion
2. Storage areas for evidence of leakage from the exposed stored materials
3. Structural controls for evidence of failure or excess siltation
    a. Rock berms
    b. Silt fences
    c. Drainage swales
    d. Sediment over 6 inches
4. Construction entrance/exit for evidence of off-site sediment tracking
5. Construction staging areas for evidence of vehicle leakage or spills
6. Concrete truck washout pit for signs of failure
7. Basin erosion or sediment buildup

Any deficiencies noted during the inspection will be corrected and documented within seven (7) calendar days following the inspection or before the next anticipated storm event.

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

Pollution Prevention Measure	Inspected	Corrective Action	
		Description	Date Completed
Revegetation			
Erosion/sediment controls			
Construction exits			
Construction staging areas			
Concrete washout pit			
Construction debris/litter			
Trash receptacles			
Infrastructure			
Roadway clearing			
Utility clearing			
Roadway grading			
Utility construction			
Drainage construction			
Roadway base			
Roadway surface			
Pad clearing			
Pad grading			
Foundation construction			
Building construction			
Site grading			
Site cleanup			
BMPs			
Other Measures			

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

_____ _____

Inspector's Name Inspector's Signature

_____ _____

Name of Owner/Operator (Firm) Date

*Inspector to attach statement of qualifications to this report.

PROJECT DATES AND ACTIVITIES

Date and description when major site grading occurs

Construction Activity	Date

Date and description when construction activities temporarily or permanently cease

Construction Activity	Date

Date and description of stabilization measures used

Stabilization Activity	Date

CIVIL TECH, PLLC.
ENGINEERS, CONSULTANTS, LAND PLANNERS

ATTACHMENT J

Schedule of Interim and Permanent Soil Stabilization

During construction, existing vegetation shall be protected as much as possible.

Soil stabilization shall commence when construction activities have ceased for that area.

Permanent Stabilization

- All slopes for the site shall not exceed a slope of 3:1 to allow for vegetation to be established without extra support or matting. Stabilization will occur when construction activities have been completed and will not resume.
- Areas within islands and curbs shall be re-vegetated in accordance to the landscaping plan. Re-vegetation will occur when described in the landscaping plan or when vegetation will not be harmed from future construction activities.

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: The Village of Garden Ridge Assisted Living INC.

REGULATED ENTITY INFORMATION

1. The type of project is:
   ___ Residential: # of Lots: _____
   ___ Residential: # of Living Unit Equivalents: _____
   _X_ Commercial
   ___ Industrial
   ___ Other: _____

2. Total site acreage (size of property): 5.3 acres

3. Projected population: 5-10

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	9,000	÷ 43,560 =	0.21
Parking	4,000	÷ 43,560 =	0.09
Other paved surfaces	16,500	÷ 43,560 =	0.38
Total Impervious Cover	29,100	÷ 43,560 =	0.68
Total Impervious Cover ÷ Total Acreage x 100 =			12.8

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

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

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

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

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

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

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

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

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

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

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

X% Domestic	780 gallons/day
__% Industrial	_____ gallons/day
__% Commingled	_____ gallons/day

TOTAL_____ gallons/day

15. Wastewater will be disposed of by:

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

X **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.

NA Sewage Collection System (Sewer Lines):

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

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

___ The SCS was previously submitted on _____.

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

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

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

SITE PLAN REQUIREMENTS

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

17. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = __20___'.

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

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
Panel 48091C0410F Dated September 2, 2009

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

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
X_ There are __1__(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
__ The wells are not in use and have been properly abandoned.
__ The wells are not in use and will be properly abandoned.
X_ The wells are in use and comply with 16 TAC §76.
__ There are no wells or test holes of any kind known to exist on the project site.

21. Geologic or manmade features which are on the site:
__ All **sensitive** geologic or manmade features identified in the Geologic Assessment are shown and labeled.
X_ No **sensitive** geologic or manmade features were identified in the Geologic Assessment.
NA **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. ___ Locations where stormwater discharges to surface water or sensitive features.
X There will be no discharges to surface water or sensitive features.

ADMINISTRATIVE INFORMATION

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

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

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

James McGarr / Civil Tech PLLC
Print Name of Customer/Agent

Signature of Customer/Agent

5-2-14
Date

ATTACHMENT A

Factors Affecting Water Quality

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

- Soil erosion due to the clearing of the site
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings
- Hydrocarbons form asphalt paving operations
- Miscellaneous trash and litter from construction workers and materials wrappings
- Concrete truck washout
- potential overflow/spills from portable toilets

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

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

ATTACHMENT B

Storm water to be generated by the Proposed Project

The 5.3 acre site will be divided into three major drainage areas that generate approximately 6 cfs of storm water runoff for a 25-year storm event. A coefficient of 0.45 was used for the drainage basin. This value is based on the land use and impervious cover. The character of the storm water runoff can be described as a combination of sheet flow from the landscaped areas, and shallow concentrated flow from the parking lot.

The first drainage area will have 1.77 acres of drainage with a portion of the proposed road. This water will be drained off the site through a small drainage swale to the west.

The second drainage area will have 2.025 acres and contain the remaining portions of the road, parking and building. The area will drain to the south through a separate drainage swale and off site.

The remaining acreage (1.5) will host the septic drain field and will be kept to existing conditions or better, (additional grass cover) and will leave the site as sheet flow over vegetated areas. This area is outside the disturbed area and will be vegetated with grass and landscaping to eliminate contaminates from leaving the site.

ATTACHMENT B

Drainage Area A

Post development

Area = 1.77 acres

Antecedent Precipitation Coefficient "k"

$k_5 = 1.0$

$k_{10} = 1.0$

$k_{25} = 1.1$

Runoff Coefficient "c"

c = 0.45

Initial Time of Concentration

10 minutes commercial/business

Rainfall Intensity Constants (Comal County)

5 year b = 72.9 d = 11.14 e = 0.800

10 year b = 71.9 d = 8.69 e = 0.769

25 year b = 79.5 d = 8.01 e = 0.751

$I_5 = 6.35$ in/hr

$I_{10} = 7.57$ in/hr

$I_{25} = 9.07$ in/hr

Flows $Q = k\ c\ I\ A$

$Q_5 = 5$ cfs

$Q_{10} = 6$ cfs

$Q_{25} = 8$ cfs

CIVIL TECH, PLLC.
ENGINEERS, CONSULTANTS, LAND PLANNERS

V Channel Flow

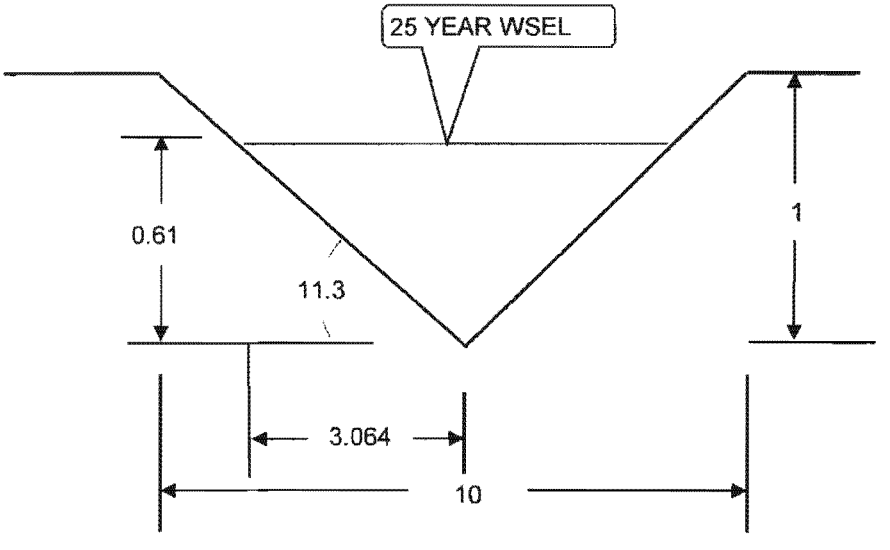
Q=1.486*1/n*AR^2/3*S^1/2

25 Year Storm Event

Drainage Area A

		25 year	10 Year	5 Year
Total Flow (cfs)	Q=	8	6	5
Calculated Flow	Q=	8.00 cfs		
Channel Depth	H=	1 ft		
Channel Width	L=	10.00 ft		
Channel Side Slope	1	5.00		
Channel Slope		0.05 ft/ft		
Mannings Coefficient	n=	0.035		
Standard Units Conv.		1.486		
Flow Area	A=	1.88		
Wetted Permiter	P=	6.25		
Hydraulic Radius	R=	0.30		
Flow Depth	H=	0.61 ft		
Theta	θ=	11.31 °		
Water surface width		3.06 ft		
velocity	V =	4.26 ft/sec		

Press Ctr+a to calculate



CIVIL TECH, PLLC.

