TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 17, 2015

Mr. Thad Rutherford
Southstar at Vintage Oaks, LLC
1114 Lost Creek Blvd., Suite 270
Austin, TX 78746

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Vintage Oaks at the Vineyard, the Reserve; Located approximately 0.49 miles north of Via Principale and State Highway 46 intersection; New Braunfels, Texas

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

Investigation No.1266662; Regulated Entity No. RN108640707; Additional ID No. 13-15071002

Dear Mr. Rutherford:

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 M&S Engineering on behalf of Southstar at Vintage Oaks, LLC on July 10, 2015. Final review of the WPAP was completed after additional material was received on September 9, 2015, and September 14, 2015. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed residential project will have an area of approximately 156.14 acres. It will include 115 single family residential dwellings, driveways, and paved surfaces. The impervious cover will

be 30 acres (19.21 percent). As proposed, all 115 lots are assumed 8,100 square feet per lot of impervious cover. According to a letter dated, June 30, 2015, signed by 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 single-family residential project will not have more than 20 percent impervious cover.

GEOLOGY

According to the geologic assessment the site is located on the Dolomitic member of the Kainer Formation. Seven (7) geologic features were identified during the assessment. Features S-1, S-3 through S-7 are non-sensitive geologic features (fractured vuggy rock outcrop). Feature S-2 (Sinkhole) was identified as a sensitive geologic feature. The San Antonio Regional Office site assessment conducted on September 3, 2015 revealed that the site was generally as described in the application.

Sensitive Feature

A natural buffer was provided for S-2 (sinkhole). No regulated activities (such as construction or soil disturbing activities) will take place with the natural buffer. The natural buffer will extend 50 feet on the sides and below the feature and 200 feet upgradient from the edge of the sinkhole. Physical barriers and sediment controls such as fencing, rock berms, and/or silt fences are required at the edge of this buffer prior to commencement of construction.

SPECIAL CONDITIONS

I. Since this project will not have more than 20 percent impervious cover, an exemption from additional permanent BMPs is approved. 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 property boundaries required by §213.4(g), may no longer apply and the property owner must notify the appropriate regional office of these changes.

II. This residential subdivision application provided minimum lot sizes of a least one acre to meet the requirements of 30 TAC 285.40(c)(1) regarding minimum lot sizes.

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

Prior to Commencement of Construction:

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

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved

prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.

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

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

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

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

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Monica Reyes of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210)403-4012.

Sincerely,

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

LMB/MR/eg

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625

cc: Mr. Heath Woods, P.E., M&S Engineering, L.L.C.
Mr. Thomas Hornseth, P.E., Comal County
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

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September 14, 2015

Ms. Monica Reyes
Edwards Aquifer Protection Program
TCEQ
14250 Judson Rd
San Antonio, TX 78233

Re: RN 108640707

Dear Ms. Monica Reyes:

On September 10, 2015 we received comments on the WPAP review. The following revisions have been made in response to the comments:

Permanent Stormwater Section (TCEQ-0600)

1. Please provide the amount of square feet each lot is allowed.

   Response: The square feet used for the home on each lot is 8100 ft^2.

Sensitive Feature Comment

1. Please change all description in application (Project Description and Temporary Stormwater Section Attachment D) of the S-2 Buffer to reflect the Vintage Oaks at the Vineyard Unit 3 approval Letter. Please see the following description. "No regulated activities (such as construction or soil disturbing activities) will take place with the natural buffer. The natural buffer will extend at least 50 feet around the feature and at least 200 feet upgradient from the edge of the sinkhole. Physical barriers and Sediment controls such as fencing, rock berms, and/or silt fences are required at the edge of these buffers prior to commencement of construction."

   Response: The description above was inserted into the Project Description and the Temporary Stormwater Section Attachment D.

If you have any questions or require additional information, please call at (830)228-4125.

Thank you,

Brian Mendez
M&S Engineering

PROJECT DESCRIPTION

The existing project site is located in Comal County in the Vintage Oaks at the Vineyard subdivision; it is currently not developed and have average vegetation coverage. There are no pre-existing structures on the site. The proposed development is to be a Single Family Residential Subdivision, located on 156.14 acres, adjacent to Units 6 and 5 of the Vintage Oaks at the Vineyard Subdivision. The site would ultimately include approximately 124.75 acres of single-family residential lots, 17.89 acres of open space/park trails, and 13.5 acres of street right-of-way. A portion of this subdivision falls in the 100 year floodplain area. The streets are accounted for in the impervious cover calculations.

Vintage Oaks at the Vineyards, The Reserve is located within the Dry Comal Creek watershed. The proposed development creates approximately 30 acres of impervious cover (19.21% of the total site acreage). The total acreage of the project is the 156.14 acres.

There is currently no required permanent BMPs for this project. In the case of ungradient stormwater, the stormwater will still be accepted and the site will be re-vegetated after construction is completed. In terms of on-site stormwater and surface streams, no permanent BMPs are required because the site is less than 20% impervious. The geologic assessment show that there one sensitive feature that is rated above 40 points on the F-0585 form located outside The Reserve's boundary. That feature is a sinkhole in an unnamed seasonal creek bed in the western portion of the tract. It is located on the western border of the site. No regulated activities (such as construction or soil disturbing activities) will take place with the natural buffer. The natural buffer will extend at least 50 feet around the feature and at least 200 feet upgradient from the edge of the sinkhole. Physical barriers and Sediment controls such as fencing, rock berms, and/or silt fences are required at the edge of these buffers prior to commencement of construction.

Temporary Best Management Practices and Measures

All TBMPs will be installed prior to the beginning of site preparation and construction activities as per the Storm Water Pollution Prevention Plan. The TBMPs will remain in place and will be maintained until all construction has ceased and a perennial vegetative cover with a density of 70 percent has been established.

a. Stabilized Construction Entrance, Silt fences and rock berms will be used to protect disturbed soils during construction in order to prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

b. Stabilized Construction Entrance, Silt fences and rock berms will be used to protect disturbed soils during construction in order to 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 50-foot radius natural buffer zone adjacent to and upgradient of any sensitive features will remain undisturbed so that rainfall may continue to enter the feature. The natural vegetated areas will ensure that pre-development stormwater quantity and quality will continue to recharge the aquifer via the feature. Rock berms will be placed downgradient of all construction activities so that potentially contaminated stormwater may be treated before leaving the sited and entering downstream surface water.

d. No regulated activities (such as construction or soil disturbing activities) will take place with the natural buffer. The natural buffer will extend at least 50 feet around the feature and at least 200 feet upgradient from the edge of the sinkhole. Physical barriers and sediment controls such as fencing, rock berms, and/or silt fences are required at the edge of these buffers prior to commencement of construction.

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September 8, 2015

Ms. Monica Reyes
Edwards Aquifer Protection Program
TCEQ
14250 Judson Rd
San Antonio, TX 78233

RECEIVED
SEP 15 2015
COUNTY ENGINEER

RECEIVED TCEQ
2015 SEP -9 PM 1:16
SAN ANTONIO REGION

Re: RN 108640707

Dear Ms. Monica Reyes:

On September 3, 2015 we received comments on the WPAP review. The following revisions have been made in response to the comments:

Geological Assessment (TCEQ-0585)

1. Geologic Site Plan scale does not match Site Plan, please correct.

   Response: The Geologic Site Plan was scaled to match the Site Plan's scale of 1'=400 and printed on the correct size paper (24"X36").

Permanent Stormwater Section (TCEQ-0600)

2. Attachment B: upgradient area is developed please address upgradient stormwater.

   Response: Attachment B was updated to reflect existing conditions of the upgradient area being developed. The treatment for the upgradient stormwater is still valid.

Sensitive Feature Comment

3. Please show drainage area for sensitive feature S-2. If the drainage area to the feature lies more than 50 feet from the feature (rim of the sinkhole bowl), the buffer should extend to the boundary of the drainage area or 200 feet, whichever is less. Please show new buffer for S-2 on Sheet 1 as well as in text found throughout the application (Project Description and Temporary Stormwater Section Attachment D).

   Response: There is currently a 200 foot boundary that was placed in Unit 6 of the Vintage Oaks at the Vineyard Subdivision. The boundary was extended into the Reserve unit of the subdivision and follows the 200 foot boundary rule. The correction

has been made on Sheet 1, the Project Description, and the Temporary Stormwater Section Attachment D.

Please give me a call at (830)228-4125

Thank you

Brian Mendez
M&S Engineering

PROJECT DESCRIPTION

The existing project site is located in Comal County in the Vintage Oaks at the Vineyard subdivision; it is currently not developed and have average vegetation coverage. There are no pre-existing structures on the site. The proposed development is to be a Single Family Residential Subdivision, located on 156.14 acres, adjacent to Units 6 and 5 of the Vintage Oaks at the Vineyard Subdivision. The site would ultimately include approximately 124.75 acres of single-family residential lots, 17.89 acres of open space/park trails, and 13.5 acres of street right-of-way. A portion of this subdivision falls in the 100 year floodplain area. The streets are accounted for in the impervious cover calculations.

Vintage Oaks at the Vineyards, The Reserve is located within the Dry Comal Creek watershed. The proposed development creates approximately 30 acres of impervious cover (19.21% of the total site acreage). The total acreage of the project is the 156.14 acres.

There is currently no required permanent BMPs for this project. In the case of ungradient stormwater, the stormwater will still be accepted and the site will be re-vegetated after construction is completed. In terms of on-site stormwater and surface streams, no permanent BMPs are required because the site is less than 20% impervious. The geologic assessment show that there one sensitive feature that is rated above 40 points on the F-0585 form located outside The Reserve's boundary. That feature is a sinkhole in an unnamed seasonal creek bed in the western portion of the tract. It is located on the western border of the site. The 200 feet buffer boundary that currently exist in Unit 6 of the subdivision has been extended into the Reserve's boundary. This area will not be disturbed.

Temporary Best Management Practices and Measures

All TBMPs will be installed prior to the beginning of site preparation and construction activities as per the Storm Water Pollution Prevention Plan. The TBMPs will remain in place and will be maintained until all construction has ceased and a perennial vegetative cover with a density of 70 percent has been established.

a. Stabilized Construction Entrance, Silt fences and rock berms will be used to protect disturbed soils during construction in order to prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

b. Stabilized Construction Entrance, Silt fences and rock berms will be used to protect disturbed soils during construction in order to 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 50-foot radius natural buffer zone adjacent to and upgradient of any sensitive features will remain undisturbed so that rainfall may continue to enter the feature. The natural vegetated areas will ensure that pre-development stormwater quantity and quality will continue to recharge the aquifer via the feature. Rock berms will be placed downgradient of all construction activities so that potentially contaminated stormwater may be treated before leaving the sited and entering downstream surface water.

d. No construction will occur within a 200- foot radius of naturally-occurring sensitive features that rated 40 or more on the F-0585 form in the Geologic Assessment (See Site Plan Sheet). The vegetative buffer zone will serve as both TMBP and BMP for the sensitive features. In the case that construction activities occur upgradient of a sensitive feature (Greater than the 200-foot radius) the disturbed soils will be protected from erosion by silt fences as outlined above.

BMPs for Upgradient Stormwater

The upgradient stormwater would continue to be accepted onto the project site. The stormwater runoff from the areas that are immediately upgradient acres are currently developed. No BMPs are required because the site will be re-vegetated after construction is complete.

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

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

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

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

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

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

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

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

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

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

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

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

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

A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

AUSTIN REGIONAL OFFICE
2800 S. IH 35, SUITE 100
AUSTIN, TEXAS 78704-5712
PHONE (512) 339-2929
FAX (512) 339-3795

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

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

TEMPORARY BMP NOTE:
SEE ATTACHED SHEETS FOR TEMPORARY BMP DETAILS. ADDITIONAL BMP DETAILS PROVIDED BUT NOT CALLED OUT ON PLANS MAY BE USED AT CONTRACTOR'S DISCRETION.

SOIL DISTURBANCE NOTE

SOIL DISTURBANCES WILL OCCUR TO CLEARING, GRUBBING, AND GRADING OF AREAS TO BE USED FOR THE RESIDENTIAL LOTS, ROADS, ROAD RIGHT-OF-WAY, AND DETENTION POND. THESE DISTURBANCES CAN BE ATTRIBUTED TO, BUT NOT LIMITED TO, CLEARING AND GRUBBING RELATED TO BUILDING PAD, DRIVEWAY, UTILITY INSTALLATION, AND LANDSCAPE PREPARATION. THE REMAINING PORTIONS OF THE SITE NOT INVOLVED IN ANY OF THESE ACTIVITIES WILL REMAIN UNDISTURBED.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE INSTALLED TO PROVIDE A STABLE ENTRANCE/EXIT CONDITION FROM THE CONSTRUCTION SITE TO KEEP MUD AND SEDIMENT OFF PUBLIC ROADWAYS (REFER TO THE EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL FOR CONSTRUCTION INFORMATION).

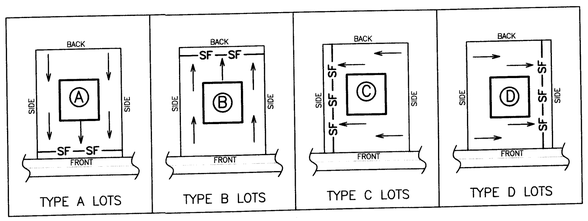
SOIL STABILIZATION NOTE

TEMPORARY EROSION CONTROL MEASURES WILL BE USED TO STABILIZE DISTURBED AREAS (REFER TO EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL FOR CONSTRUCTION OF EROSION CONTROL MEASURES). TRAFFIC WILL BE ROUTED AROUND THESE AREAS TO REDUCE THE EXTENT OF DISTURBED AREAS BY REDUCING SEDIMENT LOADS TO SURFACE WATER.