ENGINEERS, CONSULTANTS, LAND PLANNERS

ATTACHMENT B

Drainage Area B

Post development

Area = 2.025 acres

Antecedent Precipitation Coefficient "k"

$k_5 = 1.0$

$k_{10} = 1.0$

$k_{25} = 1.1$

Runoff Coefficient "c"

c = 0.45

Initial Time of Concentration

10 minutes commercial/business

Rainfall Intensity Constants (Comal County)

5 year b = 72.9 d = 11.14 e = 0.800

10 year b = 71.9 d = 8.69 e = 0.769

25 year b = 79.5 d = 8.01 e = 0.751

$I_5 = 6.35$ in/hr

$I_{10} = 7.57$ in/hr

$I_{25} = 9.07$ in/hr

Flows $Q = k\ c\ I\ A$

$Q_5 = 6$ cfs

$Q_{10} = 7$ cfs

$Q_{25} = 9$ cfs

V Channel Flow

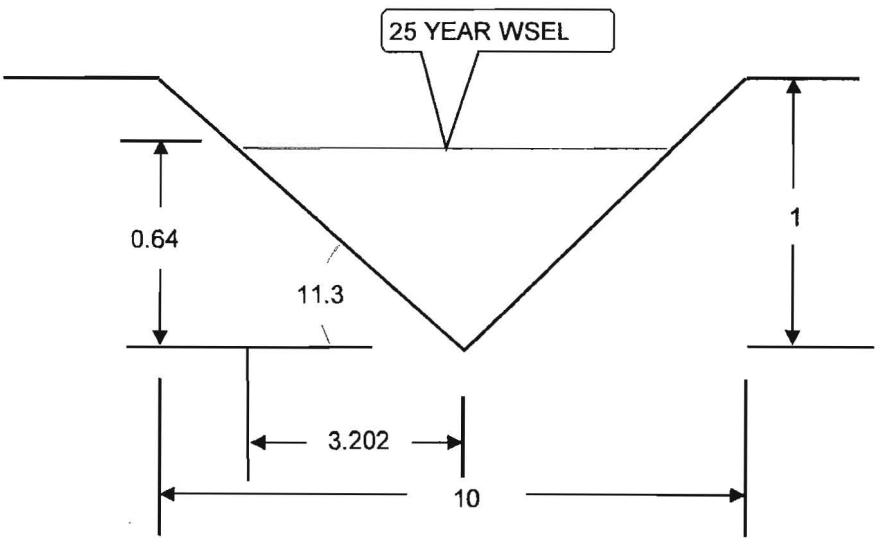
Q=1.486*1/n*AR^2/3*S^1/2

25 Year Storm Event

Drainage Area B

		25 year	10 Year	5 Year
Total Flow (cfs)	Q=	9	7	6
Calculated Flow	Q=	9.00 cfs		
Channel Depth	H=	1 ft		
Channel Width	L=	10.00 ft		
Channel Side Slope	1	5.00		
Channel Slope		0.05 ft/ft		
Mannings Coefficient	n=	0.035		
Standard Units Conv.		1.486		
Flow Area	A=	2.05		
Wetted Permiter	P=	6.53		
Hydraulic Radius	R=	0.31		
Flow Depth	H=	0.64 ft		
Theta	θ=	11.31 °		
Water surface width		3.20 ft		
velocity	V =	4.39 ft/sec		

Press Ctr+a to calculate



CIVIL TECH, PLLC.

ENGINEERS, CONSULTANTS, LAND PLANNERS

ATTACHMENT B

Drainage Area C

Post development

Area = 1.57 acres

Antecedent Precipitation Coefficient "k"

$k_5 = 1.0$

$k_{10} = 1.0$

$k_{25} = 1.1$

Runoff Coefficient "c"

c = 0.45

Initial Time of Concentration

10 minutes commercial/business

Rainfall Intensity Constants (Comal County)

5 year b = 72.9 d = 11.14 e = 0.800

10 year b = 71.9 d = 8.69 e = 0.769

25 year b = 79.5 d = 8.01 e = 0.751

$I_5 = 6.35$ in/hr

$I_{10} = 7.57$ in/hr

$I_{25} = 9.07$ in/hr

Flows Q = k c I A

$Q_5 = 4$ cfs

$Q_{10} = 5$ cfs

$Q_{25} = 7$ cfs

ATTACHMENT C
Suitability Letter from Authorized Agent

The proposed development will have its own OSSF and agent letter is attached.

Comal County

OFFICE OF COMAL COUNTY ENGINEER

May 1, 2014

Mr. James McGarr, P.E.
Civil Tech PLLC
P.O. Box 2203
Boerne, TX 78006

Re: The Village of Garden Ridge Assisted Living On-Site Sewage Facility Suitability Letter, within Comal County, Texas

Dear Mr. McGarr:

We are in receipt of your request for an OSSF Suitability Letter dated for the referenced development. In accordance with TAC §213.5(b)(4)(F)(ii), Comal County has found that the entire referenced site is suitable for the use of private sewage facilities and will meet the special requirements for on-site sewage facilities located on the Edwards Aquifer recharge zone as specified in TAC §285.40-42 based on the following information submitted to our office on May 1, 2014:

- The Geologic Assessment, prepared by Frost Geosciences.
- The Water Pollution Abatement Plan, prepared by Civil Tech PLLC

Moreover, according to TAC §285.41(b), Juan Lopez, the owner of the referenced site, must inform, in writing, each prospective purchaser, lessee, or renter of the following:

- All lots within Garden Ridge Assisted Living are subject to the terms and conditions of TAC §285.40-42;
- A Permit to Construct is required from Comal County before an OSSF can be constructed in Garden Ridge Assisted Living;
- A License to Operate is required from Comal County before an OSSF can be operated on Garden Ridge Assisted Living;
- That an application for a water pollution abatement plan, as defined in TAC §213, has been made, whether it has been approved, and if any restrictions or conditions have been placed on that approval.

Furthermore, according to TAC §285.42(a), if any recharge feature, is discovered during construction of an OSSF, all regulated activities near the feature shall be suspended immediately. The owner shall immediately notify the TCEQ San Antonio office of the discovery of the feature. All activities regulated under TAC §213 shall not proceed near the feature until Comal County, in conjunction with the TCEQ San Antonio office, has reviewed and approved a plan proposed to protect the feature, the structural integrity of the OSSF, and the water quality of the aquifer. The plan shall be sealed, signed, and dated by a professional engineer.

If you have any questions or need additional information, please do not hesitate to contact our office.

Sincerely,

Robert Boyd, P.E.
Comal County Assistant Engineer

cc: Scott Haag, Comal County Commissioner Precinct No. 2

ATTACHMENT D

Exception to the Required Geologic Assessment

The proposed development had a geologic assessment. See Geologic Assessment Form.

Geologic Site Assessment (WPAP)

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

The Village of Garden Ridge Assisted Living

5.295 Acres

San Antonio, Texas

FROST GEOSCIENCES CONTROL # FGS-E14153

April 19, 2014

Prepared exclusively for

Jenkins & Associates
19501 F.M. 3009, #2
Garden Ridge, Texas 78266

Frost GeoSciences

Geotechnical ▪ Construction Materials
Forensics ▪ Environmental

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

Frost GeoSciences
Geotechnical • Construction Materials
Forensics • Environmental

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

April 19, 2014

Jenkins & Associates
19501 F.M. 3009, #2
Garden Ridge, Texas 78266

Attn: Mr. Tom Jenkins

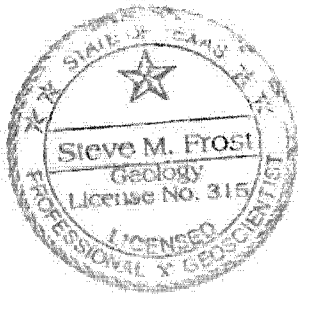
Re: Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
The Village of Garden Ridge Assisted Living
5.295 Acres
San Antonio, Texas

Frost GeoSciences, Inc. Control # FGS-E14153

Dear Sir:

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. 10-1-04). The results of our investigation, along with any 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: (6) Jenkins & Associates

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: The Village of Garden Ridge Assisted Living

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)
Bonnie Comfort Association	C/D	1 to 2
Comfort Rock Outcrop Complex	C/D	0 to 2

* 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" = 30'
Site Geologic Map Scale	1" = 30'
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). 2012 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 **1** (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
__ The wells are not in use and have been properly abandoned
__ 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: April 19, 2014
Date(s)

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

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

(210) 372-1318
Fax

Steve M. Frost
Geology
License No. 315

Signature of Geologist April 19, 2014
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: The Village of Garden Ridge Assisted Living FGS-E14153

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1	2*	3*	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	N 29° 42.760'	W98° 17.887'	MB	30	KeK	0.5	0.5	?	-	-	-	-	N	5	35	35		Yes		Hillside

* DATUM 1984 North American Datum (NAD83)

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.

Signature Steve Frost Date April 19, 2014 Sheet 1 of 1

Steve M. Frost
Geology
License No. 315
Professional Licensed Scientist

LOCATION

The project site consists of 5.295 acres of land located along and south of F.M. 1836 at 914 F.M. 1836 in San Antonio, Texas. An overall view of the area is shown on copies of the site plan, a street map, the USGS Topographic Map, the Official Edwards Aquifer Recharge Zone Map, the Flood Insurance Rate Map (FIRM), a 1973 aerial photograph at a scale of 1"=500', a geologic map, a 2012 aerial photograph at a scale of 1"=500', and a 2012 aerial photograph at a scale of 1"=200'. Plates 1 through 9 in Appendix A.

METHODOLOGY

The Geologic Assessment was performed by Mr. Steve Frost, C.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 in the immediate vicinity of the project site. The research included, but was not limited to the Geologic Atlas of Texas, San Antonio Sheet, FIRM maps, Edwards Aquifer Recharge Zone Maps, USGS 7.5 Minute Quadrangle Maps, the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the USGS Water-Resources Investigations Report 94-4117, and the USDA Soil Survey of Comal & Hays County, 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 site. A 2012 aerial photograph, in conjunction with a hand held Garmin 72H Global Positioning System with an Estimated Potential Error ranging from 7 to 9 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. 10-1-04). The locations of any potential recharge features noted in the field were identified with blue and white flagging. The flagging is numbered with the same potential recharge feature I.D. # that is used on the Site Geologic Map in Appendix C of this report. The Site Geologic Map indicating the limits of the project site is included in Appendix C. A copy of a 2012 aerial photograph at an approximate scale of 1"=200', indicating the locations of the potential recharge features, is included on Plate 9 in Appendix A. The Geologic Assessment Form (Rev. 10-01-10), Stratigraphic Column and the Geologic Assessment Table (Rev. 10-01-04) 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 USGS 7.5 Minute Quadrangle Map, Bat Cave, Texas Sheet (1988), the elevation of the project site ranges from 935 feet near the southeastern property corner to 965 feet near the northeastern property corner. These elevations are calculated above mean sea level (AMSL). Overall, the surface runoff from the project site flows to the south into West Fork. F.M. 1836 is located immediately north of the project site. A copy of the above referenced USGS 7.5 Minute Quadrangle Map, indicating the location of the project site, is included in this report on Plate 3 in Appendix A.