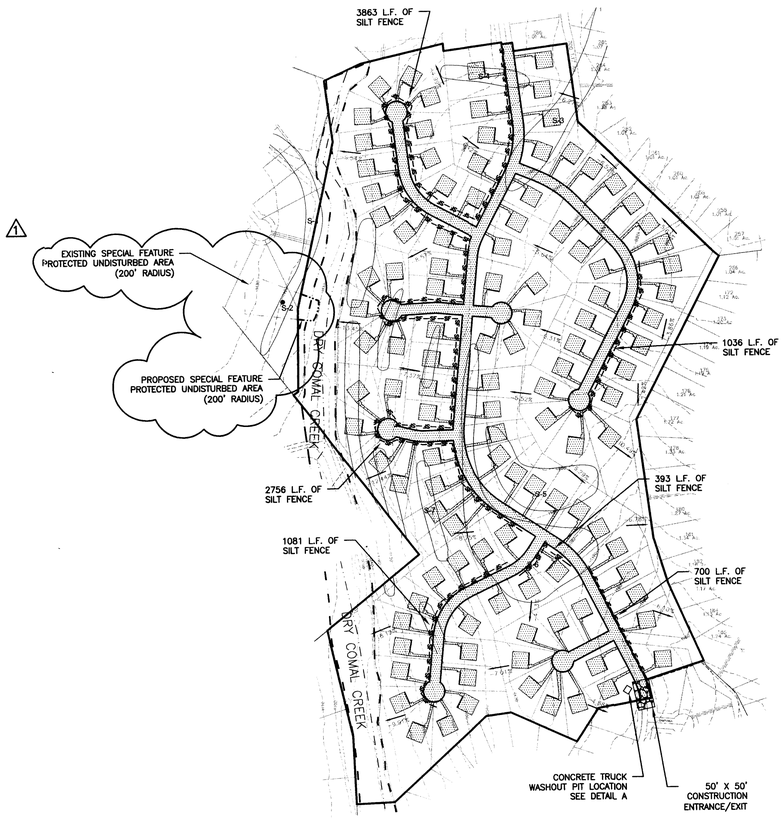
BARE SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.

MULCHING/MATS CAN BE USED TO PROTECT THE DISTURBED AREAS WHILE VEGETATION BECOMES ESTABLISHED.

SILT FENCE NOTE:
SILT FENCE WILL BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FT OF FENCE. (AS REQUIRED BY TCEQ RG-348, INSTALLATION: ITEM 2)



THE TYPICAL DRAINAGE PATTERN OF EACH LOT WILL BE BE DETERMINED BY THE EXISTING CONTOURS. ALL DRAINAGE OF LOTS WILL FLOW AWAY FROM BUILDING PAD.



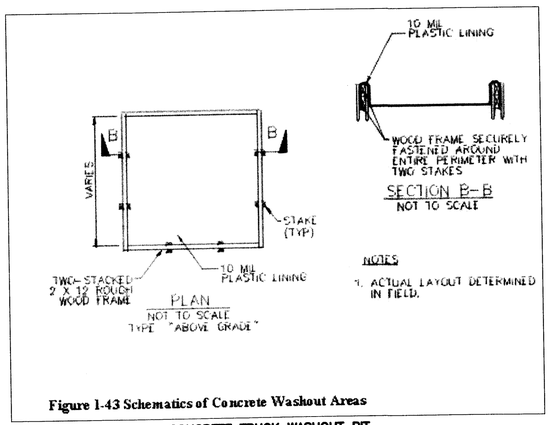
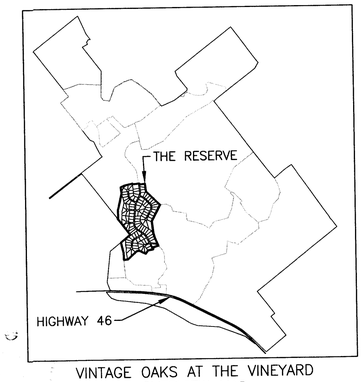


Figure 1-43 Schematics of Concrete Washout Areas

CONCRETE TRUCK WASHOUT PIT DETAIL A

⚠ ADDED EXISTING AND PROPOSED 200' BOUNDARY FOR SPECIAL FEATURE



VINTAGE OAKS AT THE VINEYARD
OVERVIEW MAP
1" = 4000'

LEGEND:

— — — —	FEMA FLOOD PLAINS
	EXIST LOT LINE
	EXIST PROPERTY BOUNDARY
500	EXIST CONTOUR
	PROP RIGHT-OF-WAY
	PROP WATER FLOW DIRECTION
4.8%	PROP SLOPE
—SF—SF—SF—SF—SF—	PROP SILT FENCE
	PROP CENTER OF ROAD
	PROP ROCK BERM
	CONSTRUCTION ENTRANCE/EXIT
	PROP DISTURBED AREA

M&S ENGINEERING
CIVIL | ELECTRICAL | STRUCTURAL | MEP | SURVEYING
TBAE REGISTERED ENGINEERING FIRM F-10964200

BRANCH OFFICE
376 LANDA ST.
NEW BRAUNFELS, TX 78130
PHONE (830) 629-2988

MAIN OFFICE
6477 FM 311
SPRING BRANCH, TX 78070

CONTACT
WWW.MSENGR.COM
PHONE (830) 885-5446
FAX (830) 885-2170

STATE OF TEXAS
HEATH L. WOODS
100297
LICENSED PROFESSIONAL ENGINEER
9/8/15

VINTAGE OAKS AT THE VINEYARD, THE RESERVE

SITE PLAN

JOB: 15BSW002
DATE: JULY 2015
DRAWN: PM:
DESIGN: DM:
PEER: OTHER:

REVISIONS:

DELTA	DESCRIPTION
⚠	ADDED EXISTING AND PROPOSED 200' BOUNDARY FOR SPECIAL FEATURE

SHEET:
01 OF 01

Date: Sep 08, 2015, 11:05am User ID: jmore
File: S:\Active Projects\15BSW002-VOV-The Reserve\dwg\15BSW002-WPAP-SW3P-001.dwg

NORTH

SCALE: 1" = 400'

LEGEND	
	S-1 through S-7
Kkd	Lower Cretaceous Kainer Formation Dolomitic Member

psi Information To Build On
Engineering • Consulting • Testing
3 BURWOOD LANE
SAN ANTONIO, TEXAS 78216

VINTAGE OAKS AT THE VINEYARD
THE RESERVE
SAN ANTONIO, TEXAS

STATE OF TEXAS
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST

GEOLOGICAL ASSESSMENT

DATE:	06.16.15
PROJECT #:	0435-2261
DWG. NAME:	2015-034

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 14, 2015

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

Re: PROJECT NAME: Vintage Oaks at the Vineyard, The Reserve, located approximately 0.49 miles from State Highway 46, New Braunfels, Texas

PLAN TYPE: Application for a Water Pollution Abatement Plan (WPAP), 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program

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. More information regarding this project may be obtained from the TCEQ Central Registry website at http://www.tceq.state.tx.us/permitting/central_registry/.

Please forward your comments to this office by August 14, 2015.

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

WATER POLLUTION ABATEMENT PLAN

Vintage Oaks at the Vineyard, The Reserve

Prepared for:

Thad Rutherford
Southstar at Vintage Oaks, LLC
1114 Lost Creek Blvd., Suite 270
Austin, TX 78746

Prepared by:

M & S ENGINEERING
ENGINEERS | PLANNERS | SURVEYORS

M&S Engineering Project Number: 15BSW002

Main Office:
Post Office Box 970
6477 FM 311
Spring Branch, Texas 78070
Phone: (830) 228-5446
Fax: (830) 885-2170
Web: www.msengr.com

Branch Offices:
Post Office Box 391
McQueeney, Texas 78123

376 Landa Street
New Braunfels, Texas 78130
Phone: (830) 629-2988

Prepared by:
Heath Woods, P.E.
M&S Engineering, L.L.C.
Texas Registered Engineering Firm F-1394

JULY 2015

TCEQ

TCEQ Core Data Form

TCEQ Use Only

RECEIVED
JUL 20 2015
COUNTY ENGINEER

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 — WPAP

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN 604123554		RN

SECTION II: Customer Information

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

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

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

7. General Customer Information

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

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

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

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

10. Mailing Address:

City	State	ZIP	ZIP + 4

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

12. E-Mail Address *(if applicable)*
thad@southstarcommunities.com

13. Telephone Number ( ) -

14. Extension or Code

15. Fax Number *(if applicable)*
(512) 436-9507

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

20. Number of Employees
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated?
☐ Yes ☐ No

SECTION III: Regulated Entity Information

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

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information ☐ 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)*

VINTAGE OAKS AT THE VINEYARD, THE RESERVE

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*								
	City	NEW BRAUNFELS	State	TX	ZIP	78130	ZIP + 4	
25. Mailing Address:								
	City		State		ZIP		ZIP + 4	

26. E-Mail Address:			
27. Telephone Number	28. Extension or Code	29. Fax Number *(if applicable)*	
( ) -		( ) -	

30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)	33. Secondary NAICS Code (5 or 6 digits)
1521	6552	236115	237210

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

Residential Subdivision

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

35. Description to Physical Location:	This site is located in the Vintage Oaks at the Vineyard Subdivision off Hwy 46. It is below unit 6 and on top of unit 5. It is approximately 0.49 miles off hwy 46 into the subdivision.

36. Nearest City	County	State	Nearest ZIP Code
New Braunfels	Comal	TX	78130

37. Latitude (N) In Decimal:	29.7791		38. Longitude (W) In Decimal:	98.2680	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	46	45	98	16	5

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

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

SECTION IV: Preparer Information

40. Name:	Heath L. Woods, P.E.	41. Title:	Department Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830) 228-5446	4104	(830) 885-2170	hwoods@msengr.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:	M&S Engineering	**Job Title:**	Agent- Engineer
Name *(In Print)*:	Heath L. Woods, P.E.	**Phone:**	(830) 228-5446
Signature:	Heath L. Woods	**Date:**	7/2/15

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.

Administrative Review

1. Edwards Aquifer applications must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

   To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

   An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.
3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or if not withdrawn the application will be denied and the application fee will be forfeited.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a "Mid-Review Modification". Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available to you:

- You can withdraw your application, and your fees will be refunded or credited for a resubmittal.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the effected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ's Austin Regional Office at 512-339-2929. If your project is in Comal, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ's San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

1. Regulated Entity Name: Vintage Oaks at the Vineyard, The Reserve						**2. Regulated Entity No.: N/A**			
3. Customer Name: Thad Rutherford						**4. Customer No.: 604123554**			
5. Project Type: (Please circle/check one)	New		Modification			Extension		Exception	
6. Plan Type: (Please circle/check one)	VPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	Residential		Non-residential			**8. Site (acres):**		156.14 acres	
9. Application Fee:	$8000.00		**10. Permanent BMP(s):**			N/A			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Comal		**14. Watershed:**			Dry Comal			

Application Distribution

Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected iucorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the "Texas Groundwater Conservation Districts within the EAPP Boundaries" map found at:

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	___
Region (1 req.)	___	___	___
County(ies)	___	___	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	X	___	___	___
Region (1 req.)	___	X	___	___	___
County(ies)	___	X	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	_X_Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.
Heath L. Woods Print Name of Customer/Authorized Agent
Heath L. Woods 7/2/15 Signature of Customer/Authorized Agent Date

FOR TCEQ INTERNAL USE ONLY				
Date(s)Reviewed:		Date Administratively Complete:		
Received From:		Correct Number of Copies:		
Received By:		Distribution Date:		
EAPP File Number:		Complex:		
Admin. Review(s) (No.):		No. AR Rounds:		
Delinquent Fees (Y/N):		Review Time Spent:		
Lat./Long. Verified:		SOS Customer Verification:		
Agent Authorization Complete/Notarized (Y/N):		Fee Check:	Payable to TCEQ (Y/N):	
Core Data Form Complete (Y/N):			Signed (Y/N):	
Core Data Form Incomplete Nos.:			Less than 90 days old (Y/N):	

In This Section

TCEQ-0587
General Information Form

Attachment A
Road Map

Attachment B
USGS/Edwards Recharge Zone Map

Attachment C
Project Description

General Information Form

Texas Commission on Environmental Quality

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

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

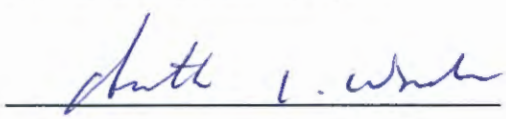
Signature

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:

Print Name of Customer/Agent: Heath L. Woods, P.E.

Date: 7/2/15

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Vintage Oaks at the Vineyard, The Reserve
2. County: Comal
3. Stream Basin: Dry Comal Creek
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

   ☒ WPAP
   ☐ SCS
   ☐ Modification
   ☐ AST
   ☐ UST
   ☐ Exception Request

7. Customer (Applicant):

Contact Person: Thad Rutherford
Entity: Southstar at Vintage Oaks, LLC
Mailing Address: 1114 Lost Creek Blvd., Suite 270
City, State: Austin, Texas Zip: 78746
Telephone: (305)476-1515 FAX: (512)436-9507
Email Address: thad@southstarcommunites.com

8. Agent/Representative (If any):

Contact Person: Heath L. Woods, P.E.
Entity: M&S Engineering, LLC
Mailing Address: 376 Landa St.
City, State: New Braunfels, Texas Zip: 78130
Telephone: (830)629-2988 FAX: (830)228-4197
Email Address: hwoods@msengr.com

9. Project Location:

☐ The project site is located inside the city limits of _____.
☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
☒ The project site is not located within any city's limits or ETJ.

10. ☒ 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.

This site is located in the Vintage Oaks at the Vineyard Subdivision off Hwy 46 in New Braunfels. It is below unit 6 and on top of unit 5. It is approximately 0.49 miles off hwy 46 into the subdivision.

11. ☒ **Attachment A – Road Map**. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. ☒ **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. The map(s) clearly show:

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

13. ☒ **The TCEQ must be able to inspect the project site or the application will be returned**. 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.

☐ Survey staking will be completed by this date: _____

14. ☒ **Attachment C – Project Description**. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:

- ☒ Area of the site
- ☒ Offsite areas
- ☒ Impervious cover
- ☒ Permanent BMP(s)
- ☒ Proposed site use
- ☒ Site history
- ☒ Previous development
- ☒ Area(s) to be demolished

15. Existing project site conditions are noted below:

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

Prohibited Activities

16. ☒ 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).

(6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

17. ☒ 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

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

☒ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
☐ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
☐ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, 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.

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

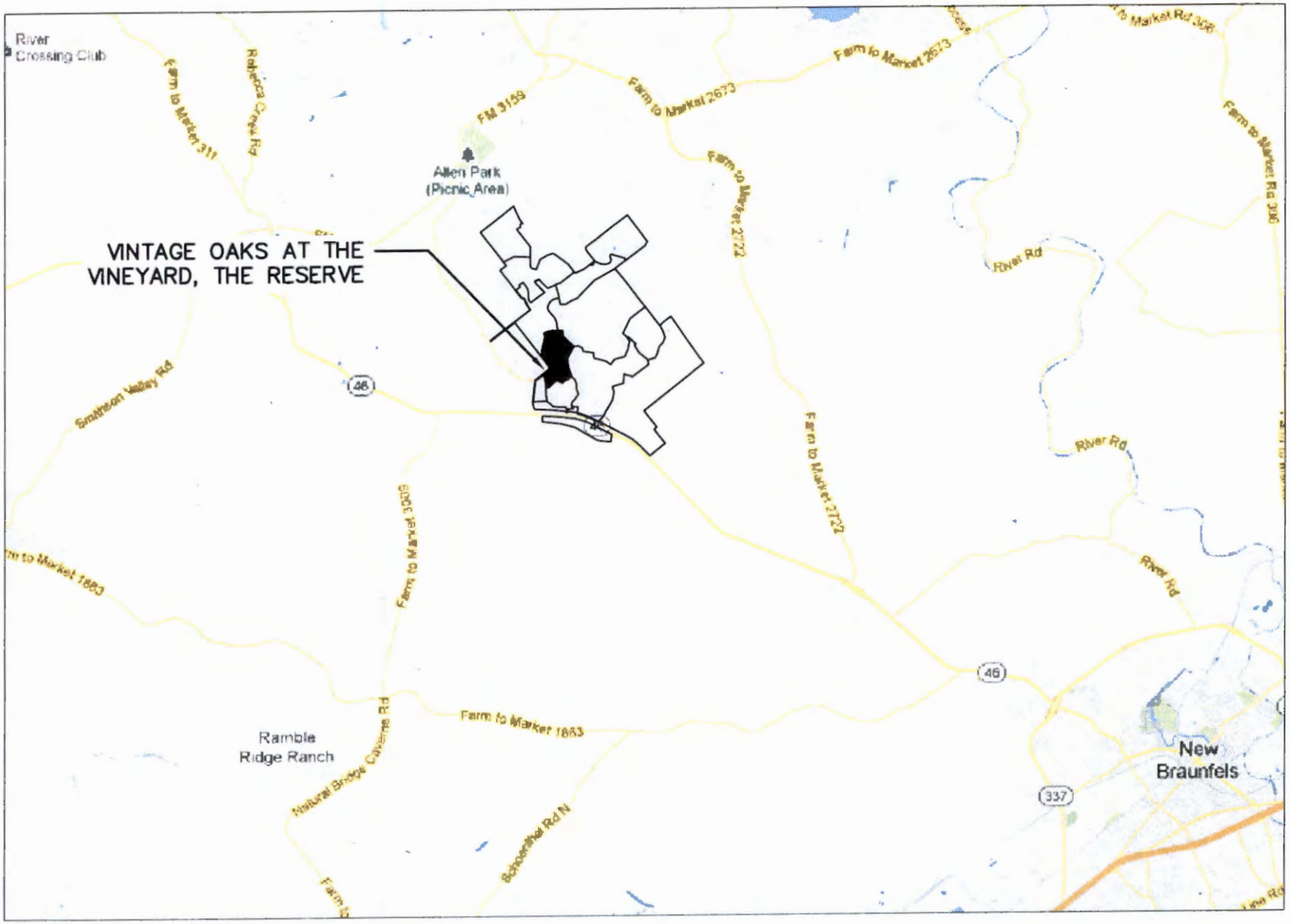
☐ TCEQ cashier
☐ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
☒ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

20. ☒ 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.

21. ☒ 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.

Road Map

ATTACHMENT A – ROAD MAP



USGS/Edwards Recharge Zone Map

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map
US Topo

NEW BRAUNFELS WEST QUADRANGLE
TEXAS
7.5-MINUTE SERIES

98°15' 29°45' 98°07'30" 29°37'30"

2 210 000 FEET 2 240 000 FEET

13 780 000 FEET 13 820 000 FEET

42'30" 12'30" 10'

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (south central zone)

Imagery.....NAIP, May 2010
Roads.....©2006-2012 TomTom
Names.....GNIS, 2012
Hydrography.....National Hydrography Dataset, 2010
Contours.....National Elevation Dataset, 2004
Boundaries.....Census, IBWC, IBC, USGS, 1972 - 2012

UTM GRID AND 2013 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
MN 4° 37' 82 MILS
GN 0° 24' 7 MILS

U.S. National Grid
100,000-m Square ID
NT
Grid Zone Designation 14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.7

TEXAS

QUADRANGLE LOCATION

Smithson Valley	Sattler	Hunter
Bat Cave	New Braunfels West	New Braunfels East
Schertz	Marion	McQueeney

ADJOINING 7.5' QUADRANGLES

ROAD CLASSIFICATION

Interstate Route
US Route
Ramp
State Route
Local Road
4WD

Interstate Route US Route State Route

NEW BRAUNFELS WEST, TX
2013

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map
US Topo

BAT CAVE QUADRANGLE
TEXAS
7.5-MINUTE SERIES

98°22'30" 98°15' 29°45' 29°37'30" 42'30" 40' 20' 17'30"

2 200 000 FEET 13 820 000 FEET

2 170 000 FEET 13 780 000 FEET

5610000mE 5620000mE 5630000mE 5640000mE 5650000mE 5660000mE 5670000mE 5680000mE 5690000mE 5700000mE 5710000mE 5720000mE

3291000mN 3290 3289 3288 3287 3286 3285 3284 3283 3281 3280 3279 3278000mN

BRIDLEGATE DR
ROADRUNNER WAY
RAVEN LN
DAWN RD
KYLE RD
CLOUD VIEW DR
ELISE ANN
SHERRI LEA
PICKLE
BECK RD
PFEIFFER RD
ASCENSION DR
Romple Cem
COMAL CO
BEXAR CO
FARM-TO-MARKET ROAD 3009
FM 3009
NATURAL BRIDGE CAVERNS RD
N POINT DR
OZARK TER
FM-1863
SIERRA DR
HIGH DR
SUNSET TRL
OHLRICH RNCH
COPPER TRCE
OAK CREEK DR
Kunkel Cem
Hillert Cem
INDIAN PATH
HABERSANG LN
DELAFIELD DR
FELS MAJER
KLEIN CT
EASY ST
LAZY FOX
PIERCE MASSIE
CWMTMA DR
COWSERT LN
JOGEN RD
KOPPEN HOP
PARK LOOP
FELSMAND PKWY
ROCAWALL PKWY
STEINIG LINK
TEICH LOOP
FELSBLOCK LN
FOREST LINK
SCHOENTHAL RD
Kruetzler Cem
MOELLER RANCH RD
HALKSTEINE LOOP
PARK BEND DR
MILES LOOP
SKY LOOP
CANHAM RNCH
RIPPLE WAY
CREEK LOOP
BLUE PT
ROCK RUN
LEWIS RANCH RD
RIDGELINE RD
Haug Cem
MONTANIO DR
BORMANN DR
TONNE DR E
TONNE DR W
CEDAR CREEK DR
DEBEKE DR
M VESCH LN
Bat Cave Field Airport
Gerhardt Cem
Wellbacher Cem
BREDIGER LN
BAT CAVE LOOP
CAVERN OAK
BAT CAVE RD
CIBOLO WW
RATTLER DR
RATTLER PASS
UPPER OAKS LN
SOUTHERN KNL
HANGING OAK
GARDEN OAKS DR
ELM DR
MILLER LN
CINNABAR CT
TUSCON HILLS DR
LAS CIMAS DR
SIENNA HILLS DR
PASEO COTO DR
CRISTOBAL DR
PEDALCH
VALLEY PARK DR
PARK LANE CIR
PARK LANE DR
TOMMY TRL
GARDEN N DR
WATER WOOD DR
FOREST WATERS CIR
GOLDENROD LN
SUMAC LN
TEAKWOOD LN
BLAZING STAR TRL
CINCHONA TRL
TIMBER ROSE
GARDEN RIDGE DR
GLOXINIA DR
GARDENIA BEND DR
WAHL LN
SCHNEIDER LN
REGENCY RUN
FM-2252
FM-467
OLD NACOGDOCHES RD
E EVANS RD
CLASSEN RNCH
CLASSENOAKS
BINDSEIL LN
Garden Ridge
Ogden

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (south central zone)

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Names.....GNIS, 2012
Hydrography.....National Hydrography Dataset, 2010
Contours.....National Elevation Dataset, 2004
Boundaries.....Census, IBWC, IBC, USGS, 1972 - 2012

MN 4° 41' 83 MILS
GN 0° 20' 6 MILS
UTM GRID AND 2013 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
NT
Grid Zone Designation 14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 MILES 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.7

TEXAS
QUADRANGLE LOCATION

Anhalt	Smithson Valley	Sattler
Bulverde	Bat Cave	New Braunfels West
Longhorn	Schertz	Marion

ADJOINING 7.5' QUADRANGLES

ROAD CLASSIFICATION
Interstate Route
US Route
Ramp
State Route
Local Road
4WD
Interstate Route US Route State Route

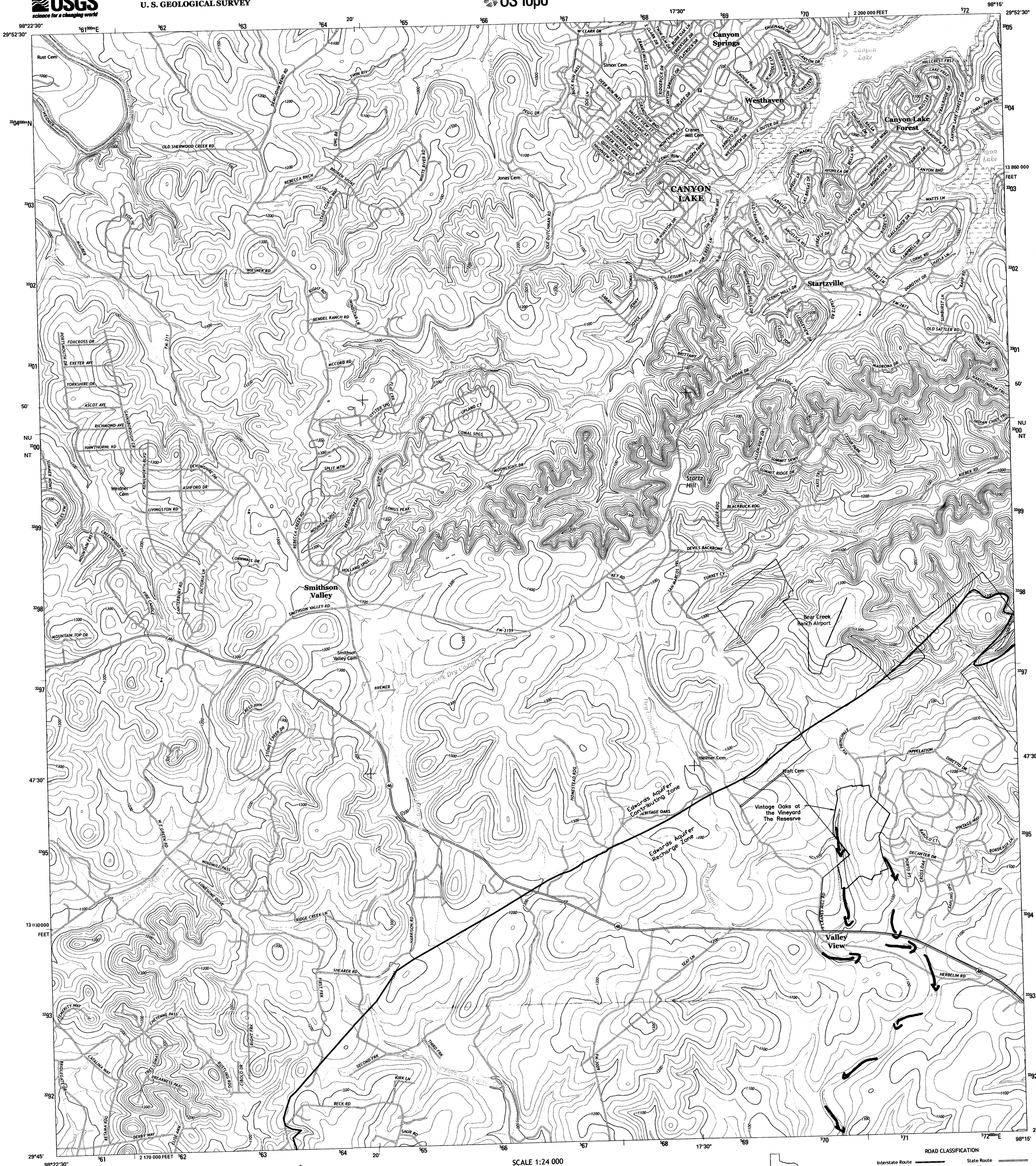
BAT CAVE, TX
2013

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map
US Topo

SMITHSON VALLEY QUADRANGLE
TEXAS-COMAL CO.
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
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MN 4° 41' 83 MILS
GN 0° 20' 6 MILS

U.S. National Grid
100,000-m Square ID: NU / NT
Grid Zone Designation: 14R

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.7

TEXAS
QUADRANGLE LOCATION

Spring Branch	Fischer	Devils Backbone
Anhalt	Smithson Valley	Sattler
Bulverde	Bat Cave	New Braunfels West

ADJOINING 7.5' QUADRANGLES

ROAD CLASSIFICATION
Interstate Route
US Route
Ramp
State Route
Local Road
4WD
Interstate Route | US Route | State Route

SMITHSON VALLEY, TX
2013

Attachment C

Project Description

PROJECT DESCRIPTION

The existing project site is located in Comal County in the Vintage Oaks at the Vineyard subdivision; it is currently not developed and have average vegetation coverage. There are no pre-existing structures on the site. The proposed development is to be a Single Family Residential Subdivision, located on 156.14 acres, adjacent to Units 6 and 5 of the Vintage Oaks at the Vineyard Subdivision. The site would ultimately include approximately 124.75 acres of single-family residential lots, 17.89 acres of open space/park trails, and 13.5 acres of street right-of-way. A portion of this subdivision falls in the 100 year floodplain area. The streets are accounted for in the impervious cover calculations.

Vintage Oaks at the Vineyards, The Reserve is located within the Dry Comal Creek watershed. The proposed development creates approximately 30 acres of impervious cover (19.21% of the total site acreage). The total acreage of the project is the 156.14 acres.