Recharge / Transition Zone

According to the Official Edwards Aquifer Recharge Zone Map, Bat Cave, Texas Sheet (1996), the project site is located within the Recharge Zone of the Edwards Aquifer. A copy of the Official Edwards Aquifer Recharge Zone Map, Bat Cave, Texas Sheet (1996), indicating the location of the project site, is included on Plate 4 in Appendix A.

100-Year Floodplain

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Comal County, Texas, Community Panel Number 48091C0410F (Revised 9/02/09) was reviewed to determine if the project site is located in areas prone to flooding. A review of the above-mentioned panel indicates that no portion of the project site is located within the 100 year floodplain. The project site is located within Zone X. According to the panel legend, Zone X represents areas determined to be outside the 0.2% annual chance floodplain. A copy of the Comal County, Texas, FIRM map, indicating the location of the project site, is included in this report on Plate 5 in Appendix A.

Soils

According to the United States Department of Agriculture, Soil Conservation Service, Soil Survey of Comal & Hays County, Texas (1982), the project site is located on the Rumple-Comfort Association (RUD) and the Comfort-Rock Outcrop Complex (CrD). A copy of the 1973 aerial photograph (approximate scale: 1"=500') from the USDA Soil Survey of Comal & Hays County, Texas indicating the location of the project site and the soil types is included on Plate 6 in Appendix A.

The Rumple-Comfort Association (RuD) 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.

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 0.6 to 0.2 inches/hour.

Narrative Description of the Site Geology

The project site consists of 5.295 acres of land located along and south of F.M. 1836 at 914 F.M. 1836 in San Antonio, Texas. An overall view of the area is shown on Plates 1 through 9 in Appendix A. The property appears to support a consistent soil layer as minimal rock outcrops were noted, however, areas of limestone float and some very small areas of native limestone outcrops were noted on the site. The site appears to have been bulldozed in the past as noted by a limestone boulder pile in the southeastern property corner. No natural PRF's were identified during our site inspection. One manmade feature in bedrock was noted on the project site. 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.

Potential Recharge Feature # S-1 consists of a manmade feature in bedrock located in the northeastern portion of the project site. This feature is a water well within a pump house. Since the outcropping unit where the well is located is the Cretaceous Glen Rose Limestone, the well does not cross the Edwards Limestone and likely produces out of the Trinity Formation. Frost GeoSciences, Inc. rates the relative infiltration of this feature as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). This feature scores a 35 on the sensitivity scale, column 10 in the Geologic Assessment Table on page 4 of this report. FGS is of the opinion that this is not a sensitive feature.

The project site is covered by a sparse to moderate stand of native grasses with small patches of live oaks, ash juniper, and cedar elm. The variations in the vegetative cover across the project site are visible in the 2012 aerial photographs on Plates 8 and 9 in Appendix A and in the site visit photographs included in Appendix B.

According to the USGS 7.5 Minute Quadrangle Map, Bat Cave, Texas Sheet (1988), the elevation of the project site ranges from 935 feet near the southeastern property corner to 965 feet near the northeastern property corner. These elevations are calculated above mean sea level (AMSL). According to topographic data obtained from Civil Tech, PLLC, the elevation on the project site ranges from 935 feet in the southeastern property corner to 965 feet in the southeastern property corner. A copy of the site plan, indicating the boundary of the project site and the elevations is included on Plate 1 in Appendix A and on the Site Geologic Map in Appendix C of this report.

According to the United States Geological Survey, Water Resources Investigation # 94-4117 (1994), the project site is located on the Basal Nodular Member of the Cretaceous Edwards Kainer Limestone and the Cretaceous Glen Rose Limestone.

The Basal Nodular Member of the Edwards Kainer Limestone consists of shaly, nodular limestone, mudstone and milliolid grainstone. This member is massive, nodular, and mottled with fossils of Exogyra texana. This member typically forms large lateral caves at the surface. Overall thickness ranges from 50 to 60 feet.

The Upper member of the Glen Rose Limestone is the lower confining unit for the Edwards Aquifer and consists of yellowish tan, thinly bedded limestone and marl. Stairstep topography results from alternating layers of limestone and marl. Surface cavern development can occur within this formation. Overall thickness ranges from 300 to 500 feet.

A copy of the United States Geological Survey Water Resources Investigation # 94-4117 (1994), indicating the location of the project site is included on Plate 7 in Appendix A.

BEST MANAGEMENT PRACTICE (BMP)

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. The potential always exists to encounter subsurface features that lack a surface expression. Frost GeoSciences, Inc. recommends that construction personnel 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-0583-Instructions (Rev. 10-1-04) 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 and may be relied upon by Jenkins & Associates. This report is based on available known records, a visual inspection of the project site and the work generally accepted for a Geologic Assessment T.A.C. §213.5(b)(3), effective June 1, 1999.

REFERENCES

1) USGS 7.5 Minute Quadrangle Map, Bat Cave, Texas Sheet (1988).

2) Official Edwards Aquifer Recharge Zone Map, Bat Cave, Texas Sheet (1996)

3) Stein, W.G. and Ozuna, G.B., 1995, Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Comal County, Texas, U.S. Geological Survey Water Resources Investigations 94-4117

4) Collins, Edward, W., 2000, Geologic Map of the Garden Ridge, Texas 30 X 60 Minute Quadrangle

5) Federal Emergency Management Agency (FEMA), Bexar County, Texas and Incorporated Areas, Flood Insurance Rate Map (FIRM), Panel 48091C0410F (9/02/09) FEMA, Washington D.C.

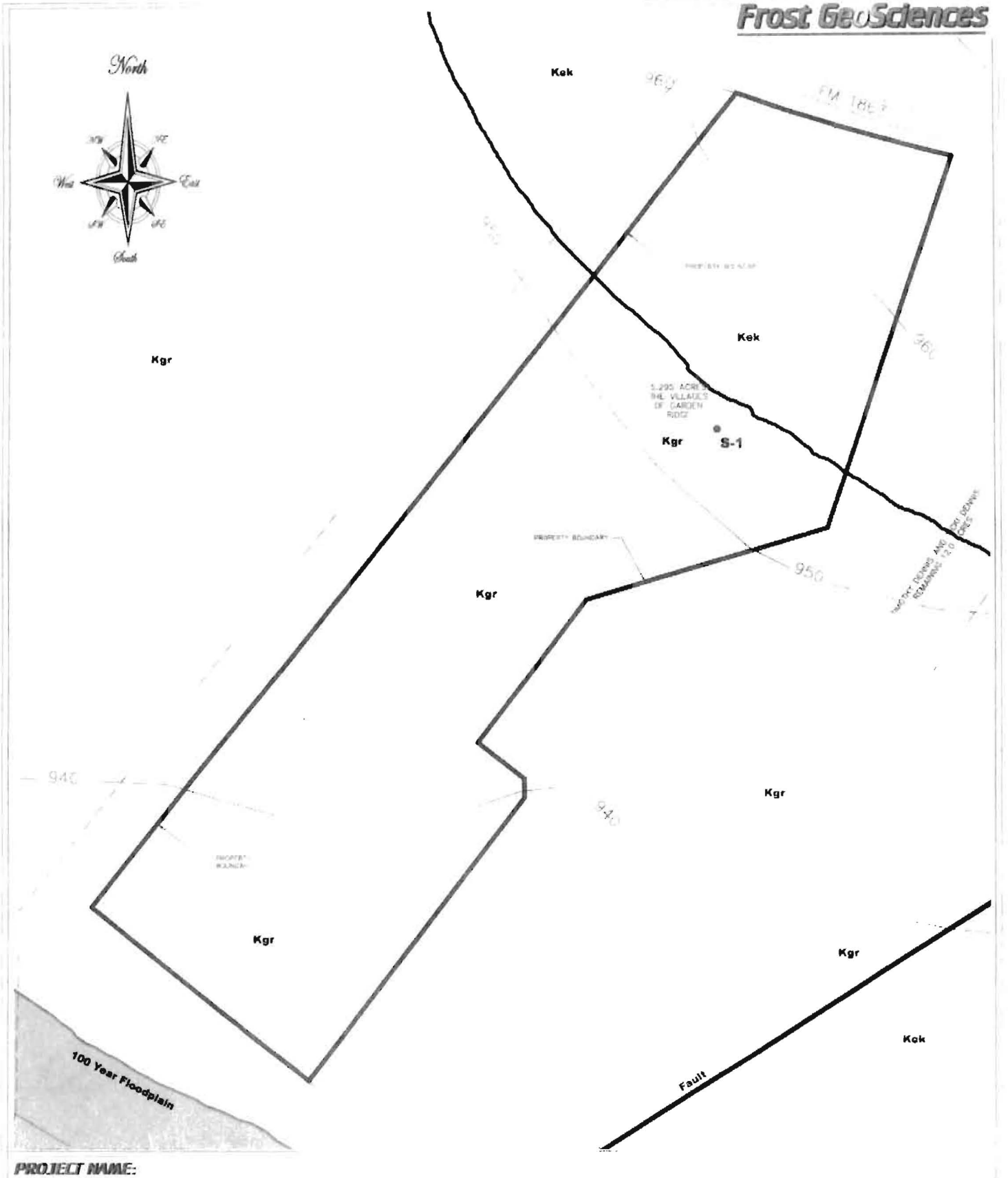
7) USDA Soil Conservation Service, Soil Survey of Comal & Hays Counties, Texas (1982).