There is currently no required permanent BMPs for this project. In the case of ungradient stormwater, the stormwater will still be accepted and the site will be re-vegetated after construction is completed. In terms of on-site stormwater and surface streams, no permanent BMPs are required because the site is less than 20% impervious. The geologic assessment show that there one sensitive feature that is rated above 40 points on the F-0585 form located outside The Reserve's boundary. That feature is a sinkhole in an unnamed seasonal creek bed in the western portion of the tract. It is located on the western border of the site. The 200 feet buffer boundary for this feature falls in The Reserve's boundary. This area will not be disturbed.

THE RESERVE– EXISTING SITE

In This Section

Geologic Assessment

Texas Commission on Environmental Quality

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

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

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.

Print Name of Geologist: John Langan Telephone: 210/342-9377

Date: 6/12/15 Fax: 210/342-9401

Representing: PSI TBPG No. 50128 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Vintage Oaks at thbe Vineyard - The Reserve

STATE OF TEXAS
JL 6/12/15
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST

Project Information

1. Date(s) Geologic Assessment was performed: 5/26/15
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. ☐ 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.

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Crawford & Bexar Stony Soils	B	2
Rumple-Comfort Asso., undulating	B	2
Eckert - Rock Outcrop Complex, Steep	B	2

Soil Name	Group*	Thickness(feet)

** 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.

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. 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" = 400'
   Site Geologic Map Scale: 1" = 400'
   Site Soils Map Scale (if more than 1 soil type): 1" = 400'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection: _____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.
12. ☒ 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.
13. ☐ The Recharge Zone boundary is shown and labeled, if appropriate.
14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

15. ☒ 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.

GEOLOGIC ASSESSMENT

For

VINTAGE OAKS AT THE VINEYARDS
THE RESERVE
HIGHWAY 46
COMAL COUNTY, TEXAS

Prepared for

M&S ENGINEERING LTD.
6477 F.M. 311, P.O. BOX 970
SPRING BRANCH, TEXAS 78070

Prepared by

Professional Service Industries, Inc.
Three Burwood Lane
San Antonio, Texas 78216
Telephone (210) 342-9377

PSI PROJECT NO.: 0435-2261

June 12, 2015

Information To Build On
Engineering • Consulting • Testing

June 12, 2015

M&S Engineering, Ltd.
6477 F.M. 311, P.O. Box 970
Spring Branch, Texas 78070

Attn: Mr. Heath Woods, P.E.

Re: Geologic Assessment
Vintage Oaks at The Vineyard The Hills
The Reserve
Highway 46, Comal County, Texas
PSI Project No. 435-2261

Dear Mr. Woods:

Professional Service Industries, Inc. (PSI) has completed a geologic recharge assessment for the above referenced project in compliance with the Texas Commission on Environmental Quality (TCEQ) requirements for regulated developments located on the Edwards Aquifer Recharge Zone (EARZ). The purpose of this report is to describe surficial geologic units and identify the locations and extent of significant recharge features present in the development area.

AUTHORIZATION

Authorization to perform this assessment was given by a signed copy of PSI Proposal No. 152353 between M&S Engineering, Ltd. and PSI dated May 13, 2015.

PROJECT DESCRIPTION

The subject site is located on the north side of Highway 46, east of Cranes Mill Road, in Comal County, Texas. The Reserve Tract is approximately 200-acres in size, and is an irregularly shaped parcel of undeveloped land that is hilly and rugged in places although some areas are open relatively flat fields of grass. The hillside slopes are occasionally steep and can dip in all directions. Northeasterly tributaries of Dry Comal Creek drain the property in a general southwesterly direction. The site vegetation consists primarily of native grasses, ashe juniper, live oak, burr oak, cedar elm and persimmon trees, with abundant mountain laurel, agarita, and prickly pear cactus.

REGIONAL GEOLOGY

Physiography

Comal County lies within two physiographic provinces, the Edwards Plateau and the Blackland Prairie. Most of Comal County lies within the Edwards Plateau, which is

characterized by rugged and hilly terrain, with elevations in excess of 1,400' feet above sea level in the northwestern portion of the county. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Comal County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 650 feet to 1100 feet above sea level. The regional dip of the lower Cretaceous rocks in Comal County is approximately 15 feet per mile towards the southeast. The faults are predominantly normal, down-to-the southeast with near vertical throws. Elevations at the Vintage Oaks at the Vineyard - The Reserve Tract site range from approximately 1,210 feet above mean sea level in the eastern portion of the tract to approximately 1,100 feet above mean sea level in the western portion of the tract.

Stratigraphy and Structure

Rocks at the site are members of the Lower Cretaceous Edwards Kainer Formation. The site is covered with a thin veneer of soil, and scattered expanses of dense to vuggy and fractured rock outcrops which are exposed throughout the site. In general, the hillsides contained variable amounts of boulder float and soil with outcrops exhibiting varying degrees of fractures and vug development. According to "The Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County Texas" written by the USGS, the Kainer Formation ranges between 260 and 310 feet thick and forms the lower member of the Edwards Group, beneath the Person Formation which compromises the Edwards Aquifer, a federally-designated sole source aquifer for the region. The underlying Glen Rose Formation is composed of yellowish-tan, thinly bedded marly limestone.

The rocks at the site are mapped as the Dolomitic member of the Kainer Formation, which is a mudstone to grainstone, cherty, massively bedded, crystalline limestone. The rock weathers to a light gray in outcrop, and has abundant *Toucasia* bivalves. The underlying Basal nodular member of the Kainer Formation was also observed on the tract, and consists of shaly, nodular limestone and burrowed mudstone to wackestone, with gastropods, miliolids and *exogyra texana* bivalves. It is considered regionally as a lower confining unit, but locally water bearing through dissolution along bedding planes.

One sensitive feature (S-2) scoring more than 40 points on the F-0585 form was observed on the subject tract and consisted of a sinkhole in an unnamed seasonal creek bed in the western portion of the tract. Runoff was observed entering the feature during the site reconnaissance.

SITE INVESTIGATION

The site investigation was performed by systematically traversing the subject tract, and mapping fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration. The results of the site investigation are included in the attached TCEQ report format.

SUMMARY

One sensitive feature (S-2) scoring more than 40 points on the F-0585 form was observed on the subject tract and consisted of a sinkhole in an unnamed seasonal creek bed in the western portion of the tract. Other, non-sensitive features were also identified which consisted of vuggy and fractured rock outcrops primarily on hillsides and the hilltop. Please note that subtle features, buried or obscured from view, may be present on the tract. It is possible that clearing/construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.

We appreciate this opportunity to be of service to you. If you have any questions, please do not hesitate to contact our office.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

John Langan, P.G.
Environmental Department Manager

WARRANTY

The field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for a general geological recharge assessment of this site. PSI warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted geologic methods, only for the site described in this report. These methods have been developed to provide the client with information regarding apparent indications of existing or potential conditions relating to the subject site and are necessarily limited to the conditions observed at the time of the site visit and research. This report is also limited to the information available at the time it was prepared. In the event additional information is provided to PSI following the report, it will be forwarded to the client in the form received for evaluation by the client. There is a possibility that conditions may exist which could not be identified within the scope of the assessment or which were not apparent during the site visit. PSI believes that the information obtained from others during the review of public information is reliable; however, PSI cannot warrant or guarantee that the information provided by others is complete or accurate.

This report has been prepared for the exclusive use of M&S Engineering, Ltd. for the site discussed herein. Reproductions of this report cannot be made without the expressed approval M&S Engineering, Ltd. The general terms and conditions under which this assessment was prepared apply solely to M&S Engineering, Ltd. No other warranties are implied or expressed.

STRATIGRAPHIC COLUMN

Vintage Oaks at The Vineyard The Hills Tract
Highway 46
Comal County, Texas

FORMATION	THICKNESS	LITHOLOGIC DESCRIPTION
Georgetown Formation	2-20'	Light tan limestone identified by proximity to Del Rio clay and diagnostic marker fossil: *waconella wacoensis* brachiopod; low porosity and permeability development.
Person Formation	180-224'	Limestones and dolomites, extensive porosity development in "honeycomb sections, interbedded with massive recrystallized limestones with more limited permeabilities (especially Regional Dense Member separating the Person and Kainer Formations.
Kainer Formation	260-310'	Hard, miliolid limestones, overlying calcified dolomites and dolomite. Leached evaporitic "Kirschberg" zone of very porous and permeable collapse breccia formed by the dissolution of gypsum. Overlies the basal nodular (Walnut) bed.
Glen Rose Limestone (upper)	350-500	Yellowish-tan thinly bedded limestone and marl. Alternating beds of varying hardness erodes to "stairstep" topography. Marine fossils common.

SOILS NARRATIVE

According to the Soil Survey of Comal County, published by the United States Department of Agriculture, Soil Conservation Service, in cooperation with the Texas Agricultural Extension Service, reissued in 1984, the soils beneath the subject property have been classified as Comfort-Rock outcrop complex, undulating (CrD), Rumple-Comfort association, undulating (RUD), and Eckert – Rock Outcrop, Steep, 1 to 3% slopes (ErG).

Comfort extremely stony clay makes up between 49 and 95% of the Comfort-Rock outcrop series, and indurated rock outcrop and soil less than 4 inches deep make up 5 to 36% of the complex. Typically, the surface layer is dark brown extremely stony soil about 6 inches thick. Cobbles, stones and "float" rock comprise about 45% of the surface. The subsoil extends to about 13 inches, and overlies the fractured limestone parent material. Comfort soil is well-drained, with slow to medium surface runoff, slow permeability, and very low water capacity.

Rumple-Comfort association soils are shallow to moderately deep soils on uplands in the Edwards Plateau. The surface layer is a dark reddish brown cherty clay loam about 10 inches thick, and overlies a subsoil of reddish brown cherty clay with abundant limestone fragments to a depth of 28 inches. The underlying parent material is an indurated limestone. The soil is well drained, with medium surface runoff, moderately slow permeability, and very low available water capacity. The soil is not suited for cropland, or cultivation, but is used as range land and habitat for wildlife.

Eckrant-Rock outcrop complex, steep is similar in profile, but are found on long, narrow slopes on high hills and ridges and along escarpments. The surface layer of Eckrant soil is very dark gray extremely stony clay about 10 inches thick. The lower portion of the surface layer is up to 75% stones and cobbles, and overlies the fractured limestone parent material. The soils are well drained with rapid surface runoff, very low water capacity, and moderately slow permeability.

SITE GEOLOGIC NARRATIVE

Physiography

Comal County lies within two physiographic provinces, the Edwards Plateau and the Blackland Prairie. Most of Comal County lies within the Edwards Plateau, which is characterized by rugged and hilly terrain, with elevations in excess of 1,400' feet above sea level in the northwestern portion of the county. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Comal County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 650 feet to 1100 feet above sea level. The regional dip of the lower Cretaceous rocks in Comal County is approximately 15 feet per mile towards the southeast. The faults are predominantly normal, down-to-the southeast with near vertical throws. Elevations at the Vintage Oaks at the Vineyard - The Reserve Tract site range from approximately 1,210 feet above mean sea level in the eastern portion of the tract to approximately 1,100 feet above mean sea level in the western portion of the tract.

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Rocks at the site are members of the Lower Cretaceous Edwards Kainer Formation. The site is covered with a thin veneer of soil, and scattered expanses of dense to vuggy and fractured rock outcrops which are exposed throughout the site. In general, the hillsides contained variable amounts of boulder float and soil with outcrops exhibiting varying degrees of fractures and vug development. According to "The Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, Comal County Texas" written by the USGS, the Kainer Formation ranges between 260 and 310 feet thick and forms the lower member of the Edwards Group, beneath the Person Formation which compromises the Edwards Aquifer, a federally-designated sole source aquifer for the region. The underlying Glen Rose Formation is composed of yellowish-tan, thinly bedded marly limestone.

The rocks at the site are mapped as the Dolomitic member of the Kainer Formation, which is a mudstone to grainstone, cherty, massively bedded, crystalline limestone. The rock weathers to a light gray in outcrop, and has abundant *Toucasia* bivalves. The underlying Basal nodular member of the Kainer Formation was also observed on the tract, and consists of shaly, nodular limestone and burrowed mudstone to wackestone, with gastropods, miliolids and *exogyra texana* bivalves. It is considered regionally as a lower confining unit, but locally water bearing through dissolution along bedding planes.

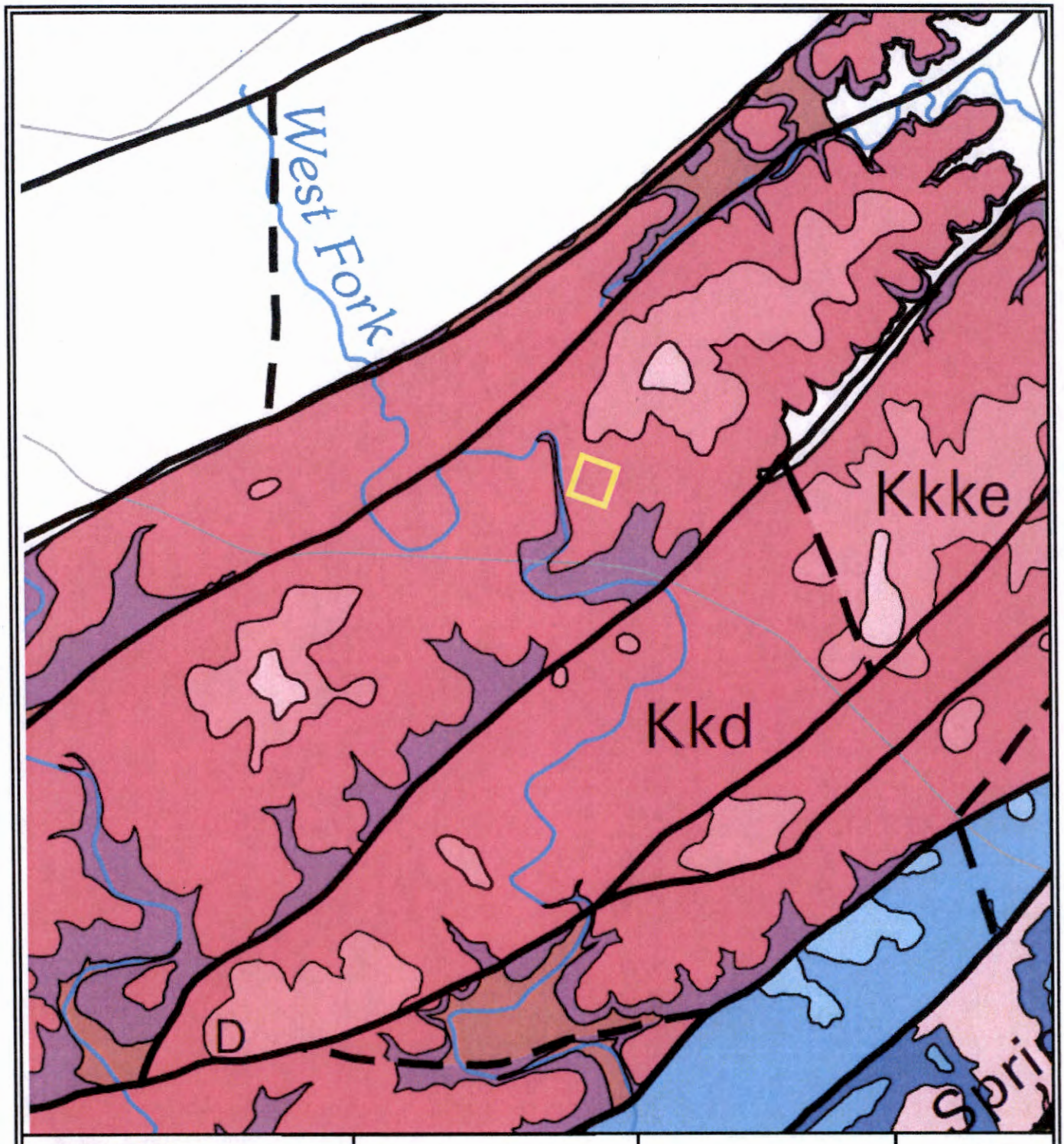
One sensitive feature (S-2) scoring more than 40 points on the F-0585 form was observed on the subject tract and consisted of a sinkhole in an unnamed seasonal creek bed in the western portion of the tract. Runoff was observed entering the feature during the site

reconnaissance.

The site investigation was performed by systematically traversing the subject tract, and mapping fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration. The results of the site investigation are included in the attached TCEQ report format.

SUMMARY

One sensitive feature (S-2) scoring more than 40 points on the F-0585 form was observed on the subject tract and consisted of a sinkhole in an unnamed seasonal creek bed in the western portion of the tract. Other, non-sensitive features were also identified which consisted of vuggy and fractured rock outcrops primarily on hillsides and the hilltop. Please note that subtle features, buried or obscured from view, may be present on the tract. It is possible that clearing/construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.



PSI Information To Build On
Engineering • Consulting • Testing
PSI, Inc.
3 Burwood Lane
San Antonio, Texas 78216

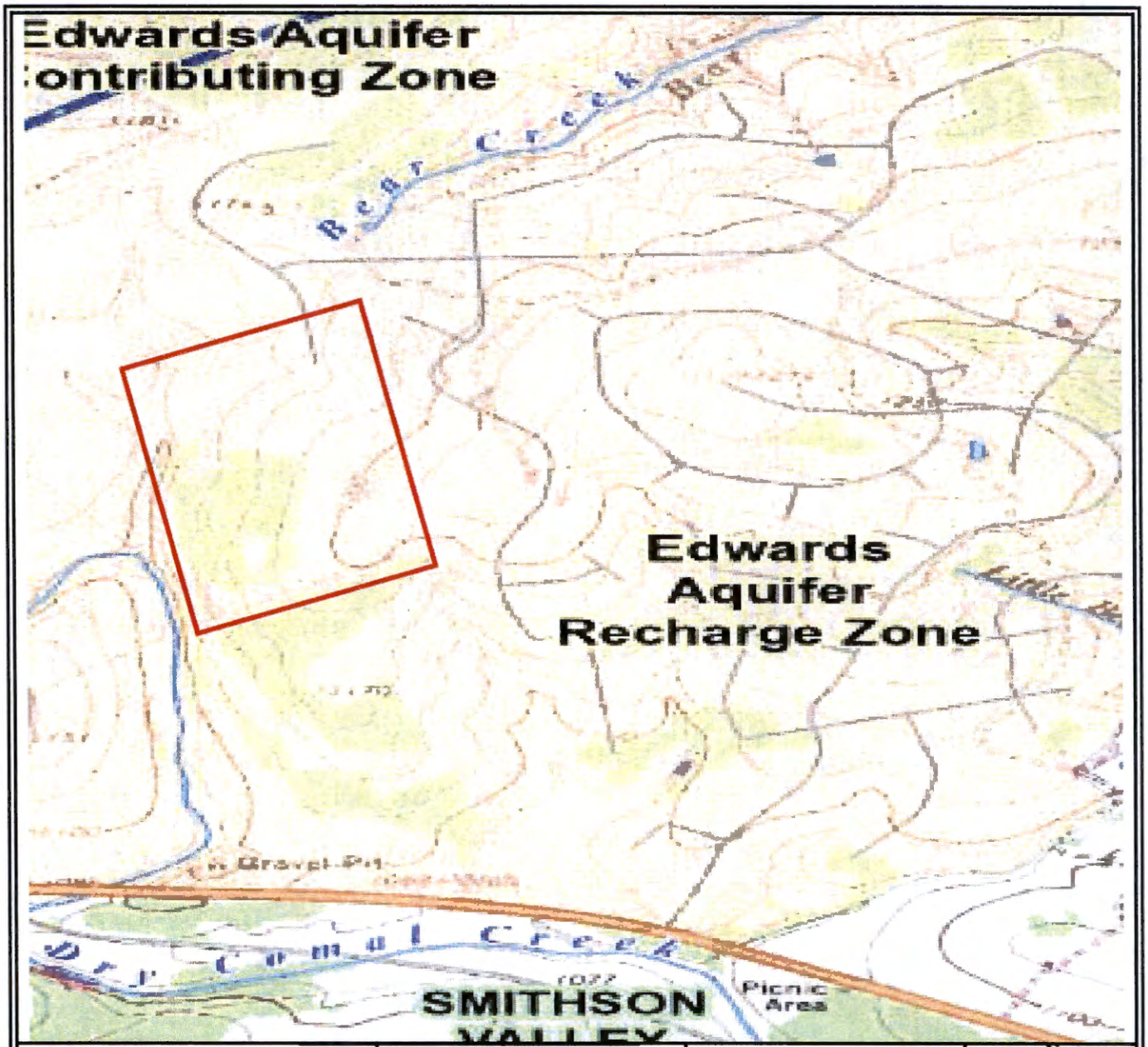
PROJECT NAME:
Vintage Oaks at The Vineyards
The Reserve
Comal County, Texas

PROJECT NO.:435-2261

Geologic Map of Edwards Aquifer Recharge Zone, South-Central Texas

(USGS, 2005)

N



PSI Information To Build On
Engineering • Consulting • Testing
PSI, Inc.
3 Burwood Lane
San Antonio, Texas 78216

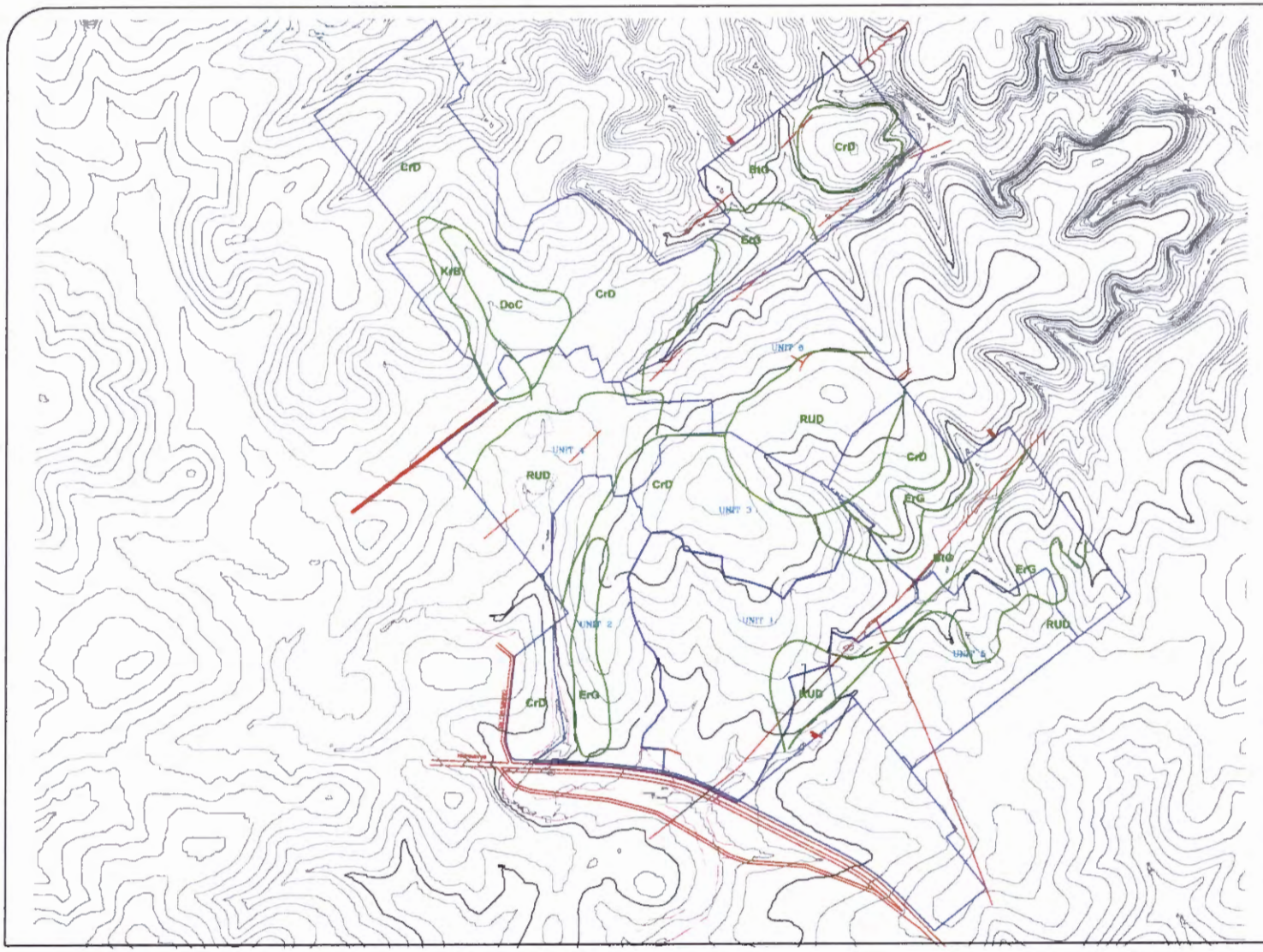
PROJECT NAME:
Vintage Oaks at The Vineyards
The Reserve
Highway 46
Comal County, Texas

PROJECT NO.:435-2261

Topographic Map/Edwards Aquifer Recharge Zone Map

N

SCALE: NONE



LEGEND

- BtG - BRACKETT-ROCK OUTCROP REAL COMPLEX, STEEP
- CrD - COMFORT-ROCK OUT CROP COMPLEX, UNDULATING
- DoC - DOSS SILTY CLAY, 1-5% SLOPES
- ErG - ECKERT-ROCK OUTCROP COMPLEX, STEEP
- KrB - KRUM CLAY 1-3% SLOPES
- RUD - RUMPLE-COMFORT ASSOCIATION, UNDULATING

psi Information To Build On
Engineering Consulting Testing
THREE BURWOOD LANE
SAN ANTONIO, TEXAS 78216

SOILS MAP

VINTAGE OAKS AT THE VINYARD

HIGHWAY 46
COMAL COUNTY, TEXAS

DATE:	09/22/06
DRAWN BY:	J. LEAL
PROJECT #:	435- 6G010
DRAWING NAME:	435- 6G 010-10

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: Vintage Oaks at the Vineyard - The Reserve Tract																	
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	ROCK	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	≥40	<1.6	≥1.6	
S-1	29-47-15	98-16-27	O	5	KeK	1250	200	40			5	0.3	N	30	35	X			X	Streambed
S-2	29-47-2.9	98-16-25	SH	20	KeK	55	30	6					N	30	50		X		X	Streambed
S-3	29-47-15	98-16-13	O	5	KeK	1300	90	20			2	0.1	F	15	20	X		X		Hillside
S-4	29-47-19	98-16-12	O	5	KeK	450	50	20			2	0.2	O	15	20	X		X		Hillside
S-5	29-46-56	98-16-9	O	5	KeK	700	300	3			3	0.1	O	10	15	X		X		Hilltop
S-6	29-46-40	98-16-10	O	5	KeK	3000	500	5			4	0.16	O	20	25	X		X		Hillside
S-7	29-46-53	98-16-11	O	5	KeK	2600	400	5			5	0.1	O	20	25	X		X		Hillside

* DATUM:

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date: 6-12-15

Sheet 1 of 1

STATE OF TEXAS
JL 6/12/15
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST

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

LEGEND	
	S-1 through S-7
Kkd	Lower Cretaceous Kainer Formation Dolomitic Member

SCALE: 1" = 400'

NORTH

GEOLOGICAL ASSESSMENT

DATE: 06.15.15

PROJECT #: 8439-0291

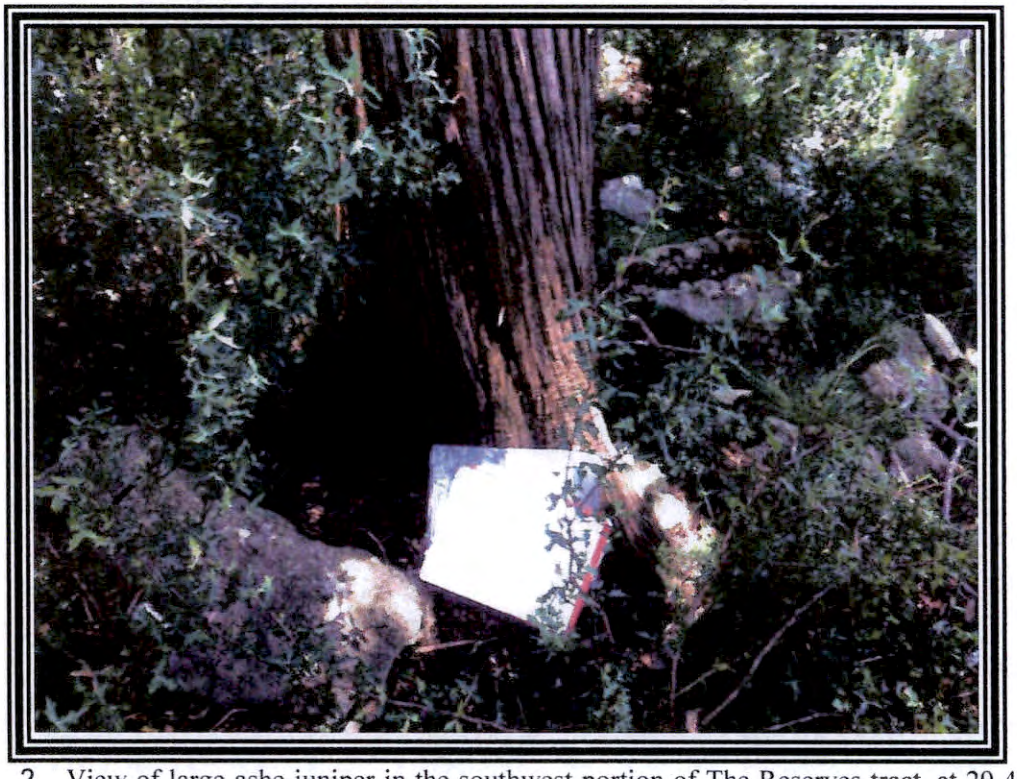
DRWG. NAME: 2015-024

VINTAGE OAKS AT THE VINEYARD
THE RESERVE

SAN ANTONIO, TEXAS

psi Information To Build On
Engineering • Consulting • Testing
3 BURWOOD LANE
SAN ANTONIO, TEXAS 78216

1. View of boulder float rock on the southern portion of the site at 29-46-45.3; 98-16-12.6.



2. View of large ashe-juniper in the southwest portion of The Reserves tract, at 29-46-46.4; 98-16-15.3.

3. View north from the southwest portion of the site, at 29-46-47.6; 98-16-19.4, in the north-central portion of the site.