8) TCEQ-0585-Instructions (Rev. 10-1-04), "Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zone"

Appendix A

Site Location Plates

Frost GeoSciences



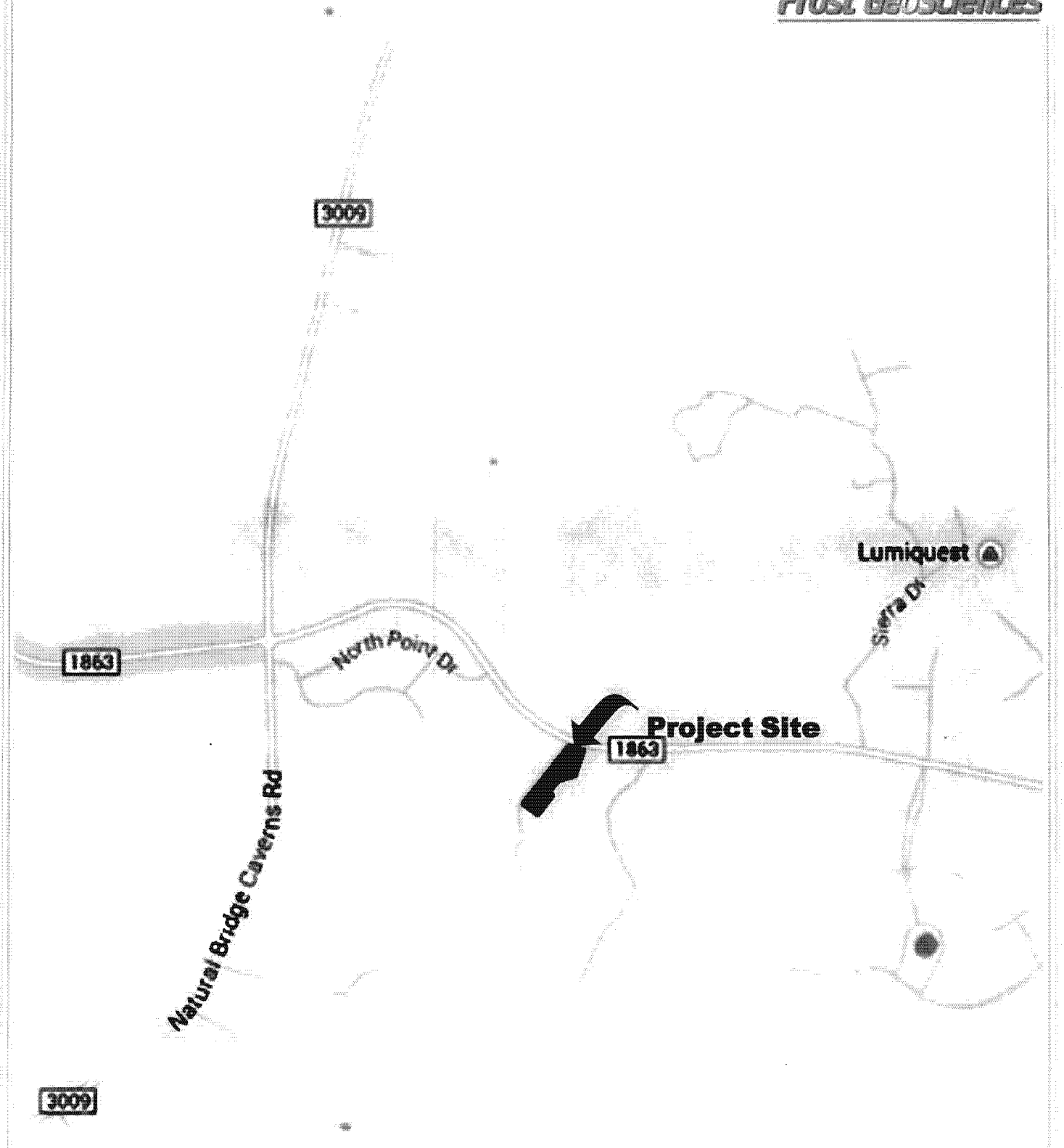
PROJECT NAME:

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
The Village of Garden Ridge Assisted Living
San Antonio, Texas

Site Plan

PROJECT NO.: FGS-E14153

DATE: April 19, 2014

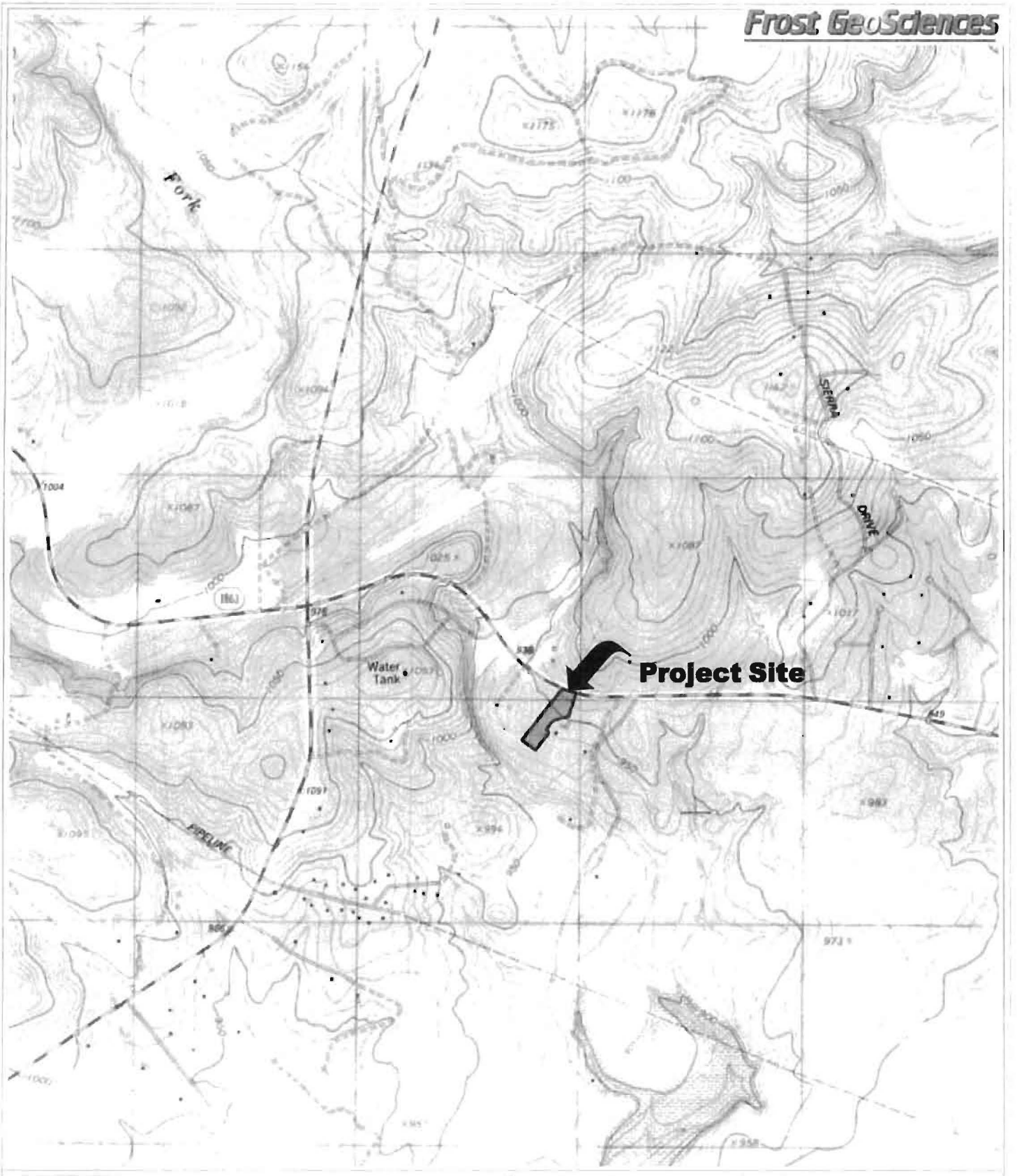


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the Edwards Aquifer Recharge / Transition Zone
The Village of Garden Ridge Assisted Living
San Antonio, Texas