4. View northeast of the site interior from the same location as photograph number 3.

5. View north-northwest along the west property line at 29-46-53.1; 98-16-18.9, in the southern portion of the site.

6. View north of the site interior from the same location as photograph number 5.

7. View southwest along the corner fenceline from the same location as photographs 5 and 6.

8. View of sinkhole feature S-2, located at 29-47-2.9; 98-16-25.03, near the western property line. The feature is inundated from recent heavy precipitation in the area.

9. View of Kek outcrops in the northwest portion of the tract.

10. View of Kek outcrop feature S-5 in the northern portion of the site.

In This Section

TCEQ-0584
Water Pollution Abatement Plan Application

Attachment A
Factors Affecting Water Quality

Attachment B
Volume and Character of Stormwater

Attachment C
Suitability Letter from Authorized Agent

Attachment D
Exception to the Required Geologic Assessment

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

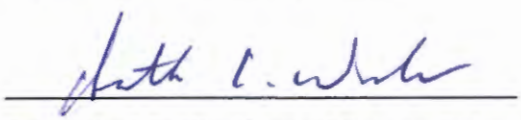
Signature

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:

Print Name of Customer/Agent: Heath L. Woods, P.E.

Date: 7/2/15

Signature of Customer/Agent:



Regulated Entity Name: Vintage Oaks at the Vineyard, The Reserve

Regulated Entity Information

1. The type of project is:

   ☒ Residential: Number of Lots: 115
   ☐ Residential: Number of Living Unit Equivalents: _____
   ☐ Commercial
   ☐ Industrial
   ☐ Other: _____

2. Total site acreage (size of property): 156.14

3. Estimated projected population: 173

4. The amount and type of impervious cover expected after construction are shown below:

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	914760	÷ 43,560 =	21.0
Parking	174240	÷ 43,560 =	4.0
Other paved surfaces	217800	÷ 43,560 =	5.0
Total Impervious Cover	1306800	÷ 43,560 =	30.0

Total Impervious Cover 30.0 **÷ Total Acreage** 156.14 **X 100 =** 19.21**% Impervious Cover**

5. ☒ **Attachment A - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.

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

For Road Projects Only

Complete questions 7 - 12 if this application is exclusively for a road project.

7. Type of project:

☐ TXDOT road project.
☐ County road or roads built to county specifications.
☐ City thoroughfare or roads to be dedicated to a municipality.
☐ Street or road providing access to private driveways.

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

☐ Concrete
☐ Asphaltic concrete pavement
☐ Other: _____

9. Length of Right of Way (R.O.W.): _____ feet.

Width of R.O.W.: _____ feet.
L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.

10. Length of pavement area: _____ feet.

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

11. ☐ A rest stop will be included in this project.

☐ A rest stop will not be included in this project.

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

Stormwater to be generated by the Proposed Project

13. ☒ **Attachment B - Volume and Character of Stormwater**. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on the 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:

_____% Domestic	0Gallons/day
_____% Industrial	0Gallons/day
_____% Commingled	0Gallons/day
TOTAL gallons/day 0	

15. Wastewater will be disposed of by:

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

☒ **Attachment C - Suitability Letter from Authorized Agent**. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.

☒ 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.

☐ 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. ☒ All private service laterals will be inspected as required in 30 TAC §213.5.

Site Plan Requirements

Items 17 – 28 must be included on the Site Plan.

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

Site Plan Scale: 1" = 400'.

18. 100-year floodplain boundaries:

☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☐ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): _____

19. ☐ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, open space, etc. are shown on the plan.

☒ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, open space, etc. are shown on the site plan.

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

☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

☐ The wells are not in use and have been properly abandoned.
☐ The wells are not in use and will be properly abandoned.
☐ The wells are in use and comply with 16 TAC §76.

☒ 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.
☐ No sensitive geologic or manmade features were identified in the Geologic Assessment.
☐ **Attachment D - Exception to the Required Geologic Assessment**. A request and justification for an exception to a portion of the Geologic Assessment is attached.

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

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

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

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

26. ☒ Surface waters (including wetlands).

☐ N/A

27. ☒ Locations where stormwater discharges to surface water or sensitive features are to occur.

☐ There will be no discharges to surface water or sensitive features.

28. ☒ Legal boundaries of the site are shown.

Administrative Information

29. ☒ 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.

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

Factors Affecting Water Quality

Factors Affecting Water Quality

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

- Soil erosion due to clearing of site.
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings.
- Hydrocarbons from asphalt paving.
- Trash and litter from construction workers and material wrappings.
- Concrete truck washout.
- Tar, fertilizers, cleaning solvents, detergents, and petroleum based products.

Potential sources of pollution that may 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 from vehicles.
- Trash and litter.

Volume and Character of Stormwater

Volume and Character of Stormwater

The overall contributing drainage area for The Reserve of this project is comprised of 6 sub-basins which total to approximately 4,154 acres. The stormwater runoff for the pre-project conditions of The Reserve would be across rocky soil, with native grasses. The site has an average slope ranging from 2% to 12%. Using SCS methods peak discharges for each sub-basin were calculated. A summary of the pre- and post-project conditions follows.

10-Year Pre- and Post-Project Stormwater Data

Sub-Basin	Pre-Project Curve Number	Post-Project Curve Number	Pre-Project Discharge	Post-Project Discharge
			(cfs)	(cfs)
1-1A	73	73	2,831	2,831
1-1B	73	79	582	687
1-3	71	73	382	407
1-4A	75	79	451	503
1-4B	71	83	300	412
1-4C	71	83	504	697

100-Year Pre- and Post-Project Stormwater Data

Sub-Basin	Pre-Project Curve Number	Post-Project Curve Number	Pre-Project Discharge	Post-Project Discharge
			(cfs)	(cfs)
1-1A	73	73	5,627	5,627
1-1B	73	79	1,141	1,260
1-3	71	73	776	807
1-4A	75	79	862	917
1-4B	71	83	600	723
1-4C	71	83	1,016	1,225

The characteristics of the post-project stormwater generated onsite will be influenced by site features that generate non-point pollution. This non-point pollution will include oil and grease from the paved areas, suspended solids, sedimentation, and nutrients for lawn care, and possible pesticides and herbicides. The stormwater runoff will flow across pervious areas of rocky soil, with native grasses before discharging into the Dry Comal Creek.

Suitability Letter from Authorized Agent

Attachment C

Suitability Letter From Authorized Agent

Comal County

OFFICE OF COMAL COUNTY ENGINEER

June 30, 2015

Mr. Brian Mendez
M&S Engineering, LLC
P.O. Box 970
Spring Branch, TX 78070

Re: Vintage Oaks at the Vineyard – The Reserve On-Site Sewage Facility Suitability Letter, within Comal County, Texas

Dear Mr. Mendez:

In accordance with TAC §213.5(b)(4)(F)(ii), Comal County has found that the entire referenced site (except for areas listed below) 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 June 29, 2015:

- The Geologic Assessment, prepared by Professional Service Industries, Inc.
- The Water Pollution Abatement Plan, prepared by M&S Engineering, LLC

Areas that are not Suitable

The Geologic Assessment identified 1 recharge feature as sensitive. Below is a list of said sensitive feature:

Feature ID	Latitude	Longitude
S-2	29° 47'2.9"	98° 14'25"

In accordance with TAC §285.91, Table X, Minimum Required Separation Distances for soil absorption systems, unlined ET beds, surface application (edge of spray area), and drip irrigation disposal systems are not suitable within 150' of these sensitive features. Furthermore, tanks, lined ET beds and sewer pipe with watertight joints are not allowed within 50' of these sensitive features.

Finally, according to TAC §285.42(a), if any recharge feature, not listed above, 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: Donna Eccleston, Comal County Commissioner Precinct No. 1

Attachment D

Exception to the Required Geologic Assessment

Not Applicable

Temporary Stormwater

In This Section

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

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:

Print Name of Customer/Agent: Heath L. Woods, P.E.

Date: 7/2/15

Signature of Customer/Agent:

Heath L. Woods

Regulated Entity Name: Vintage Oaks at the Vineyard, The Reserve

Project Information

Potential Sources of Contamination

Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles trocking onto public roads, and existing solid waste.

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

   ☐ The following fuels and/or hazardous substances will be stored on the site: _____

   These fuels and/or hazardous substances will be stored in:

   ☐ Aboveground storage tanks with a cumulative storage capacity of less than 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.

☒ Fuels and hazardous substances will not be stored on the site.

2. ☒ **Attachment A - Spill Response Actions**. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

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

4. ☒ **Attachment B - Potential Sources of Contamination**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

5. ☒ **Attachment C - Sequence of Major Activities**. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

   ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☐ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

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

Temporary Best Management Practices (TBMPs)

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

7. ☒ **Attachment D – Temporary Best Management Practices and Measures**. 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 is attached:

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

☒ 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.

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

☒ 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 attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

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

9. ☒ **Attachment F - Structural Practices**. A description of 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 is attached. Placement of structural practices in floodplains has been avoided.

10. ☒ **Attachment G - Drainage Area Map**. A drainage area map supporting the following requirements is attached:

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

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

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

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

☒ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations**. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have 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 attached.

☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

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

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

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

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. ☒ **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.

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

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

Administrative Information

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

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

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

Spill Response Actions

Spill Response Action

Spill Prevention and Control

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

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

Education

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

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

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

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

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

General Measures

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

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

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

(4) Train employees in spill prevention and cleanup.

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

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

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

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

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

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

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

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

Cleanup

(1) Clean up leaks and spills immediately.

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

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

Minor Spills

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

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

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

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

(5) Contain the spread of the spill.

(6) Recover spilled material.

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

Semi-Significant Spills

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

Spills should be cleaned up immediately:

(1) Contain spread of the spill

(2) Notify the project foreman immediately.

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

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

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

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

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

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

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

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

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

Vehicle and Equipment Fueling

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

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

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

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

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

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

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

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

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

Vehicle and Equipment Fueling

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

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

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

Potential Sources of Contamination

Potential Sources of Contamination

1. Oil, grease, fuel and hydraulic contamination from construction equipment and vehicle leakage.
   Remedy: Lubrication and fueling will be preformed in a designated area. This area will be monitored daily for contamination.

2. Miscellaneous trash and litter form construction workers.
   Remedy: Designated receptacles will be strategically located and workers will be directed to deposit trash there.

3. Construction debris.
   Remedy: Debris will be collected weekly and deposited in bins for offsite disposal. Situations requiring immediate attention will be handled on a case by case basis.

4. Asphalt products.
   Remedy: 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 maintain and asphalt wash-off should and unexpected rain occurs. The contractor will be instructed not to place aspbalt products on the ground within 48 hours of a forecasted rain.

Sequence of Major Activities

Sequence of Major Activities

1. Install erosion and sedimentation controls (i.e. Silt Fences and Stabilized Construction Entrances) as indicated on the approved construction plans
2. Construct roadways
   Roadway and Utilities: 13.5 acres disturbed
3. Install landscaping or hydromulch to disturbed areas
4. Re-vegetate disturbed areas
5. Remove temporary erosion and sedimentation controls
6. Residential home construction, including building pads, driveways, and landscaping
   Residential lots: 21.0 acres disturbed

Construction entrances for site will be accessed from Unit 5.

Temporary Best Management Practices and Measures

Temporary Best Management Practices and Measures

All TBMPs will be installed prior to the beginning of site preparation and construction activities as per the Storm Water Pollution Prevention Plan. The TBMPs will remain in place and will be maintained until all construction has ceased and a perennial vegetative cover with a density of 70 percent has been established.

a. Stabilized Construction Entrance, Silt fences and rock berms will be used to protect disturbed soils during construction in order to prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

b. Stabilized Construction Entrance, Silt fences and rock berms will be used to protect disturbed soils during construction in order to 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 50-fiit radius natural buffer zone adjacent to and upgradient of any sensitive features will remain undisturbed so that rainfall may continue to enter the feature. The natural vegetated areas will ensure that pre-development stormwater quantity and quality will continue to recharge the aquifer via the feature. Rock berms will be placed downgradient of all construction activities so that potentially contaminated stormwater may be treated before leaving the sited and entering downstream surface water.

d. No construction will occur within a 200- foot radius of naturally-occurring sensitive features that rated 40 or more on the F-0585 form in the Geologic Assessment. The vegetative buffer zone will serve as both TMBP and BMP for the sensitive features. In the case that construction activities occur upgradient of a sensitive feature (Greater than the 200-foot radius) the disturbed soils will be protected from erosion by silt fences as outlined above.