Street Map

PROJECT NO.: FGS-E14153

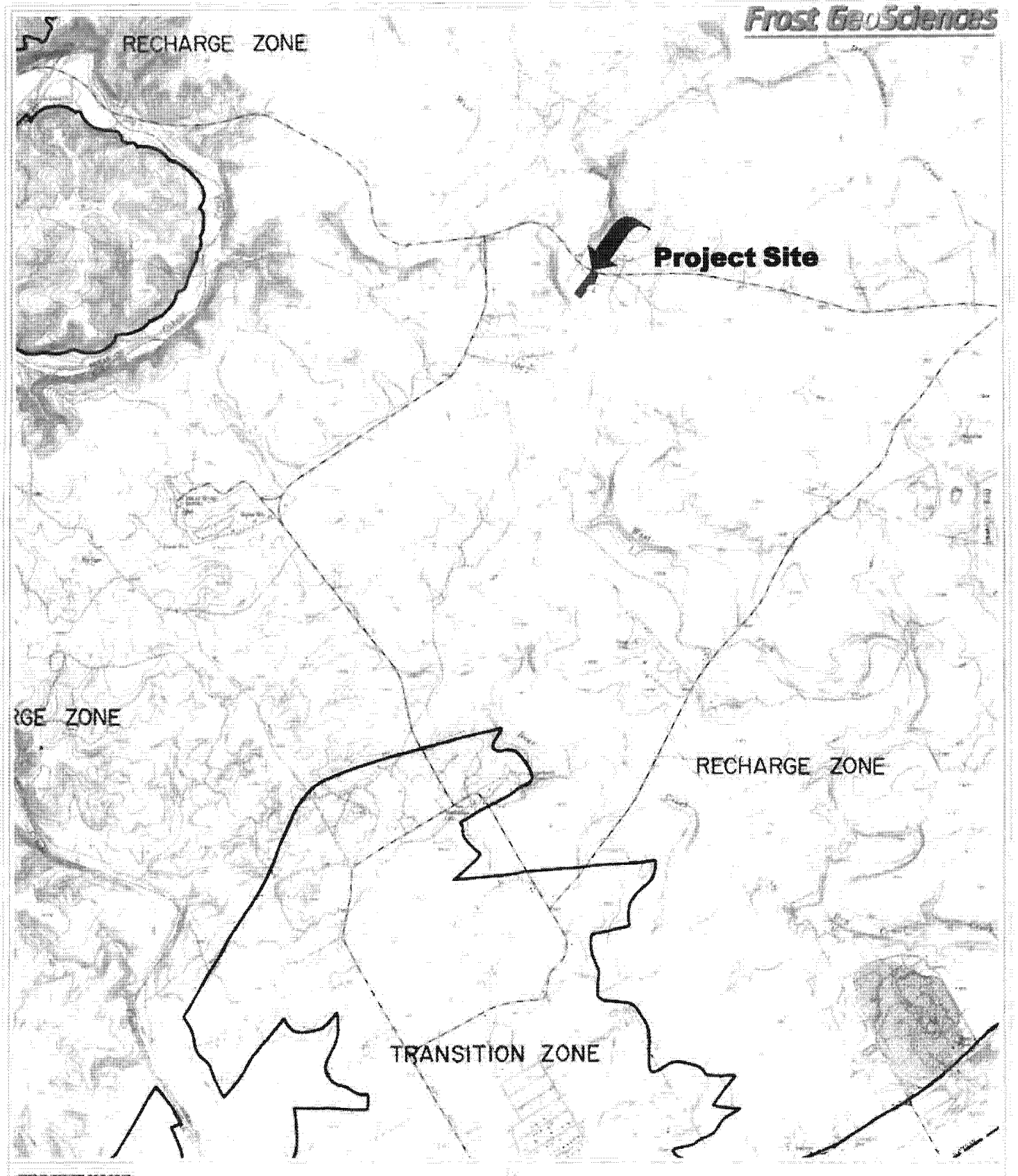
DATE: April 19, 2014



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
The Village of Garden Ridge Assisted Living
San Antonio, Texas

U.S.G.S. 7.5 Minute Quadrangle Map
Bat Cave, Texas Sheet (1988)

PROJECT NO.:	DATE:
FGS-E14153	April 19, 2014

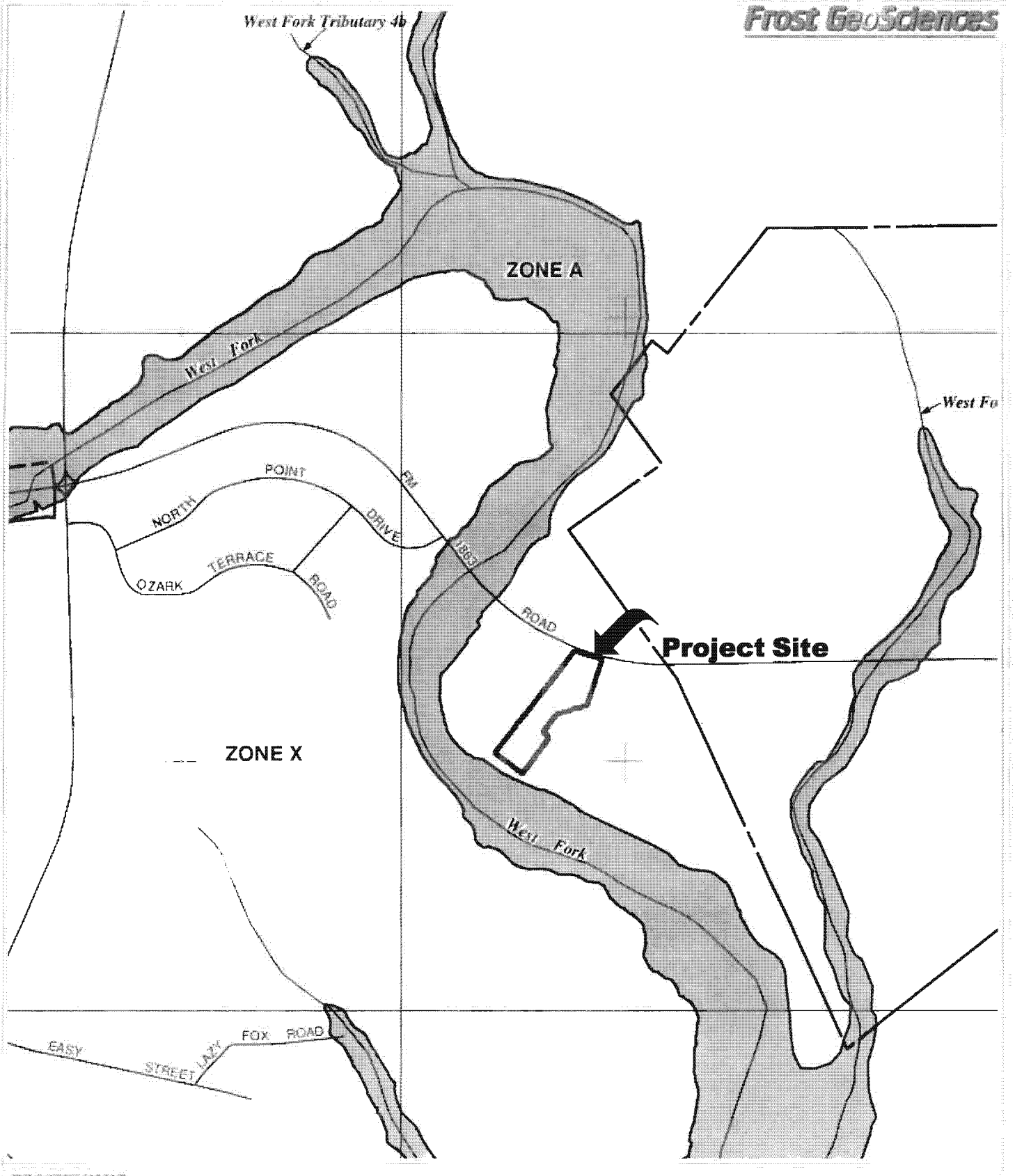


PROJECT NAME:

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
The Village of Garden Ridge Assisted Living
San Antonio, Texas

Official Edwards Aquifer Recharge Zone Map
Bat Cave, Texas Sheet (1996)

PROJECT NO.:	DATE:
FGS-E14153	April 19, 2014

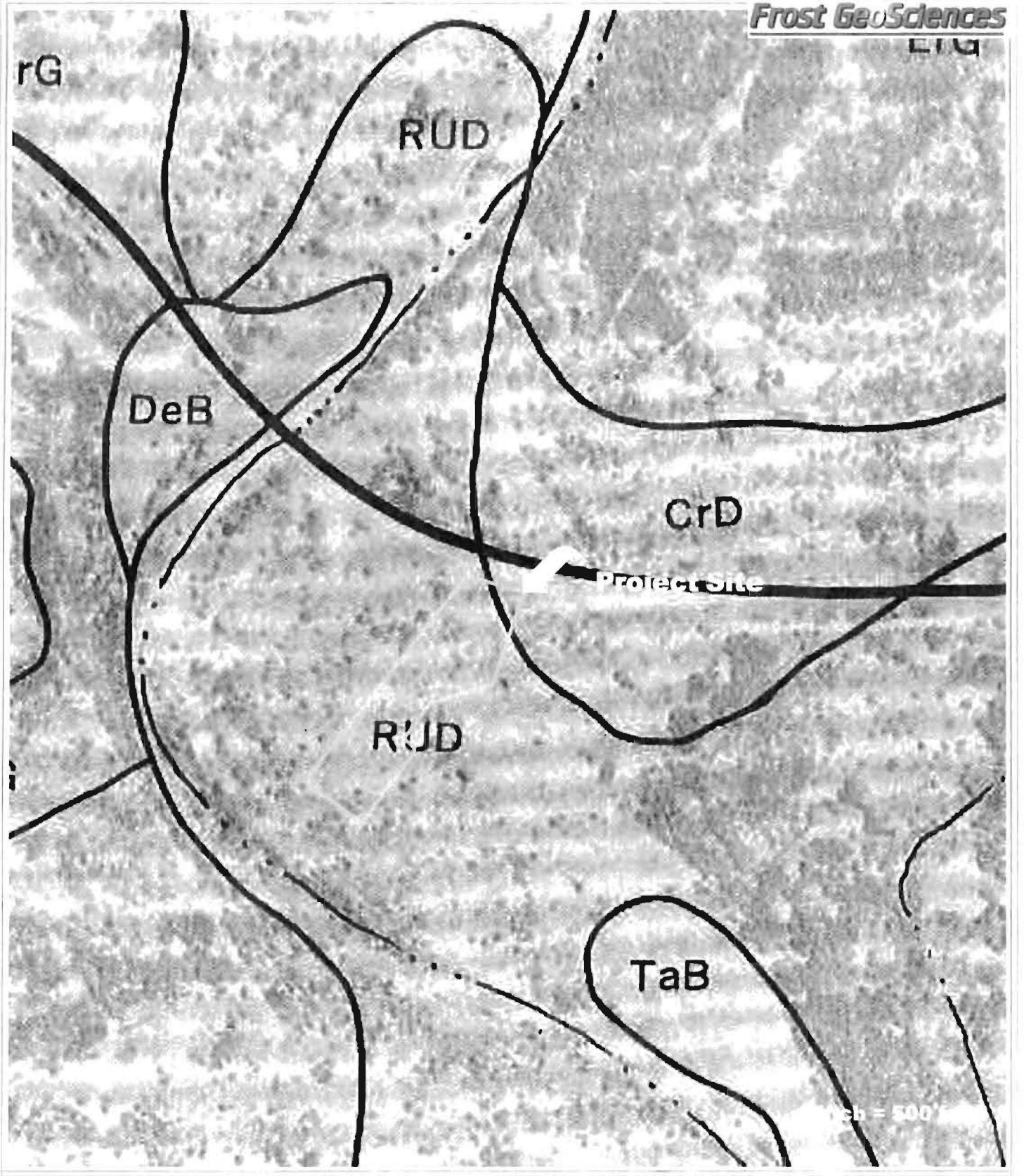


PROJECT NAME:

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
The Village of Garden Ridge Assisted Living
San Antonio, Texas

Flood Insurance Rate Map (FIRM)
Community Panel # 48091C0410F
(Revised 9/02/09)

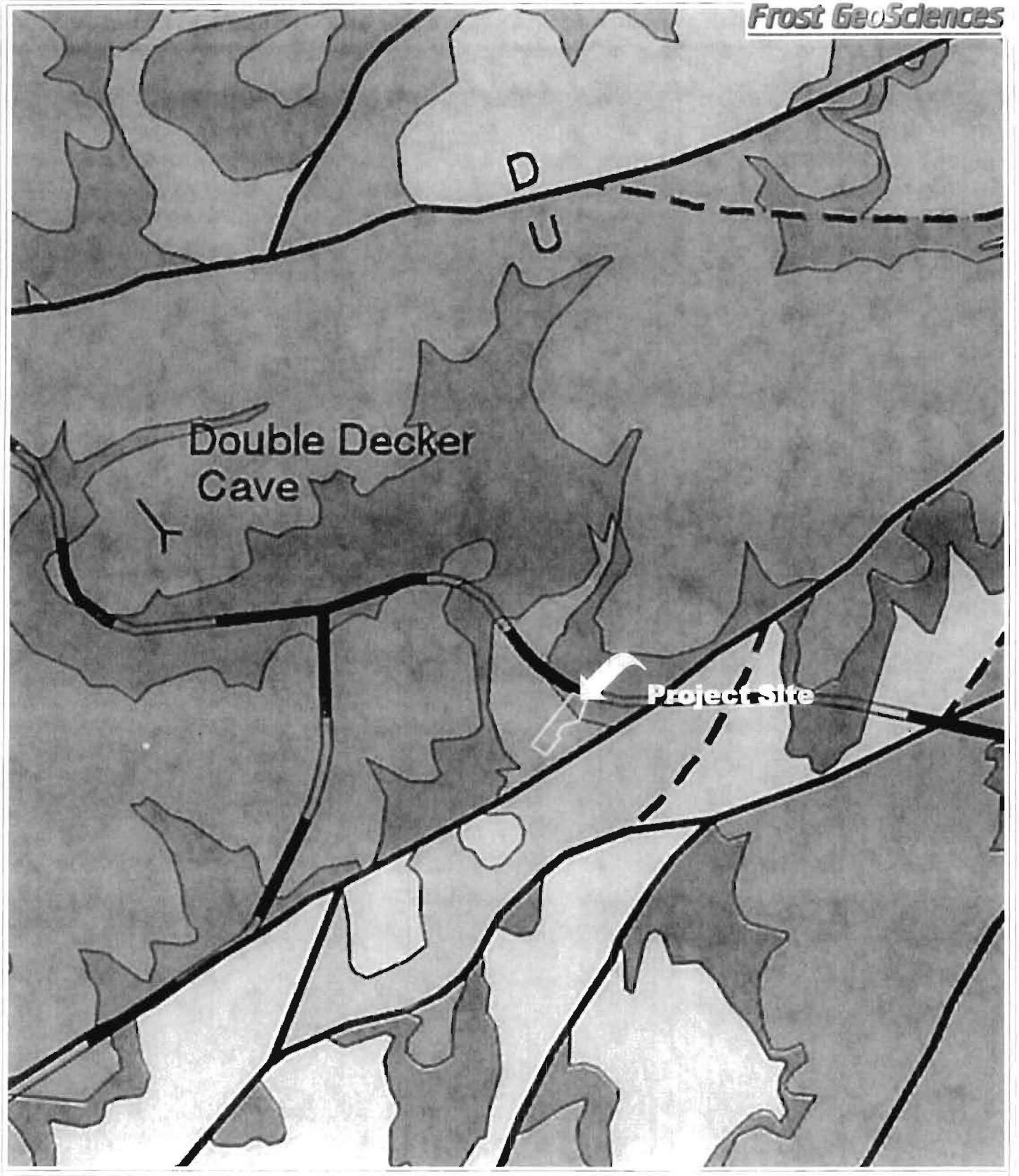
PROJECT NO.:	DATE:
FGS-E14153	April 19, 2014



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
The Village of Garden Ridge Assisted Living
San Antonio, Texas

1973 Aerial Photograph
United States Department of Agriculture

PROJECT NO.:	DATE:
FGS-E14153	April 19, 2014

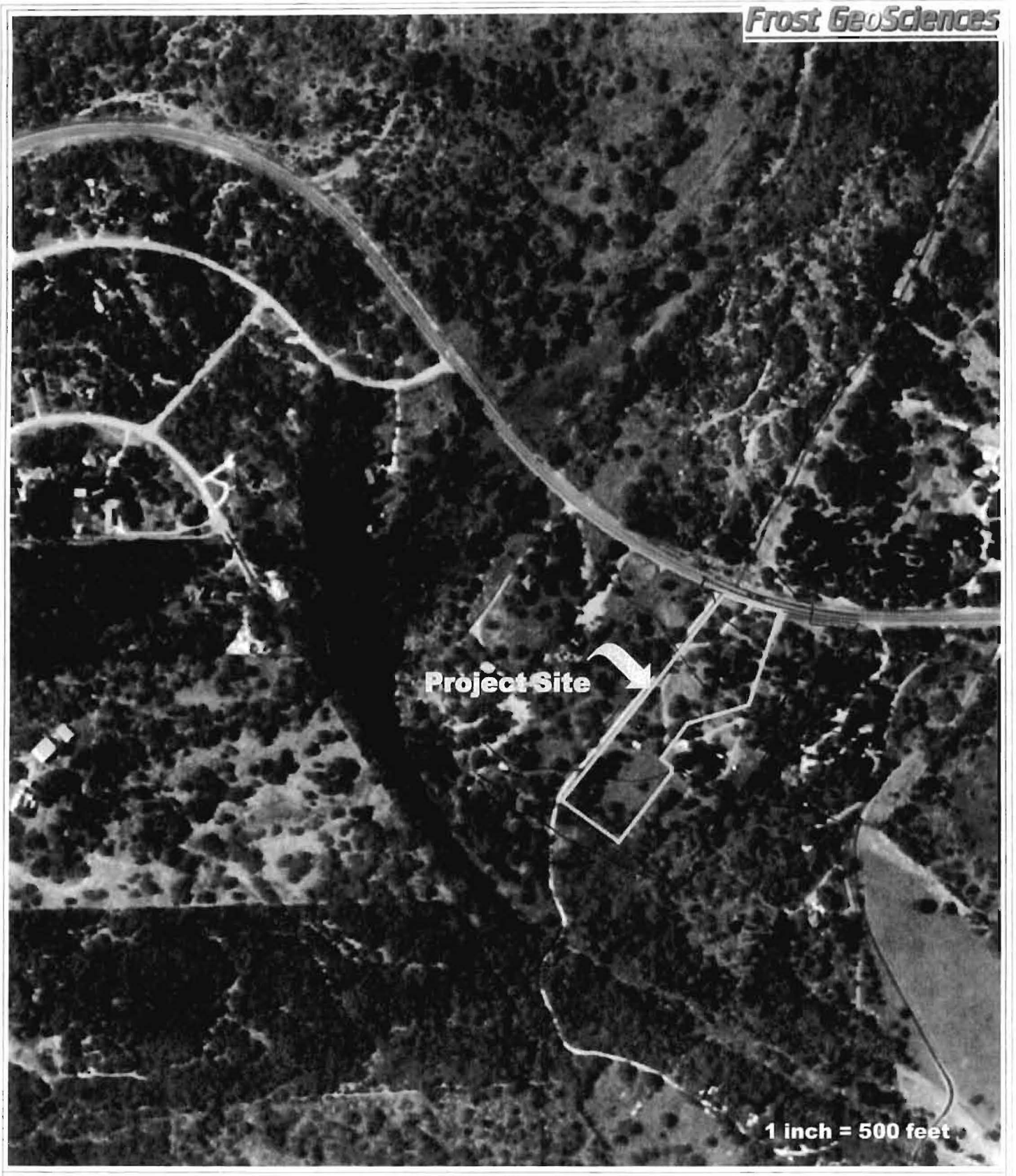


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
The Village of Garden Ridge Assisted Living
San Antonio, Texas

United States Geologic Survey
Water Resources Investigation # 94-4117
(1994)

PROJECT NO.:	DATE:
FGS-E14153	April 19, 2014

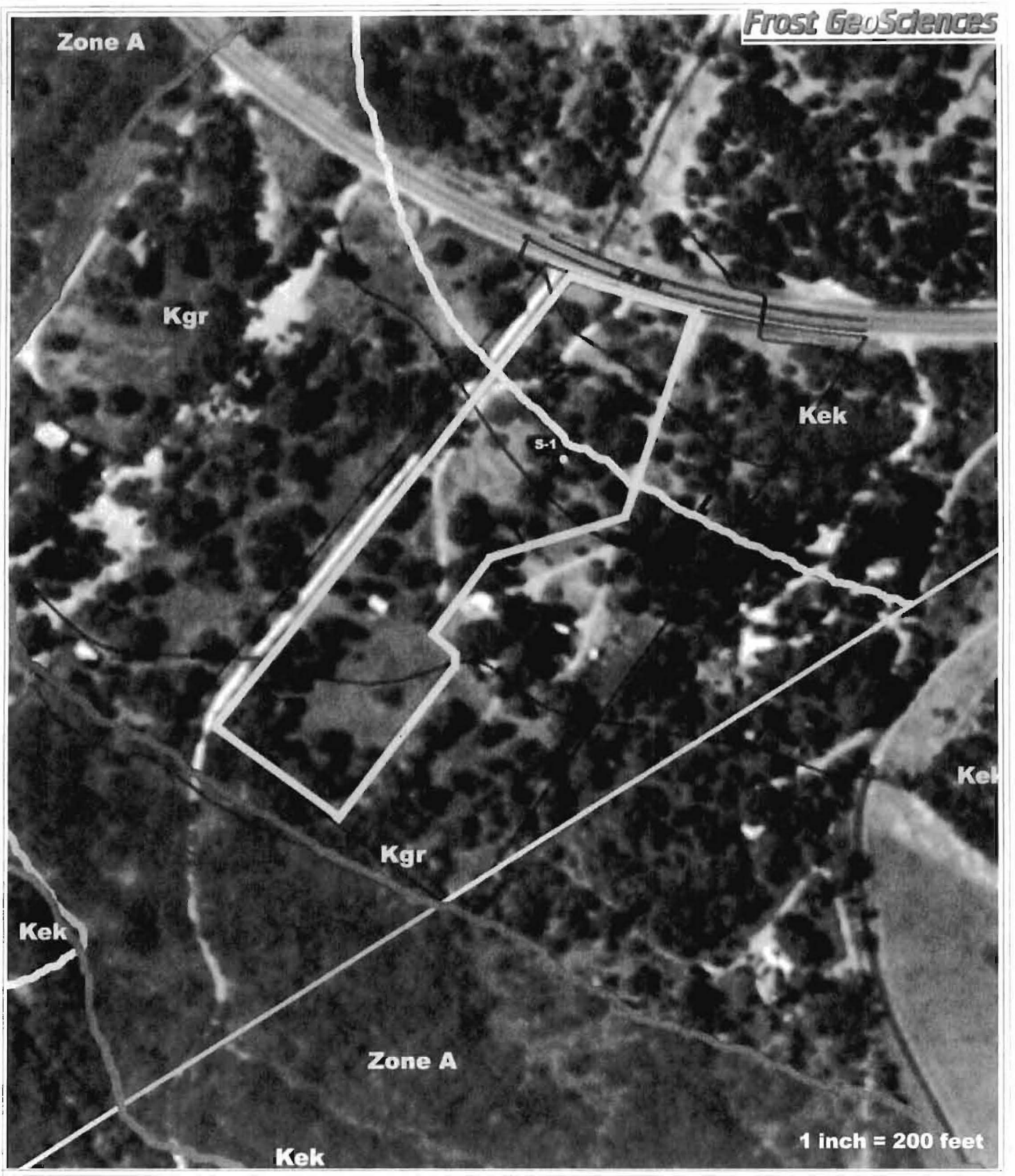
Frost GeoSciences



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
The Village of Garden Ridge Assisted Living
San Antonio, Texas

2012 Aerial Photograph
National Agricultural Imagery Program

PROJECT NO.:	DATE:
FGS-E14153	April 19, 2014



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
The Village of Garden Ridge Assisted Living
San Antonio, Texas

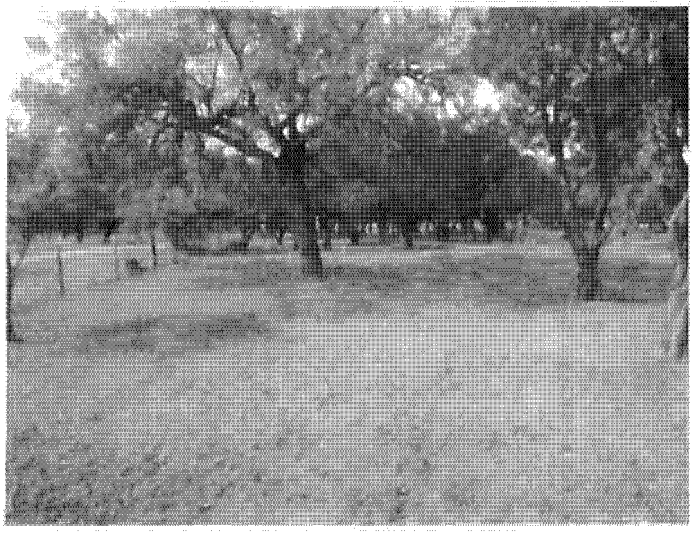
2012 Aerial Photograph with PRF's
National Agricultural Imagery Program

PROJECT NO.: FGS-E14153

DATE: April 19, 2014

Appendix B

Site Inspection Photographs



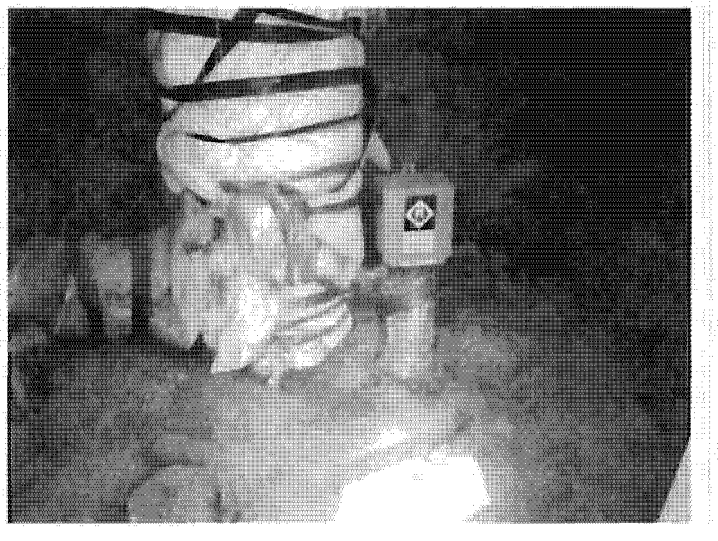
View to the south, of the project site along the eastern property line.

View to the west, of the project site along the northern property line.

View to the south, of the project site along the western property line.

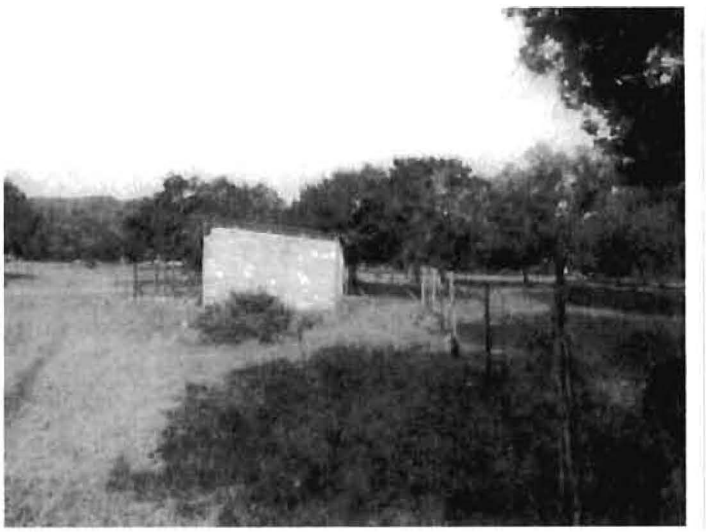
Typical view of vegetative cover in the northern portion of the project site.

View of the pump house in the north central portion of the project site.



View of the water well and bladder tank inside the pump house.

View to the north, of the central portion of the site along the eastern property line.



View to the west, of the central portion of the site along an internal fence line.

View to the north, of the central portion of the site along the western property line.

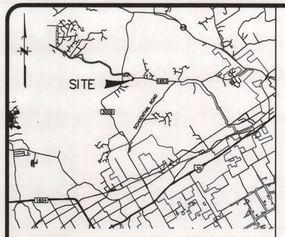
View of a bulldozed pile of limestone rubble & topsoil.

View to the west, of the project site from the southeastern property corner.

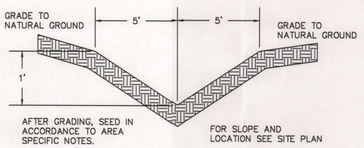
View to the north, of the project site from the southwestern property corner.