Request to Temporarily Seal a Feature

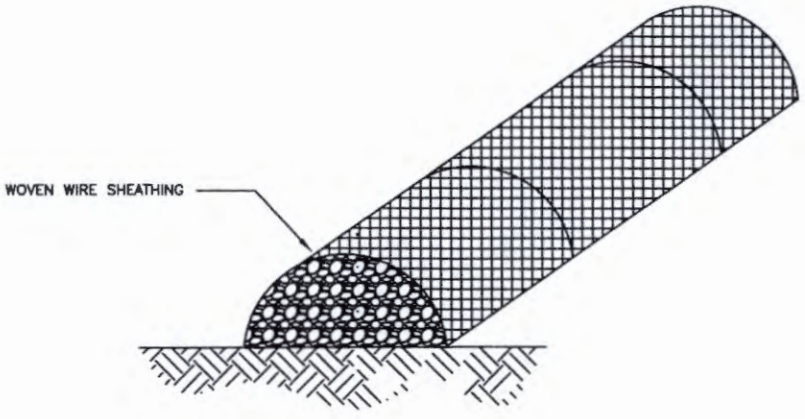
Request to Temporarily Seal a Feature

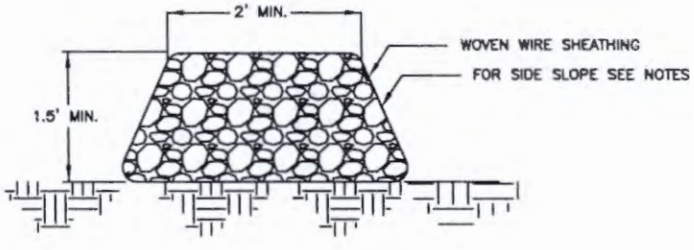
NOT APPLICABLE

Attachment E

Structural Practices

The structural practices that will limit runoff discharge of pollutants form exposed areas of the site will be the use of a stabilized construction entrance, rock berms and silt fences to prevent the excavated material from leaving the site.





NOTES:

1. USE ONLY CLEAN, OPEN GRADED ROCK 4–8 INCH DIAMETER FOR STREAM FLOW CONDITIONS; USE OPEN GRADED ROCK 3–5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE, AND/OR FABRIC CORE–WOVEN WIRE SHEATHING, SHALL BE REPLACED WHEN THE STRUCTURE CEASED TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE–THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS, SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

ROCK BERM

EXHIBIT 1

SCALE – NTS	
DATE – MAY 2013	
DRAWN – BGM	
SHEET – 1 OF 1	

MAIN OFFICE
P.O. BOX 970
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FAX # (830) 885–2170

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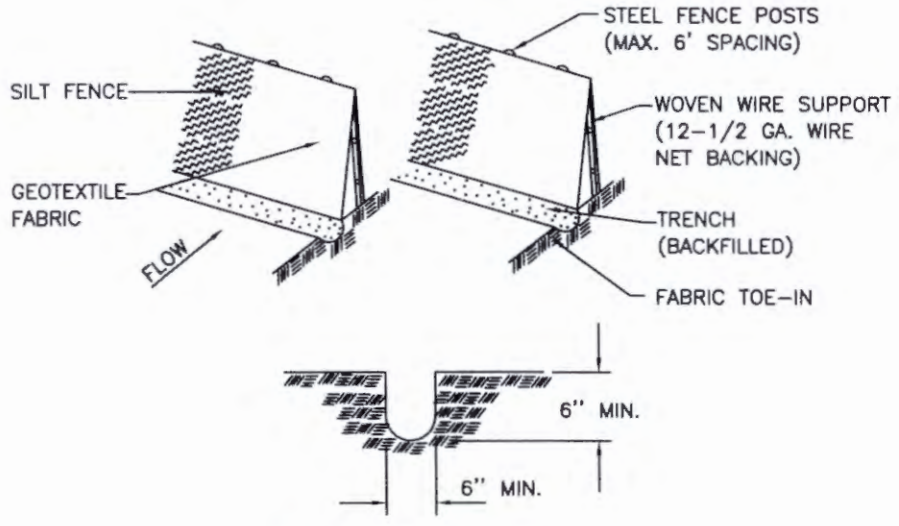
NEW BRAUNFELS, TEXAS 78130



TRENCH CROSS-SECTION

NOTES:

1. STEELPOSTS 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 (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 POST 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.

SILT FENCE

SILT FENCE NOTE:
SILT FENCE WILL BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FT OF FENCE. (AS REQUIRED BY TCEQ RG-348, INSTALLATION: ITEM 2)

EXHIBIT 2

SCALE - NTS	
DATE - MAY 2013	
DRAWN - BGM	
SHEET - 1 OF 1	

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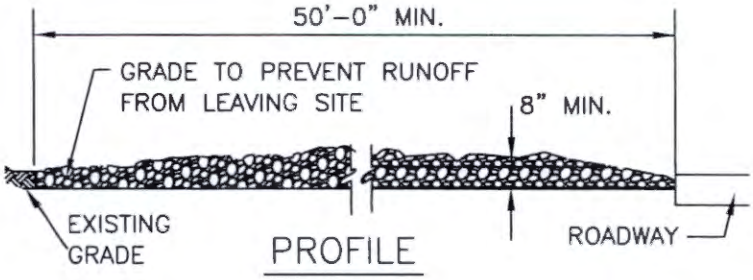
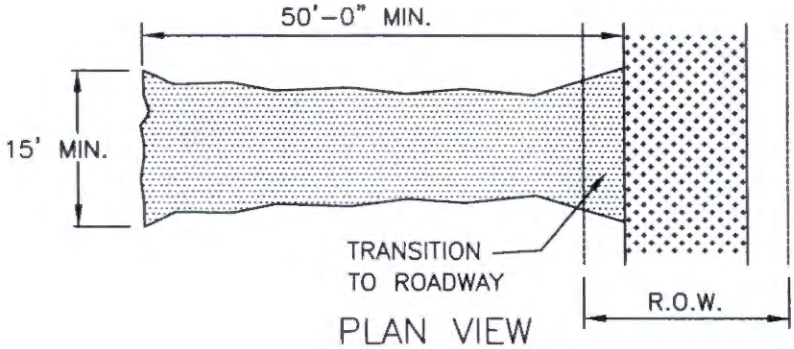


PROFILE



PLAN VIEW

NOTES:

1. STONE SIZE- 3 TO 5 INCH OPEN GRADED ROCK.

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

3. THICKNESS- NOT LESS THAN 8 INCHES.

4. WIDTH- NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.

5. WASHING-WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED STRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.

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

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

STABILIZED CONSTRUCTION ENTRANCE

EXHIBIT 3

SCALE - NTS	
DATE - MAY 2013	
DRAWN - BGM	
SHEET - 1 OF 1	

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Drainage Area Map

0 300 600 1200

SCALE (FEET)

LEGEND:

- LOT LINE
- SUB BASIN
- ANALYSIS POINT
- ANALYSIS POINT NAME (A)
- PROJECT BOUNDARY
- ROAD R.O.W

RECEIVED
JUL 20 2015
COUNTY ENGINEER

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CIVIL | ELECTRICAL | STRUCTURAL | MEP | SURVEYING
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STATE OF TEXAS
HEATH L. WOODS
100297
LICENSED
PROFESSIONAL ENGINEER
7/2/15

VINTAGE OAKS AT THE VINEYARD, THE RESERVE

DRAINAGE AREA

JOB: 15BSW002
DATE: MAY 2015
DRAWN: PM:
DESIGN: DM:
PEER: OTHER:

REVISIONS:

DELTA	DESCRIPTION

SHEET:
01 OF 01

Date: Jul 01, 2015, 11:09am User ID: jmore
File: S:\Active Projects\15BSW002-VOV-The Reserve\dwg\15BSW002-HH-WPAP-001.dwg

Temporary sediment basins are not attainable in this development due to the numerous sub-basins that drain the property. It would be more efficient to use a regional sediment pond, but due to the large amount of drainage area it is not feasible to build a temporary structure of the necessary magnitude to treat large point discharges. Instead, silt fences will be used to limit pollutant discharges before becoming concentrated channel flow.
A rock berm will be used to further limit runoff discharge of pollutants from the site.

Temporary Sediment Pond(s) Plans and Calcualtions

Temporary Sediment Pond(s) Plans and Calculations

NOT APPLICABLE

Inspection and Maintenance of BMPs

Inspection and Maintenance for BMPs

The BMPs for the construction of this project will be the use of rock berms and silt fencing. The following inspection and maintenance procedures will be implemented:

1. Stabilized Construction Entrance/Exit, Silt fencing and rock berms must be in place prior to the start of construction and will remain in place until construction has been complete and the site stabilized from further erosion.

2. The contractor will inspect the rock berms and silt fencing at least once a week and within 24 hours of a storm of 0.5 inches or more in depth. The contractor will repair or replace any damaged TBMPs. The contractor shall correct damage or deficiencies as soon as practical after the inspection but no later than 7 days after the inspection.
   a. For Rock Berms:
      1. Contractor shall remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approval manner that will not cause any additional siltation.
      2. The berm should be replaced when the structures ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
   b. For Temporary Construction Entrance/Exit:
      1. All sediment spilled, dropped, washed or tracked onto public right-of-way should be removed immediately by contractor.
      2. When necessary, wheels should be cleaned to remove sediment prior to entrance onto right-of-way.
      3. When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
   c. For Silt Fence:
      1. Remove sediment when buildup reaches 6 inches.
      2. When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location if the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

3. Contractor will place trench excavation on the upgradient side of the trench.

4. All soil, sand, gravel, and excavated material stockpiled on-site will have appropriately sized silt fencing placed upgradient and down gradient.

5. The contractor will keep a record of the weekly inspections, noting the condition of the rock berms, silt fencing and construction entrance and any corrective action taken to maintain the erosion control structures. In addition to the inspection and maintenance reports, the operator should keep records of the construction activity on-site, in particular, the following information should be kept.

   a. The dates when major grading activities occur in a particular area.

   b. The dates when construction activities cease in an area, temporarily or permanently.

c. The dates when an area is stabilized, temporarily or permanently.

d. Records to be maintained in SWPPP.

Schedule of Interim and Permanent Soil Stabilization Practices

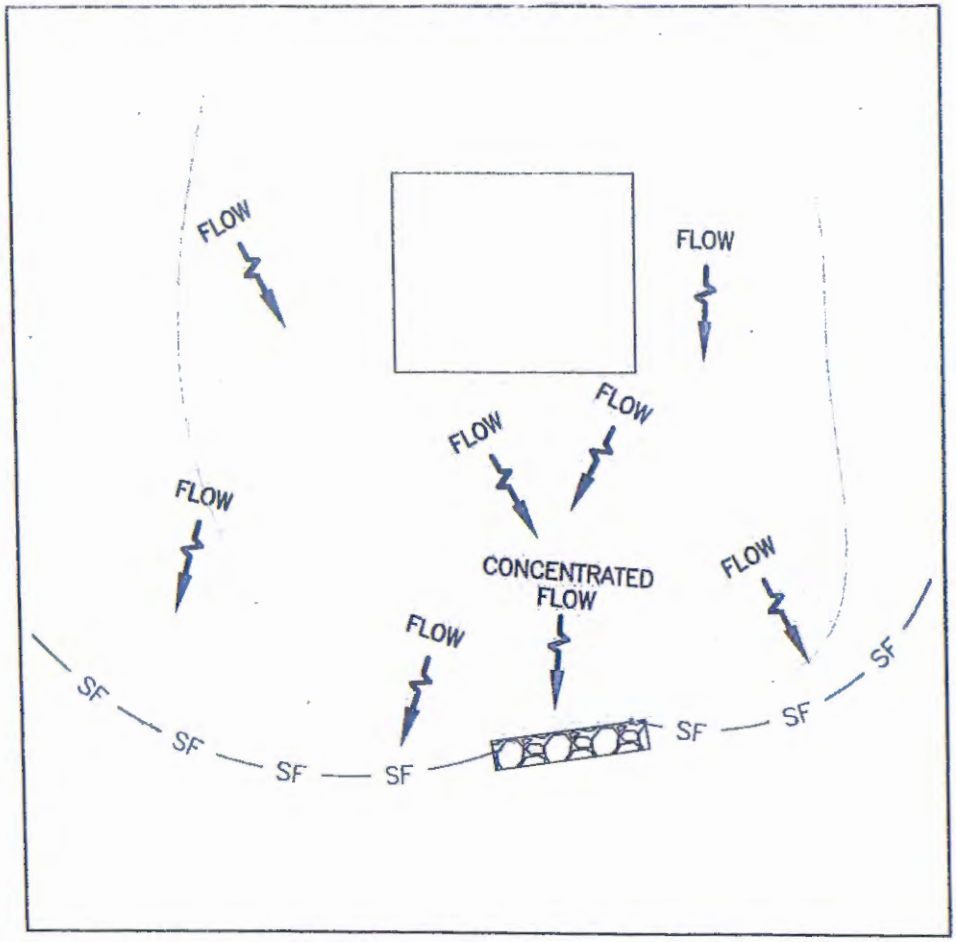
Schedule of Interim and Permanent Soil Stabilization Practices

The schedule of interim and permanent soil stabilization will be as follows:

1. Once construction of the project has commenced, the construction activity is planned to continue until the project is complete. The water, electrical, cable TV and telephone trenches will be excavated. The trenches will then be re-excavated and the water, electrical, cable TV and telephone lines will be installed. This work is intended to continue until all the lines are installed. The utility lines are located within the project boundaries as shown on the site plan. As soon as the underground utilities are installed, the road base will be installed and compacted providing the interim soil stabilization for the paved area and the permanent soil stabilization for the parking areas. Once the individual residential buildings are built and landscaped this will provide permanent soil stabilization for the building areas.

2. Much of the excavation for this project will be in solid rock, helping to minimize the amount of loose soil which has the potential to become suspended in runoff and washed downstream.

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



LEGEND

- PROPERTY LINE
- SF — SILT FENCE
- ROCK BERM
- BUILDING
- DISTURBED AREA
- FLOW DIRECTION

NOTES:

1. EACH PROPERTY OWNER IS RESPONSIBLE FOR ENSURING A STORM WATER POLLUTION PREVENTION PLAN IS DEVELOPED AND IMPLEMENTED IN ACCORDANCE WITH THE TPDES GENERAL PERMIT TXR150000. THIS PLAN MUST INCLUDE THE DESIGN AND PLACEMENT OF APPROPRIATE TEMPORARY CONTROLS SUCH AS SILT FENCE AND ROCK BERMS.
2. IF THE AVERAGE IMPERVIOUS COVER PER LOT EXCEEDS THE ASSUMPTIONS DESCRIBED IN THE APPROVED EDWARDS AQUIFER PLAN, A MODIFICATION TO THE PLAN MUST BE APPROVED PRIOR TO CONSTRUCTION.
3. THIS DETAIL PROVIDES GENERAL GUIDANCE FOR THE PLACEMENT OF CONTROLS. THESE CONTROLS SHOULD BE TAILORED TO FIT THE SPECIFIC ONSITE CONDITIONS AND THE PROPOSED CONSTRUCTION.
4. SILT FENCE SHOULD BE INSTALLED DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE ENDS OF THE FENCE SHOULD BE CURVED UPHILL TO CREATE AN IMPOUNDMENT AREA. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.
5. ROCK BERMS SHOULD BE INSTALLED IN AREAS OF CONCENTRATED FLOW WITH DRAINAGE AREA NOT TO EXCEED 5 ACRES.

SOIL STABILIZATION NOTES:

6. TEMPORARY EROSION CONTROL MEASURES WILL BE USED TO STABILIZE DISTURBED AREAS. TRAFFIC WILL BE ROUTED AROUND THESE AREAS TO REDUCE THE EXTENT OF DISTURBED AREAS BY REDUCING SEDIMENT LOADS TO SURFACE WATER.
7. BARE SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.
8. MULCHING/MATS CAN BE USED TO PROTECT THE DISTURBED AREAS WHILE VEGETATION BECOMES ESTABLISHED.

SCALE -	NTS
DATE -	DEC 2009
DRAWN -	SRJ
SHEET -	1 of 1

TYPICAL LOT PLAN FOR TEMPORARY BMPS

M & S ENGINEERING, L.L.C.
ENGINEERS AND PLANNERS

MAIN OFFICE
P.O. BOX 970
SPRING BRANCH, TEXAS 78070
PHONE * (830) 228-5446
FAX * (830) 885-2170

BRANCH OFFICE
P.O. BOX 391
McQUEENEY, TEXAS 78123

In This Section

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

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:

Print Name of Customer/Agent: Heath L. Woods, P.E.

Date: 7/2/15

Signature of Customer/Agent

Regulated Entity Name: Vintage Oaks at the Vineyard, The Reserve

Permanent Best Management Practices (BMPs)

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

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

   ☒ N/A

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

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

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

☒ N/A

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

   ☒ N/A

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

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

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

   ☐ The site will not be used for low density single-family residential development.

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

   ☐ **Attachment A - 20% or Less Impervious Cover Waiver**. The 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 attached.

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

   ☒ The 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 attached.

☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.

☒ 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, and an explanation is attached.

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 attached.

☒ 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, and an explanation is attached.

8. ☒ **Attachment D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

☐ N/A

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

☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.

☐ **Attachment E - Request to Seal Features.** A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. ☐ **Attachment F - Construction Plans.** All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

☐ Design calculations (TSS removal calculations)
☐ TCEQ construction notes
☐ All geologic features
☐ All proposed structural BMP(s) plans and specifications

☒ N/A

11. ☐ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan**. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

    ☐ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☐ Signed by the owner or responsible party
    ☐ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    ☐ A discussion of record keeping procedures

    ☒ N/A

12. ☐ **Attachment H - Pilot-Scale Field Testing Plan**. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

    ☒ N/A

13. ☒ **Attachment I -Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. 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.

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

Responsibility for maintenance of best management practices and measures after construction is complete.

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

    ☒ N/A

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

    ☒ N/A

20% or Less Impervious Cover Waiver

Attachment A

20% Or Less Impervious Cover Waiver

NOT APPLICABLE

BMPs for Ungradient Stormwater

BMPs for Upgradient Stormwater

The upgradient stormwater would continue to be accepted onto the project site. The stormwater runoff from the areas that are immediately upgradient acres are currently undeveloped. No BMPs are required because the site will be re-vegetated after construction is complete.

BMPs for On-site Stormwater

Attachment C

BMPs for On-Site Stormwater

The proposed Vintage Oaks at the Vineyard, The Reserve is less than 20% impervious cover, therefore no permanent BMP is required for the runoff entering the Dry Comal Creek.

BMPs for Surface Streams

BMPs for Surface Streams

The proposed Vintage Oaks at the Vineyard, The Reserve is less than 20% impervious cover, therefore not filtration is required for the runoff the Dry Comal Creek.

According to the geologic assessment, there is one sensitive feature (S-2) that rated 40 or more on the F-0585 form in the Geological Assessment. No construction will occur within a 200 foot radius of this feature. The vegetative buffer zone will serve as the BMP for the sensitive feature.

Request to Seal Features

Request To Seal Features

NOT APPLICABLE

Construction Plans

Attachment F

Construction Plans

NOT APPLICABLE

Inspection, Maintenance, Repair and Retrofit Plan

Attachment G

Inspection, Maintenance, Repair, And Retrofit Plan

NOT APPLICABLE

Pilot-Scale Field Testing Plan

Attachment H

Pilot-Scale Field Testing Plan

NOT APPLICABLE

Measures for Minimizing Surface Stream Contamination

Attachment I

Measures for Minimizing Surface Stream Contamination

The proposed Vintage Oaks at the Vineyard, The Reserve is less than 20% impervious cover, therefore no filtration is required for the runoff the Dry Comal Creek.

According to the geologic assessment, there is one special feature that rates 40 or above on the F-0585 form. It is a sinkhole in an unnamed seasonal creek bed near the western portion of the tract. In relation, all TBMPs will be installed prior to the beginning of site preparation and construction activities as per the Storm Water Pollution Prevention Plan. The TBMPs will remain in place and will be maintained until all construction has ceased and a perennial vegetative cover with a density of 70 percent has been established.

Agent Authorization

In This Section

TCEQ-0599
Agent Authorization Form

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

I Thad Rutherford,
Print Name

Chief Operating Officer,
Title - Owner/President/Other

of Southstar at Vintage Oaks, LLC,
Corporation/Partnership/Entity Name

have authorized Heath L. Woods
Print Name of Agent/Engineer

of M & S Engineering
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

6-29-15
Date

THE STATE OF Texas §

County of Comal §

KRISTINA ELAINE DENHAM
Notary Public, State of Texas
My Commission Expires
January 21, 2017

BEFORE ME, the undersigned authority, on this day personally appeared Thad Rutherford 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 29 day of June, 2015.

Kristina Elaine Denham
NOTARY PUBLIC

Kristina Elaine Denham
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 1/21/17

Fee Form

In This Section

TCEQ-0574
Application Fee Form

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Vintage Oaks at the Vineyard, the Reserve

Regulated Entity Location: This site is located in the Vintage Oaks at the Vineyard Subdivision off Hwy 46 in New Braunfels. It is below unit 6 and on top of unit 5. It is approximately 0.49 miles off hwy 46 into the subdivision.

Name of Customer: Thad Rutherford

Contact Person: Heath L. Woods, P.E. Phone: (830)629-2988

Customer Reference Number (if issued):CN 604123554

Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde

☒ Comal ☐ Kinney

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:

☐ Austin Regional Office

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

☒ San Antonio Regional Office

☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

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	156.14 Acres	$ 8,000.00
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
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: 9/2/15

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 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

Pollutant Calculations

In This Section

TSS Removal and BMP Sizing Calculations

NOT APPLICABLE

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

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

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

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

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

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

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

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

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

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

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

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

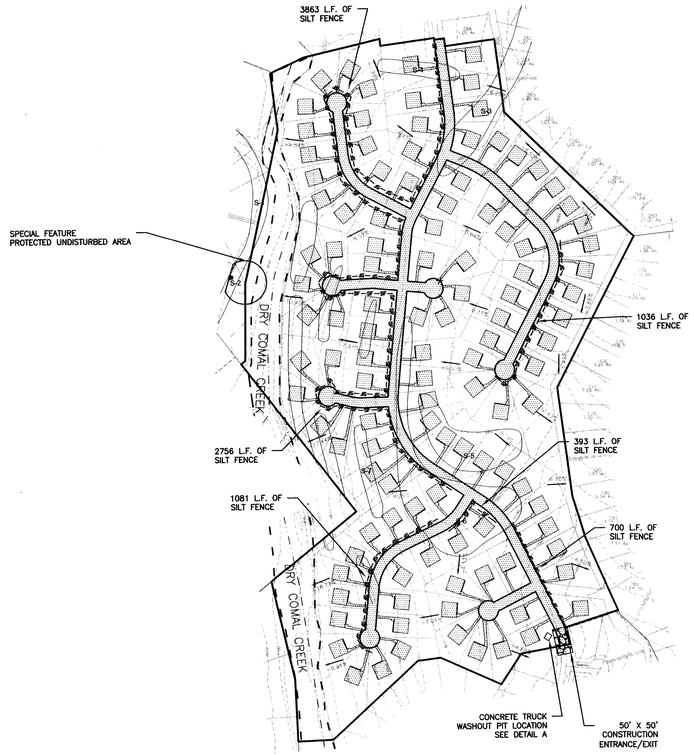
12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

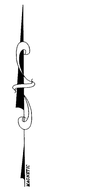
A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

AUSTIN REGIONAL OFFICE
2800 S. IH 35, SUITE 100
AUSTIN, TEXAS 78704-5712
PHONE (512) 339-2929
FAX (512) 339-3795

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

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





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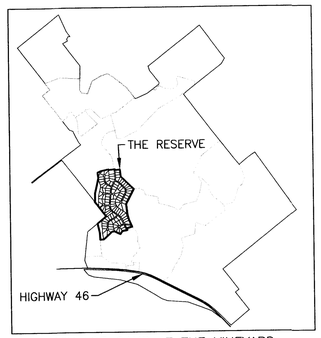
1" = 400'



VINTAGE OAKS AT THE VINEYARD
OVERVIEW MAP
1" = 4000'

LEGEND:

— — —	FEMA FLOOD PLAIN
	EXIST. LOT LINE
	EXIST. PROPERTY BOUNDARY
500	EXIST. CONTOUR
	PROP RIGHT-OF-WAY
	PROP WATER FLOW DIRECTION
4.8%	PROP SLOPE
-SF-SF-SF-SF-SF-SF-	PROP SILT FENCE
	PROP CENTER OF ROAD
	PROP ROCK BERM
	CONSTRUCTION ENTRANCE/EXIT
	PROP DISTURBED AREA

TEMPORARY BMP NOTE:
SEE ATTACHED SHEETS FOR TEMPORARY BMP DETAILS. ADDITIONAL BMP DETAILS PROVIDED BUT NOT CALLED OUT ON PLANS MAY BE USED AT CONTRACTOR'S DISCRETION.

SOIL DISTURBANCE NOTE

SOIL DISTURBANCES WILL OCCUR TO CLEARING, GRUBBING, AND GRADING OF AREAS TO BE USED FOR THE RESIDENTIAL LOTS, ROADS, ROAD RIGHT-OF-WAY, AND DETENTION POND. THESE DISTURBANCES CAN BE ATTRIBUTED TO, BUT NOT LIMITED TO, CLEARING AND GRUBBING RELATED TO BUILDING PAD, DRIVEWAY, UTILITY INSTALLATION, AND LANDSCAPE PREPARATION. THE REMAINING PORTIONS OF THE SITE NOT INVOLVED IN ANY OF THESE ACTIVITIES WILL REMAIN UNDISTURBED.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE INSTALLED TO PROVIDE A STABLE ENTRANCE/EXIT CONDITION FROM THE CONSTRUCTION SITE TO KEEP MUD AND SEDIMENT OFF PUBLIC ROADWAYS. (REFER TO THE EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL FOR CONSTRUCTION INFORMATION).

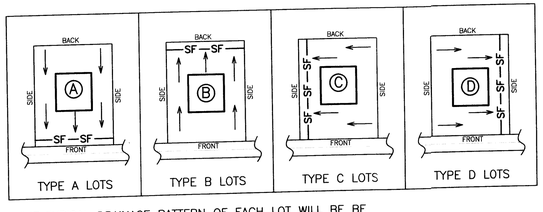
SOIL STABILIZATION NOTE

TEMPORARY EROSION CONTROL MEASURES WILL BE USED TO STABILIZE DISTURBED AREAS (REFER TO EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL FOR CONSTRUCTION OF EROSION CONTROL MEASURES). TRAFFIC WILL BE ROUTED AROUND THESE AREAS TO REDUCE THE EXTENT OF DISTURBED AREAS BY REDUCING SEDIMENT LOADS TO SURFACE WATER.

BARE SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.

MULCHING/MATS CAN BE USED TO PROTECT THE DISTURBED AREAS WHILE VEGETATION BECOMES ESTABLISHED.

SILT FENCE NOTE:
SILT FENCE WILL BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FT OF FENCE. (AS REQUIRED BY TCEQ RG-348, INSTALLATION: ITEM 2)



THE TYPICAL DRAINAGE PATTERN OF EACH LOT WILL BE BE DETERMINED BY THE EXISTING CONTOURS. ALL DRAINAGE OF LOTS WILL FLOW AWAY FROM BUILDING PAD.

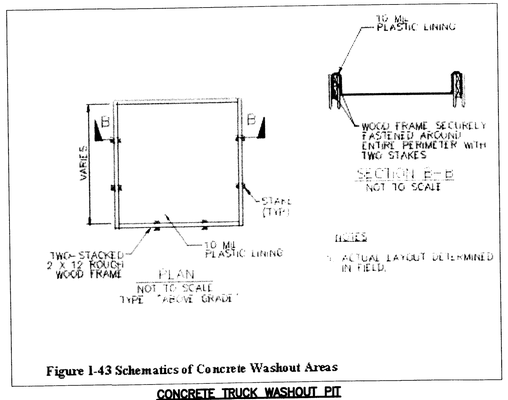


Figure 1-43 Schematics of Concrete Washout Areas

CONCRETE TRUCK WASHOUT PIT DETAIL A

M&S ENGINEERING
CIVIL | ELECTRICAL | STRUCTURAL | MEP | SURVEYING
TEXAS REGISTERED ENGINEERING FIRM F-12704

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HEATH L. WOODS
100297
LICENSED
PROFESSIONAL ENGINEER
7/2/15

VINTAGE OAKS AT THE VINEYARD, THE RESERVE

SITE PLAN

JOB: 15BSW002
DATE: JULY 2015
DRAWN: PM:
DESIGN: DM:
PEER: OTHER:

REVISIONS:

DELTA	DESCRIPTION

RECEIVED
JUL 30 2015
COUNTY ENGINEER

SHEET:
01 OF 01

Date: Jul 01, 2015, 11:33am User ID: jmoe
File: S:\Active Projects\15BSW002-VOV The Reserve\dwg\15BSW002-WPAP-SWQP-001.dwg