Appendix C

Site Geologic Map



LOCATION MAP
NOT TO SCALE



EARTHEN CHANNEL SECTION

CHANNEL "A" HAS A 25 YEAR FLOW OF 8 CFS WITH A DEPTH OF 7" AND A VELOCITY LESS THAN 6 FPS

CHANNEL "B" HAS A 25 YEAR FLOW OF 9 CFS WITH A DEPTH OF 8" AND A VELOCITY LESS THAN 6 FPS

SCALE: 1"=50'
50 25 0 50

EXISTING POWER POLE
FM 1863
EXISTING PAVEMENT
CONSTRUCTION ENTRANCE/EXIT
PROPOSED EARTHEN SWALE
CONCRETE WASHOUT PIT
PROPERTY BOUNDARY
AREA A 1.77 ACRES
AREA B 2.025 ACRES
EXISTING WELL
5.281 ACRES THE VILLAGES OF GARDEN RIDGE
WILBERT D. AND MARJORIE E. SPAETH VOL. 812 PG 455-458 18.294± ACRES
TIMOTHY DENNIS AND VICKI DENNIS REMAINING 12.0 ACRES DOC NO. 200006037367
S 18°59'49" W 346.99'
S 73°20'07" W 229.20'
(BEARING BASIS) N 36°35'32" E 936.88'
S 37°11'42" W 159.64'
S 51°03'41" E 54.75'
S 00°31'08" W 15.83'
AREA C 1.5 ACRES
N 51°25'20" W 250.04'
S 37°28'53" W 322.91'
FEMA 100 YEAR FLOODPLAIN
UNNAMED CREEK
C.M.
980
960
950
940
930

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	1950.08'	203.51' (203.79'	203.42' (203.70')	S 72°37'57" E (S 72°13'15" E)	05°58'46"

NOTE:

AERIAL CONTOURS PROVIDED BY USGS 10' INTERVALS.

FEMA FLOOD PLAIN MAP # 48091C0410F DATED SEPTEMBER 2, 2009.

CIVIL TECH, PLLC.
ENGINEERS, CONSULTANTS, LAND PLANNERS
Firm No. 13711
(210) 365-5029
P.O. BOX 2203 BOERNE, TX. 78006

STATE OF TEXAS
JAMES P. McGARR
108753
LICENSED PROFESSIONAL ENGINEER
5/12/2014

DATE
REVISIONS:

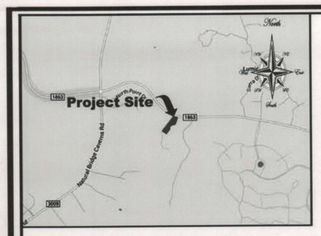
VILLAGES OF GARDEN RIDGE

FM 1863
COMAL COUNTY, TEXAS

DRAINAGE AREA MAP

TCEQ R13
MAY 14 2014
SAN ANTONIO

DESIGNED BY:
DRAWN BY:
SCALE:
DATE:
SHEET NO.



Location Map

Frost GeoSciences
Geotechnical • Construction Materials
Environmental & Geologic Consulting
SDVOSB • VBE • DIBE • SBE
13402 Western Oak Dr. • Helotes, Texas 78023
Phone: 210-372-1315 • Fax 210-372-1318

Site Geologic Map

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
for
The Village of Garden Ridge Assisted Living
5.295 Acres
San Antonio, Texas

Frost GeoSciences, Inc. Control # FGS-E14153

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

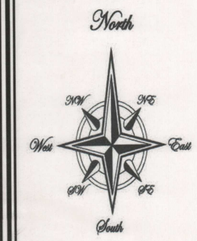
- S-# - Potential Recharge Feature (PRF)
- Formation Contact
- 100-Year Floodplain - Zone A
- 100-Year Floodplain - Zone AE
- Other Flood Hazard Area - Zone X (shaded)

Floodplain Information Obtained From
FIRM: Flood Insurance Rate Map
Comal County, Texas: Panel # 48091C0410F, 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)

4/19/14

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



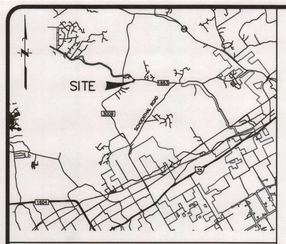
Graphic Scale

50 0 25 50 100

(In Feet)

1 inch = 50 feet
Representative Fraction 1:600

Contour Interval - 10 feet



LOCATION MAP
NOT TO SCALE

SCALE: 1"=20'
20 10 0 20

WILBERT D. AND MARJORIE E. SPAETH
VOL. 812 PG. 455-458
18.294 ACRES

PROPOSED EARTHEN SWALE

5.281 ACRES
THE VILLAGES
OF GARDEN
RIDGE

PROPOSED EARTHEN SWALE

EXISTING POWER POLE

5' SIDEWALK

PROPOSED EARTHEN SWALE

EXISTING WELL

8' SIDEWALK

5' SIDEWALK

PROPOSED BUILDING

CONSTRUCTION ENTRANCE/EXIT

CONCRETE WASHOUT PIT

EXISTING POWER POLE

600 L.F. SILT FENCE

EXISTING POWER POLE

EXISTING POWER POLE

EXISTING ELECTRIC EASEMENT

S 18°59'49" W 346.99'

TIMOTHY DENNIS AND VICKI DENNIS
REMAINING 12.0 ACRES
DOC NO. 200006037367

FM 1863

EXISTING PAVEMENT

EXISTING PAVEMENT

S 73°20'07" W 229.20'

NOTE:

AERIAL CONTOURS PROVIDED BY USGS 10' INTERVALS.

FEMA FLOOD PLAIN MAP # 48091C0410F DATED SEPTEMBER 2, 2009.

FOR DETAILS, REFRENCE SWPPP SHEET C2.0

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	1950.08'	203.51' (203.79'	203.42' (203.70')	S 72°37'57" E (S 72°13'15" E)	05°58'46"

CIVIL TECH, PLLC.
ENGINEERS, CONSULTANTS, LAND PLANNERS
Firm No. 13711
(210) 365-5029
P.O. BOX 2203 BOERNE, TX. 78006

STATE OF TEXAS
JAMES P. McGARR
108753
LICENSED
PROFESSIONAL ENGINEER
5/13/2014

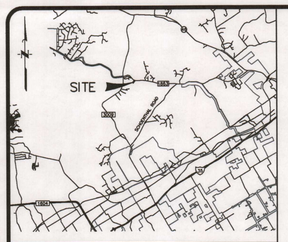
DATE

REVISIONS:

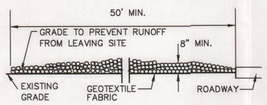
VILLAGES OF GARDEN RIDGE
FM 1863
COMAL COUNTY, TEXAS
SITE PLAN

TCEQ-R13
MAY 19 2014
SAN ANTONIO

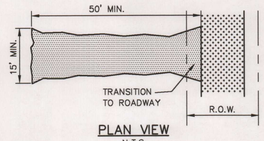
DESIGNED BY:
DRAWN BY:
SCALE:
DATE:
SHEET NO.
C1.0



LOCATION MAP
NOT TO SCALE



PROFILE
N.T.S.



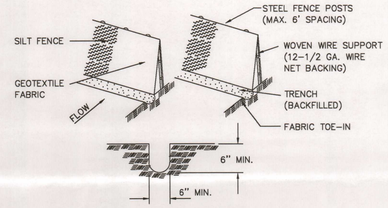
PLAN VIEW
N.T.S.

GENERAL NOTES:
1. STONE SIZE– 4 TO 8 INCH WASHED STONE.
2. GEOTEXTILE FABRIC– SHALL CONSISTS OF 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.
3. LENGTH– AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
4. THICKNESS– NOT LESS THAN 8 INCHES.
5. WIDTH– NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
6. WASHING– WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
7. MAINTENANCE– THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
8. DRAINAGE– ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

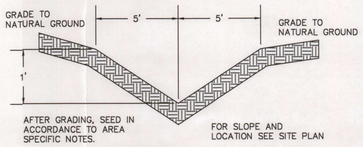
REFERENCE TCEQ RG–348 FOR MORE DETAIL

STABILIZED CONSTRUCTION ENTRANCE
SCALE N.T.S.

SCALE: 1"=50'
50 25 0 50



TRENCH CROSS–SECTION
N.T.S.



EARTHEN CHANNEL SECTION

GENERAL NOTES:
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TREATED IN (e.g. pavement) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

REFERENCE TCEQ RG–348 FOR MORE DETAIL

SILT FENCE
SCALE N.T.S.

NOTE:

AERIAL CONTOURS PROVIDED BY USGS 10' INTERVALS.

FEMA FLOOD PLAIN MAP # 48091C0410F DATED SEPTEMBER 2, 2009.

NO MORE THAN 10 ACRES WITHIN A COMMON DRAINAGE AREA WILL BE DISTURBED.

S.W.P.P.P. DOCUMENT SHALL BE KEPT ONSITE IN AN ACCESSIBLE PLACE.

PLAN
N.T.S.

SECTION A–A
N.T.S.

GENERAL NOTES:
1. DETAIL ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. POLY WRAP TO CONSIST OF 10 MIL. OR GREATER AND PLACED ON TOP OF VIRGIN SOIL.
3. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
4. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

REFERENCE TCEQ RG–348 FOR MORE DETAIL

CONCRETE TRUCK WASHOUT PIT
SCALE N.T.S.

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	1950.08'	203.51' (203.79'	203.42' (203.70')	S 72°37'57" E (S 72°13'15" E)	05°58'46"

CIVIL TECH, PLLC.
ENGINEERS, CONSULTANTS, LAND PLANNERS
Firm No. 13711
(210) 365-5029
P.O. BOX 2203 BOERNE, TX. 78006

STATE OF TEXAS
JAMES P. McGARR
108753
LICENSED PROFESSIONAL ENGINEER
5/13/2014

DATE

REVISIONS:

VILLAGES OF GARDEN RIDGE
FM 1863
COMAL COUNTY, TEXAS
S.W.P.P.P

TCEQ-R13
MAY 13 2014
SAN ANTONIO

DESIGNED BY:
DRAWN BY:
SCALE:
DATE:
SHEET NO.
C2.0